

WSR 10-18-041
EXPEDITED RULES
DEPARTMENT OF REVENUE
[Filed August 25, 2010, 4:34 p.m.]

Title of Rule and Other Identifying Information: WAC 458-20-24002 (Rule 24002) Sales and use tax deferral—New manufacturing and research/development facilities, explains the sales and use tax deferral program for certain manufacturing or research and development investment projects that was provided by chapter 82.61 RCW.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Bridget N. McBryde, Department of Revenue, P.O. Box 47453, Olympia, WA 98504-7453, e-mail BridgetM@dor.wa.gov, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The department proposes to repeal this Rule 24002 because the information is no longer needed. Chapter 82.61 RCW was repealed in 2006.

Copies of draft rules are available for viewing and printing on our web site at <http://dor.wa.gov/content/FindALawOrRule/RuleMaking/agenda.aspx>.

Reasons Supporting Proposal: This information is no longer needed.

Statutory Authority for Adoption: RCW 82.32.300 and 82.01.060(2).

Statute Being Implemented: Chapter 82.61 RCW.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: [Department of revenue], governmental.

Name of Agency Personnel Responsible for Drafting: Bridget N. McBryde, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6117; Implementation: Alan R. Lynn, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6125; and Enforcement: Gilbert Brewer, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6147.

August 25, 2010
Alan R. Lynn
Rules Coordinator

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 458-20-24002	Sales and use tax deferral—New manufacturing and research/development facilities.
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WSR 10-18-056
EXPEDITED RULES
PARKS AND RECREATION
COMMISSION
[Filed August 27, 2010, 4:11 p.m.]

Title of Rule and Other Identifying Information: Washington state parks, WAC 352-24-010 Approval of concession and leases—Commission policies. The agency has completed review of chapter 352-24 WAC, Concessions and leases and determined to repeal this chapter to facilitate future concession and leases with real property agreement guidelines.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Steve Hahn, Lands Program Manager, Washington State Parks and Recreation Commission, 1111 Israel Road S.W., Olympia, WA 98504, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: This is a repeal of WAC 352-24-010 in its entirety at the request of the state parks and recreation commission.

Reasons Supporting Proposal: State parks has implemented a series of policies relating to leasing of parklands. With the integration of the agency's concession leasing with real property agreement program, WAC 352-24-010 is no longer required to direct the agency on process of authorizing concession leases.

Statutory Authority for Adoption: RCW 79A.05.030.

Statute Being Implemented: Repealing WAC 352-24-010.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Steve Hahn, lands program manager, Washington state parks and recreation commission, governmental.

Name of Agency Personnel Responsible for Drafting, Implementation and Enforcement: Steve Hahn, Lands Program Manager, 1111 Israel Road S.W., Olympia, WA 98504, (360) 902-8683.

Agency Comments or Recommendations, if any, as to Statutory Language, Implementation, Enforcement, and Fiscal Matters: State parks commissioners unanimously approved the repeal of WAC 352-24-010 and the agency supports this repeal.

August 27, 2010
Valeria Evans
Management Analyst

REPEALER

The following chapter of the Washington Administrative Code is repealed:

WAC 352-24-010 Approval of concessions and leases—Concession policies.

WSR 10-18-069
EXPEDITED RULES
DEPARTMENT OF REVENUE

[Filed August 30, 2010, 2:44 p.m.]

Title of Rule and Other Identifying Information: WAC 458-20-104 (Rule 104) Small business tax relief based on income of business, explains how the business and occupation (B&O) tax credit for small businesses, commonly referred to as the small business credit (SBC), is calculated. It also explains the public utility tax (PUT) income exemption for public utilities.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Kristine Rompa, Department of Revenue, P.O. Box 47453, Olympia, WA 98504-7453, e-mail Kristine.rompa@dor.wa.gov, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The department proposes to amend Rule 104 to reflect changes made in section 1102, chapter 23, Laws of 2010, 1st sp. sess. This legislation increased the small business B&O tax credit to a maximum of \$70 per month, but only for taxpayers whose B&O taxable amounts from activities taxable under RCW 82.04.-255 (Real estate brokers), 82.04.290 (2)(a) (Service and other activities tax classification), and 82.04.285 (Contests of chance) add up to fifty percent or greater of the total of all B&O taxable amounts reported on the return.

Rule 104 currently provides tax credit tables for monthly, quarterly, and annual filers eligible for a maximum credit of \$35 per month. Rather than add more tables reflecting the maximum \$70 per month credit, the department is proposing to refer readers to the department's internet page to view tax credit tables.

Copies of draft rules are available for viewing and printing on our web site at <http://dor.wa.gov/content/FindALawOrRule/RuleMaking/agenda.aspx>.

Reasons Supporting Proposal: To recognize 2010 legislation.

Statutory Authority for Adoption: RCW 82.32.300 and 82.01.060(2).

Statute Being Implemented: RCW 82.32.030 and 82.32.045.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Department of revenue, governmental.

Name of Agency Personnel Responsible for Drafting: Kristine Rompa, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6134; Implementation: Alan R. Lynn, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6125; and Enforcement: Gilbert Brewer, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6147.

August 30, 2010

Alan R. Lynn

Rules Coordinator

AMENDATORY SECTION (Amending WSR 10-09-050, filed 4/15/10, effective 5/16/10)

WAC 458-20-104 Small business tax relief based on income of business. (1) **Introduction.** This rule explains the business and occupation (B&O) tax credit for small businesses provided by RCW 82.04.4451. This credit is commonly referred to as the small business B&O tax credit or small business credit (SBC). The amount of small business B&O tax credit available on a tax return can increase or decrease, depending on the reporting frequency of the account and the net B&O tax liability for that return. This rule also explains the public utility tax income exemption provided by RCW 82.16.040. The public utility tax exemption is a fixed amount, or threshold, based on the reporting frequency assigned to the account. Readers should refer to WAC 458-20-22801 (Tax reporting frequency—Forms) for an explanation of how the department of revenue (department) assigns a particular reporting frequency to each account. Readers may also want to refer to WAC 458-20-101 for an explanation of Washington's tax registration and tax reporting requirements.

This rule provides examples that identify a number of facts and then state a conclusion regarding the applicability of the income exemption for the public utility tax or small business B&O tax credit. These examples should be used only as a general guide. The tax results of other situations must be determined after a review of all facts and circumstances.

(2) **The public utility tax income exemption.** Persons subject to public utility tax (PUT) are exempt from payment of this tax for any reporting period in which the gross taxable amount reported under the combined total of all public utility tax classifications does not equal or exceed the maximum exemption for the assigned reporting period. Per RCW 82.16.040, the public utility tax exemption amounts are:

for taxpayers reporting	
monthly	\$2,000 per month
for taxpayers reporting quarterly	\$6,000 per quarter
for taxpayers reporting	
annually	\$24,000 per annum

(a) **What if the taxable income equals or exceeds the maximum exemption?** If the taxable income for a reporting period equals or exceeds the maximum exemption, tax must be remitted on the full taxable amount.

(b) **How does the exemption apply if a business does not operate for the entire tax reporting period?** The public utility tax maximum exemptions apply to the entire tax reporting period, even though the business may not have operated during the entire period.

(c) **Do taxable amounts for B&O tax or other taxes affect this exemption?** The public utility tax exemption is not affected by taxable amounts reported in the B&O tax section or any of the other tax sections of the tax return.

(d) **Example(☺) - How is the public utility tax exemption applied?** Taxpayer registers with the department and is assigned a quarterly tax reporting frequency. Taxpayer begins business activities on February 1st. During the two months of the first quarter that the taxpayer is in business, taxpayer's public utility gross income is seven thousand dollars. After deductions provided by chapter 82.16 RCW (Public utility tax) are computed, the total taxable amount is five thousand dollars. In this case, the taxpayer does not owe any public utility tax because the taxable amount of five thousand dollars is less than the six thousand dollar exemption threshold for quarterly taxpayers. The fact that the taxpayer was in business during only two months out of the three months in the quarter has no effect on the threshold amount. However, if there were no deductions available to the taxpayer, the taxable amount would have been seven thousand dollars. The public utility tax would then have been due on the full taxable amount of seven thousand dollars.

(3) **The small business B&O tax credit.** Persons subject to the B&O tax may be eligible to claim a small business B&O tax credit against the amount of B&O tax otherwise due. The small business B&O tax credit operates completely independent of the public utility tax exemption described above in subsection (2) of this rule. RCW 82.04.4451 authorizes the department to create a tax credit table for use by all taxpayers when determining the amount of their small business B&O tax credit. Taxpayers must use the tax credit table to determine the appropriate amount of their small business B&O tax credit. A tax credit table for each of the monthly, quarterly, and annual reporting frequencies (~~is provided in subsection (7) of this rule.~~) can be found on the department's internet site at <http://dor.wa.gov>; or by contacting:

Taxpayer Services
Department of Revenue
P.O. Box 47478
Olympia, WA 98504-7478
800-647-7706

The statute provides that taxpayers who use the tables will not owe any more tax than if they used the statutory credit formula to determine the amount of the credit.

Effective May 1, 2010, section 1102, chapter 23, Laws of 2010 1st sp. sess. amended RCW 82.04.4451. Prior to that amendment the small business credit was calculated at a maximum of thirty-five dollars multiplied by the number of months in the reporting period for all eligible taxpayers. As a result of the amendment, taxpayers who report at least fifty

percent (i.e., fifty percent or greater) of their total B&O taxable amount under RCW 82.04.255 (real estate brokers), RCW 82.04.290 (2)(a) (service and other activities), and RCW 82.04.285 (contests of chance) have their maximum credit increased to seventy dollars multiplied by the number of months in the reporting period. (Just a few examples of businesses that generally have taxable amounts to report under RCW 82.04.290 (2)(a) are for-profit hospitals, for-profit research and development, accountants, attorneys, dentists, janitors, and landscape architects. Please see WAC 458-20-224, Service and other business activities for information and more examples of who should report under the service and other classification of the B&O tax.)

(a) **How is the credit applied if a business does not operate during the entire tax reporting period?** The small business B&O tax credit applies to the entire reporting period, even though the business may not have been operating during the entire period.

(b) **Can a husband and wife or partners in a state registered domestic partnership both take the credit?** Spouses or state registered domestic partners operating distinct and separate businesses are each eligible for the small business B&O tax credit. For both spouses or both domestic partners to qualify, each must have a separate tax reporting number and file his or her own business tax returns.

(c) **How do I determine the amount of the credit?** Taxpayers eligible for the small business B&O tax credit must follow the steps outlined in subsection (5) of this rule to determine the amount of credit available. Taxpayers who have other B&O tax credits to apply on a tax return, in addition to the small business B&O tax credit, may use the multiple B&O tax credit worksheet in subsection (4) of this rule before determining the amount of small business B&O tax credit available. (~~Subsection (7) of this rule contains the tax credit tables that correspond with the monthly, quarterly, and annual reporting frequencies.~~)

(d) **Can I carryover the small business B&O tax credit to future tax reporting periods?** Use of the small business B&O tax credit may not result in a B&O tax liability of less than zero, and thus there will be no unused credit.

(e) **Do I have to report and pay retail sales tax even if I do not owe any B&O tax?** Persons making retail sales must collect and pay all applicable retail sales taxes even if B&O tax is not due. There is no comparable retail sales tax exemption.

(4) **Multiple business and occupation tax credit worksheet.** The small business B&O tax credit should be computed after claiming any other B&O tax credits available under Title 82 RCW (Excise taxes). Examples of other B&O tax credits to be taken before computing the small business B&O tax credit include the multiple activities tax credit, high technology credit, commute trip reduction credit, pollution control credit, and cogeneration fee credit. The following multiple B&O tax credit worksheet describes the process taxpayers must follow to apply credits in the appropriate order. Refer to subsection (6) of this rule for an example illustrating the use of the multiple B&O tax credit worksheet.

MULTIPLE B&O TAX CREDIT WORKSHEET

1. Determine the total Business and Occupation (B&O) tax due from the B&O section of your excise tax return. \$ _____
2. Add together the credit amounts taken for:
 - Multiple Activities Tax Credit from Schedule C (if applicable). \$ _____
 - (Add any other B&O tax credits from Title 82 RCW that will be applied to this return period.) + \$ _____
 - Total (Enter 0 if none of these credits are being taken.) \$ _____
3. Subtract line 2 from line 1. This is the total B&O tax allowable for the Small Business Credit. \$ _____
4. Find the specific tax credit table (Table 1 or Table 2) appropriate for the business activities and B&O taxable amounts on your excise tax return. Next, find the tax credit table which matches the reporting frequency assigned to the account(, then find the total B&O tax due amount which includes your figure from item 3, above)). Then find the range of amounts which includes your total B&O tax due (see line three above).
5. Read across to the next column. This is the amount of the Small Business Credit to be used on the excise tax return. \$ _____

(5) **Using the tax credit table to determine your small business B&O tax credit.** The following steps explain how to use the small business B&O tax credit table:

(a) **Step one.** Determine the total B&O tax amount due from the excise tax return. This amount will normally be the total of the tax amounts due calculated for each classification in the B&O tax section of the excise tax return. However, if additional B&O tax credits will be taken on the return, refer to subsection (4) of this rule and the multiple B&O tax credit worksheet before going to step two.

(b) **Step two.** Find the B&O taxable amounts on the return reported under RCW 82.04.255 (real estate brokers), RCW 82.04.290 (2)(a) (service and other activities), and RCW 82.04.285 (contests of chance) then add them together. Divide that sum result by the total amount of all B&O taxable amounts reported on the return. If the result indicates less than fifty percent of the total of all B&O taxable amounts came from activities reported under RCW 82.04.255, 82.04.-290 (2)(a), and 82.04.285 combined, use Table 1 of the small business B&O tax credit table. If the result indicates fifty percent or greater of the total of all B&O taxable amounts came from activities reported under RCW 82.04.255, 82.04.-290 (2)(a), and 82.04.285 combined, use Table 2 of the small business B&O tax credit table.

(c) **Step three.** Find the small business B&O tax credit table that matches the assigned reporting frequency (~~((i.e., the monthly table shown in subsection (7)(b) of this rule, the quarterly table in subsection (7)(c) of this rule, or the annual table in subsection (7)(d) of this rule))~~), monthly, quarterly, or annual.

~~((e))~~ (d) **Step ((three)) four.** Find the "If Your Total Business and Occupation Tax is" column of the tax credit table and come down the column until you find the range of amounts which includes the total B&O tax due figure obtained from the excise tax return or multiple B&O tax credit worksheet.

~~((d))~~ (e) **Step ((four)) five.** Read across to the "Your Small Business Credit is" column. The figure shown is the amount of the small business B&O tax credit that can be

claimed on the "Small Business B&O Tax Credit" line in the "Credits" section of the excise tax return.

(6) Examples - Using the "Multiple B&O Tax Credit Worksheet" and the tax credit tables.

(a) **Using the "Multiple B&O Tax Credit Worksheet."** Assume that ABC reports quarterly. This quarter, ABC reports one hundred ninety dollars under the wholesaling classification and seventy dollars under the manufacturing classification for a total B&O tax liability of two hundred sixty dollars. ABC completes Schedule C, and determines it is entitled to a multiple activities tax credit (MATC) of seventy dollars. Using the multiple B&O tax credit worksheet, ABC enters two hundred sixty dollars on line one, enters seventy dollars on line two, and enters one hundred ninety dollars on line three (line two subtracted from line one). Line three, one hundred ninety dollars is the total B&O tax. ABC will use this amount to determine whether it is eligible for a small business B&O tax credit.

~~((7) Tax credit tables.~~ Corresponding tax credit tables for the monthly, quarterly, and annual reporting frequencies appear below. Taxpayers must use the tax credit table that corresponds to their assigned reporting frequency to determine the correct amount of small business B&O tax credit available.

(a) **Example illustrating the use of the small business B&O tax credit tables.** The facts are the same as in the previous example in subsection (6) of this rule. After completing the multiple B&O tax credit worksheet, ABC has one hundred ninety dollars of B&O tax liability left for potential application of the small business B&O tax credit. ABC refers to the quarterly small business B&O tax credit table, which is located below in subsection (7)(e) of this rule, and finds the "If Your Total Business and Occupation Tax is" column. Following down that column, ABC finds the tax range of one hundred eighty six to one hundred ninety one dollars and comes over to the "Your Small Business Credit is" column, which shows that a credit in the amount of twenty five dollars is available. Before calculating the total amount due for the tax return, ABC enters its small business B&O tax credit of twenty five dollars in the "Credits" section.

(b) **Monthly filers.** Persons assigned a monthly reporting frequency must use the following table to determine if they are eligible for a small business B&O tax credit.

If Your Total Business and Occupation Tax is:		Your Small Business Credit is:
At Least	But Less-Than	
\$0	\$36	The Amount of Business and Occupation Tax Due
\$36	\$41	\$35
\$41	\$46	\$30
\$46	\$51	\$25
\$51	\$56	\$20
\$56	\$61	\$15
\$61	\$66	\$10
\$66	\$71	\$5
\$71	or more	\$0

(c) **Quarterly filers.** Persons assigned a quarterly reporting frequency must use the following table to determine if they are eligible for a small business B&O tax credit.

If Your Total Business and Occupation Tax is:		Your Small Business Credit is:
At least	But Less-Than	
\$0	\$106	The Amount of Business and Occupation Tax Due
\$106	\$111	\$105
\$111	\$116	\$100
\$116	\$121	\$95
\$121	\$126	\$90
\$126	\$131	\$85
\$131	\$136	\$80
\$136	\$141	\$75
\$141	\$146	\$70
\$146	\$151	\$65
\$151	\$156	\$60
\$156	\$161	\$55
\$161	\$166	\$50
\$166	\$171	\$45
\$171	\$176	\$40
\$176	\$181	\$35
\$181	\$186	\$30
\$186	\$191	\$25
\$191	\$196	\$20
\$196	\$201	\$15
\$201	\$206	\$10
\$206	\$211	\$5
\$211	or more	\$0

(d) **Annual filers.** Persons assigned an annual reporting frequency must use the following table to determine if they are eligible for a small business B&O tax credit.

If Your Total Business and Occupation Tax is:		Your Small Business Credit is:
At Least	But Less-Than	
\$0	\$421	The Amount of Business and Occupation Tax Due
\$421	\$426	\$420
\$426	\$431	\$415
\$431	\$436	\$410
\$436	\$441	\$405
\$441	\$446	\$400
\$446	\$451	\$395
\$451	\$456	\$390
\$456	\$461	\$385
\$461	\$466	\$380
\$466	\$471	\$375
\$471	\$476	\$370
\$476	\$481	\$365
\$481	\$486	\$360
\$486	\$491	\$355
\$491	\$496	\$350
\$496	\$501	\$345
\$501	\$506	\$340
\$506	\$511	\$335
\$511	\$516	\$330
\$516	\$521	\$325
\$521	\$526	\$320
\$526	\$531	\$315
\$531	\$536	\$310
\$536	\$541	\$305
\$541	\$546	\$300
\$546	\$551	\$295
\$551	\$556	\$290
\$556	\$561	\$285
\$561	\$566	\$280
\$566	\$571	\$275
\$571	\$576	\$270
\$576	\$581	\$265
\$581	\$586	\$260
\$586	\$591	\$255
\$591	\$596	\$250
\$596	\$601	\$245
\$601	\$606	\$240
\$606	\$611	\$235
\$611	\$616	\$230
\$616	\$621	\$225

If Your Total Business and Occupation Tax is:		Your Small Business Credit is:
At Least	But Less-Than	
\$621	\$626	\$220
\$626	\$631	\$215
\$631	\$636	\$210
\$636	\$641	\$205
\$641	\$646	\$200
\$646	\$651	\$195
\$651	\$656	\$190
\$656	\$661	\$185
\$661	\$666	\$180
\$666	\$671	\$175
\$671	\$676	\$170
\$676	\$681	\$165
\$681	\$686	\$160
\$686	\$691	\$155
\$691	\$696	\$150
\$696	\$701	\$145
\$701	\$706	\$140
\$706	\$711	\$135
\$711	\$716	\$130
\$716	\$721	\$125
\$721	\$726	\$120
\$726	\$731	\$115
\$731	\$736	\$110
\$736	\$741	\$105
\$741	\$746	\$100
\$746	\$751	\$95
\$751	\$756	\$90
\$756	\$761	\$85
\$761	\$766	\$80
\$766	\$771	\$75
\$771	\$776	\$70
\$776	\$781	\$65
\$781	\$786	\$60
\$786	\$791	\$55
\$791	\$796	\$50
\$796	\$801	\$45
\$801	\$806	\$40
\$806	\$811	\$35
\$811	\$816	\$30
\$816	\$821	\$25
\$821	\$826	\$20
\$826	\$831	\$15
\$831	\$836	\$10
\$836	\$841	\$5

If Your Total Business and Occupation Tax is:		Your Small Business Credit is:
At Least	But Less-Than	
\$841	or more	\$0))

(b) Using the small business B&O tax credit tables.
 Assume the facts are the same as in the previous example in subsection (6)(a) of this rule. After completing the multiple B&O tax credit worksheet, ABC has one hundred ninety dollars of B&O tax liability left for potential application of the small business B&O tax credit. ABC does not have any business activity taxable under RCW 82.04.255 (real estate brokers), RCW 82.04.290 (2)(a) (service and other activities), and RCW 82.04.285 (contests of chance), so the ratio of those combined taxable amounts compared to the total of all B&O taxable amounts on the return is not fifty percent or greater. ABC will refer to Table 1 of the quarterly small business B&O tax credit table to find the "If Your Total Business and Occupation Tax is" column. Following down that column, ABC finds the tax range of one hundred eighty-six to one hundred ninety-one dollars and comes over to the "Your Small Business Credit is" column on the right, which shows that a credit in the amount of twenty-five dollars is available. Before calculating the total amount of tax due for the return, ABC enters its small business B&O tax credit of twenty-five dollars in the "Credits" section.

**WSR 10-18-073
 EXPEDITED RULES
 DEPARTMENT OF REVENUE**

[Filed August 31, 2010, 9:33 a.m.]

Title of Rule and Other Identifying Information: WAC 458-18-210 (Rule 210) Refunds—Procedure—Interest, Rule 210 explains the method for making refunds pursuant to chapter 84.69 RCW and the basis for determining interest on refunds.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Marilou Rickert, Department of Revenue, P.O. Box 47453, Olympia, WA 98504-7453, e-mail MarilouR@DOR.WA.GOV, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: WAC 458-18-210 is being revised to recognize section 9 of E2SHB 1208 (chapter 350, Laws of 2009). This legislation:

- Removed the authority of the county legislative authority to act on its own motion to order refunds; and
- Changed the due date for refund claims from within three years of payment to within three years from the date the tax was due.

Copies of draft rules are available for viewing and printing on our web site at <http://dor.wa.gov/content/FindALawOrRule/RuleMaking/agenda.aspx>.

Reasons Supporting Proposal: To incorporate legislation changes.

Statutory Authority for Adoption: RCW 84.08.010, 84.08.070, and 84.36.865.

Statute Being Implemented: RCW 84.69.030.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Washington state department of revenue, governmental.

Name of Agency Personnel Responsible for Drafting: Marilou Rickert, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6115; Implementation and Enforcement: Brad Flaherty, 1025 Union Avenue S.E., Suite #200, Olympia, WA, (360) 570-5860.

August 31, 2010

Alan R. Lynn

Rules Coordinator

AMENDATORY SECTION (Amending WSR 98-01-176, filed 12/23/97, effective 1/1/98)

WAC 458-18-210 Refunds—Procedure—Interest.

(1) Refunds provided for by chapter 84.69 RCW are made by ~~((one of))~~ the following ~~((two))~~ method~~((s))~~: ~~((a) The county legislative authority acts upon its own motion and orders a refund; or~~

~~((b))~~ The taxpayer must file~~((s))~~ a claim for refund with the county. This claim ~~((shall))~~ must:

~~((i))~~ (a) Be verified by the person who paid the tax, his guardian, executor or administrator; and

~~((ii))~~ (b) Be filed within three years after the due date of the payment sought to be refunded ~~((was made))~~; and

~~((iii))~~ (c) State the statutory ground upon which the refund is claimed.

(2) All claims for refunds must be certified as correct by the county assessor and treasurer and not be refunded until so ordered by the county legislative authority.

(3) For all refunds, the rate of interest is set out in WAC 458-18-220. The rate of interest is based upon the date the taxes were paid.

(4) Except as provided in subsections (5) and (6) of this section, the interest shall accrue from the time the taxes were paid until the refund is made.

(5) Refunds on a state, county or district-wide basis shall not commence to accrue interest until six months following the date of the final order of the court.

(6) Refunds may be made without interest within sixty days after the date of payment if:

(a) Paid more than once; or

(b) The amount paid exceeds the amount due on the property as shown on the tax roll.

WSR 10-18-075
EXPEDITED RULES
DEPARTMENT OF REVENUE

[Filed August 31, 2010, 10:11 a.m.]

Title of Rule and Other Identifying Information: WAC 458-16-110 (Rule 110) Applications—Who must file, initial applications, annual declarations, appeals, filing fees, penalties, and refunds, explains the procedures property owners must follow to apply for and renew real and personal property tax exemptions and leasehold excise tax exemptions.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Marilou Rickert, Department of Revenue, P.O. Box 47453, Olympia, WA 98504-7453, e-mail MarilouR@DOR.WA.GOV, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The department proposes to amend Rule 110 to:

- Recognize section 305 of E2SHB 1597 (chapter 106, Laws of 2010), which adds property of hospitals established under chapter 36.62 RCW to the property tax exemption for "hospitals";
- Recognize sections 301, 303, and 304 of SB 5468 (chapter 111, Laws of 2007), which:
 - o Adds property of hospitals established under chapter 36.62 RCW to the property tax exemption for hospitals,
 - o Adds electronic filing,
 - o Replaces affidavits with certifying statements,
 - o Removes application and renewal fees, and
 - o Makes physical inspection of exempt premises discretionary with the department;
- Remove obsolete language and references.

Copies of draft rules are available for viewing and printing on our web site at <http://dor.wa.gov/content/FindALawOrRule/RuleMaking/agenda.aspx>.

Reasons Supporting Proposal: To recognize recent legislation, and to update and remove obsolete information.

Statutory Authority for Adoption: RCW 84.08.010, 84.08.070, and 84.36.865.

Statute Being Implemented: RCW 84.36.815, 84.36.-825, and 84.36.830.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Washington state department of revenue, governmental.

Name of Agency Personnel Responsible for Drafting: Marilou Rickert, 1025 Union Avenue S.E., Suite #544, Olympia, WA, (360) 570-6115; Implementation and

Enforcement: Brad Flaherty, 1025 Union Avenue S.E., Suite #200, Olympia, WA, (360) 570-5860.

August 31, 2010

Alan R. Lynn
Rules Coordinator

AMENDATORY SECTION (Amending WSR 02-02-009, filed 12/20/01, effective 1/20/02)

WAC 458-16-110 Applications—Who must file, initial applications, annual declarations, appeals, filing fees, penalties, and refunds. (1) **Introduction.** This rule explains the procedures property owners must follow to apply for and renew all real and personal property exemptions or leasehold excise tax exemptions under chapter 84.36 RCW for which the taxpayer must apply in order to receive. It also specifies the ~~((fee that must be submitted with each initial application or renewal declaration for exemption, as well as the))~~ late filing penalty that is due whenever an application or renewal declaration is received after the filing deadline.

(2) **Application required.** All foreign national governments, cemeteries, nongovernmental nonprofit corporations, organizations, or associations, soil and water conservation districts, a hospital established under chapter 36.62 RCW and a public hospital district established under chapter 70.44 RCW seeking a property tax exemption or a leasehold excise tax exemption under chapter 84.36 RCW must submit an application for exemption and supporting documentation to the state department of revenue (department). Unless otherwise exempted by law, no real or personal property or leasehold interest is exempt from taxation until an application is submitted and an exemption is granted.

(3) **Where to obtain application and annual renewal declaration forms.** Applications for exemption may be obtained from any county assessor's office, the department's property tax division, or on the internet at ~~((<http://dor.wa.gov/index.asp>))~~ <http://dor.wa.gov> under Property Tax, "Forms." Annual renewal declaration forms are mailed by the department to all entities receiving a property tax or leasehold excise tax exemption except for certain cemeteries, military housing providers and tribal governments. If such a form is not received in the mail, an annual renewal declaration may be obtained from the department's property tax division ~~((or an application form may be obtained and adapted for use as an annual renewal declaration))~~.

(4) **Initial application, filing deadlines, and other requirements.** In general, initial applications for exemption must be filed with the department on or before March 31st to exempt the property from taxes due in the following year. However, an initial application may be filed after March 31st if the property is acquired or converted to an exempt use after that date, if the property may qualify for an exemption under chapter 84.36 RCW. In this situation, the application must be submitted within sixty days of acquisition or conversion of the property to an exempt use. If an initial application is not received within this sixty day period, the late filing penalty described in subsection (12) of this rule is imposed.

~~((a))~~ The following requirements apply to all initial applications:

~~((i))~~ A filing fee of thirty-five dollars must be submitted with each application for exemption. The department will not process any application unless this fee is paid;

~~((ii))~~ (a) The application must be made on a form prescribed by the department and signed by the applicant or the applicant's authorized agent;

~~((iii))~~ (b) One application can be submitted for all real property that is contiguous and part of a homogeneous unit. If exemption is sought for multiple parcels of real property, which are not contiguous nor part of a homogeneous unit, a separate application for each parcel must be submitted. However, multiple applications are not required for church property with a noncontiguous parsonage or convent.

~~((A))~~ (i) "Contiguous property" means real property adjoining other real property, all of which is under the control of a single applicant even though the properties may be separated by public roads, railroads, rights of way, or waterways.

~~((B))~~ (ii) "Homogeneous unit" means the property is controlled by a single applicant and the operation and use of the property is integrated with and directly related to the exempt activity of the applicant.

(5) **Documentation a nonprofit organization must submit with its application for exemption.** Unless the following information was previously submitted to the department and it is still current, in addition to the application for exemption, a nonprofit organization, corporation, or association must also submit:

(a) Copies of the articles of incorporation or association, constitution, or other establishing documents, as well as all current amendments to these documents, showing nonprofit status;

(b) A copy of the bylaws of the nonprofit entity, if requested by the department;

(c) A copy of any current letter issued by the Internal Revenue Service that exempts the applicant from federal income taxes. This letter is not usually, but may be, required if the nonprofit entity applying for an exemption is part of a larger organization, association, or corporation, like a church or the Boy Scouts of America, that was issued a group 501 (c)(3) exemption ruling by or is otherwise exempt from filing with the Internal Revenue Service; and

(d) The information required in subsection (6) of this rule.

(6) **Other documentation a nonprofit entity, foreign national government, hospital established under chapter 36.62 RCW, hospital owned and operated by a public hospital district, or soil and water conservation district must submit with its initial application for exemption.** In addition to the initial application for exemption, a nonprofit entity, foreign national government, and public hospital district established under chapter 70.44 RCW, or soil and water conservation district must submit the following information regarding the real or personal property for which exemption is sought, unless it was previously submitted to the department and it is still current:

(a) An accurate description of the real and personal property;

(b) An accurate map identifying by dimension the use or proposed use of all real property that shows buildings, building sites, parking areas, landscaping, vacant areas, and if

requested by the department, floor plans of the buildings. The map will be used to determine whether the property is entitled to a total or partial exemption based upon the use of the total area;

(c) A legal description of all real property, listing the county tax parcel number, and if the property is owned by the applicant, a copy of the current deed; and

(d) If the property is rented or loaned to or from another property owner, a copy of the rental agreement or other document explaining the terms of the lease or loan. This documentation must describe:

(i) What property is rented or loaned;

(ii) The amount of the rent or other consideration paid or received;

(iii) The name of the party from whom and the name of the party to whom the property is rented or loaned;

(iv) How the property is being used; and

(v) The monthly amount of maintenance and operation costs related to rented or loaned property if a nonprofit entity is claiming an exemption for property leased to another party.

(7) Department's review of the application and notice of its determination. Upon receipt of an application for exemption, the department will review the application and all supporting documentation. Additional information may be requested about the ownership and use of the property, if the department needs this information to determine if the exemption should be granted. An application for exemption is not considered complete until all required and requested information is received by the department.

(a) Physical inspection. The department ~~((will))~~ may physically inspect the property as part of the application review process.

(b) Deadline. If a complete application is received by March 31st for that assessment year, the department will issue a determination about the application by August 1st. If a complete application is not received by March 31st, the determination will be made within thirty days of the date the complete application is received by the department or by August 1st, whichever is later.

(c) Notice to applicant. The department will mail a written determination about the exemption application to the applicant. An application may be approved or denied, in whole or in part. If the application is denied for any portion of the property covered by the application, the department must clearly explain its reason for denial in its written determination.

(d) Notice to assessor. Once the department makes its determination about the application for exemption, it will notify the assessor of the county in which the property is located about the determination made. In turn, the assessor takes appropriate action so that the department's determination is reflected on the county's assessment roll(s) for the years covered by the determination.

(8) Effective date of the exemption. If an application is approved, the property is exempt from property taxes due the year immediately following the year the application for exemption is submitted.

(a) For example, if an application for exemption is submitted to the department in ~~((2000))~~ 2010 and the application

is approved ~~((in))~~ for assessment year ~~((2000))~~ 2010, the property will be exempt from taxes due in ~~((2004))~~ 2011.

(b) Retroactive applications for exemption for previous years are accepted, up to a maximum of three years from the date taxes were ~~((paid))~~ due on the property, if the applicant provides the department with acceptable proof that the property qualified for exemption during the pertinent assessment years and pays the ~~((initial application filing fee, renewal declaration fees, and))~~ late filing penalties.

(9) Annual renewal declaration. To retain a property tax exemption, each nonprofit entity (except nonprofit cemeteries), foreign national government, public hospital district, and soil and water conservation district receiving an exemption must annually submit a renewal declaration certifying that the use and exempt status of the real and personal property has not changed. The renewal declaration is a form ~~((prepared))~~ provided by the department.

(a) On or before January 1st each year, the department mails a renewal declaration to the entity receiving an exemption for the property at the entity's last known address. Within sixty days of changing its mailing address, the exempt entity must notify the department about the change.

(b) The renewal declaration, signed by the exempt entity or the exempt entity's authorized agent, ~~((and renewal fee of eight dollars and seventy-five cents))~~ must be ((submitted)) mailed or delivered to the department or submitted electronically using the department's on-line service no later than March 31st each year. ((The department will not process a renewal declaration unless this fee is paid.))

(i) The renewal declaration must include information about any change of use of the exempt property and a ~~((certification as to))~~ statement certifying the truth and accuracy of the information listed.

(ii) The renewal declaration is due on or before March 31st even if the department fails to mail the declaration to the exempt entity. If an exempt entity does not receive a renewal declaration, ~~((an application form may be submitted to the))~~ a replacement renewal declaration form may be requested from the department to renew the exemption or the exempt entity may use the department's on-line system to submit the declaration.

(c) If the renewal declaration and renewal fee are not received by March 31st, the department will mail a second notice to the exempt entity at the entity's last known mailing address. If the exempt entity fails to respond to the second notice, the department will remove the exemption from the property and notify the assessor of the county in which the property is located that the exemption has been ~~((cancelled))~~ canceled.

(d) Real property, which was previously exempt from taxation, is assessed and taxed as provided in RCW 84.40.-350 through 84.40.390 when it loses its exempt status.

(i) Property that no longer retains its exempt status is subject to a pro rata portion of the taxes allocable to the remaining portion of the year after the date the property lost its exempt status.

(ii) The assessor lists and assesses the property with reference to its true and fair value on the date the property lost its exempt status.

(iii) RCW 84.40.380 sets forth the dates upon which taxes are payable when property loses its exempt status. Taxes due and payable under RCW 84.40.350 through 84.40.390 constitute a lien on the property that attaches on the date the property loses its exempt status.

(10) **Failure to submit an annual renewal declaration and reapplication for exemption.** If property loses its exempt status because the annual renewal declaration (~~and renewal fee were~~) was not submitted and subsequently the owner wishes to reapply for the property tax exemption:

(a) If the owner reapplies within the same assessment year during which the exemption is (~~cancelled~~) cancelled, the owner must submit the annual renewal declaration and pay the (~~renewal fee and any~~) required late filing penalties; or

(b) If the owner reapplies after the assessment year during which the exemption is cancelled, the owner must submit an initial application and pay the (~~initial application fee, any unpaid renewal fees for the intervening years, and~~) required late filing penalties.

(11) **Initial application and renewal declaration procedures regarding cemeteries.** There are several types of cemeteries. The initial application for exemption and renewal declaration procedures are specific as to the type of cemetery at issue.

(a) The assessor shall consider the following types of cemeteries exempt from property tax, no initial application or renewal declaration is required for:

(i) Cemeteries owned, controlled, operated, and maintained by a cemetery district authorized by RCW 68.52.090; or

(ii) Indian cemeteries, which are considered to be held by the tribe or held in trust for the tribe by the United States.

(b) An initial application is submitted to the department, but no renewal declaration is required, for:

(i) Family cemeteries;

(ii) Historical cemeteries;

(iii) Community cemeteries; and

(iv) Cemeteries belonging to nonprofit organizations, associations, or corporations.

(c) An initial application for exemption and a renewal declaration must be submitted by all for-profit cemeteries seeking a property tax exemption.

(12) **Late filing penalty.** When an initial application or renewal declaration is submitted after the due date, a late filing penalty of ten dollars is due for every month, or portion thereof. This penalty is calculated from the date the application or renewal declaration was due until the postmark date shown on the application or declaration or the date the application or declaration is given to the department.

(13) **Refund of filing (~~fee or~~) penalty.** No (~~filing fees or~~) late filing penalty (~~are~~) is refunded after a determination on the application is issued by the department. However, (~~filing fees and~~) the late filing penalty will be refunded under the following circumstances:

(a) When a duplicate application or renewal declaration for the same property is submitted during the same calendar year;

(b) When an application or renewal declaration is received by the department and the department has no authority to grant the exemption requested; or

(c) When a written request to withdraw the application is received before the department issues a determination. The withdrawal request must be signed by the owner or the owner's authorized agent.

(14) **Appeals.** Any applicant that receives a negative determination from the department on either an initial application or a renewal declaration may appeal this determination to the state board of tax appeals (BTA). Similarly, any assessor who disagrees with the department's determination may appeal the determination to the BTA. See WAC 458-16-120 for specific information about the appeal process.

WSR 10-18-077

EXPEDITED RULES

FOREST PRACTICES BOARD

[Filed August 31, 2010, 2:28 p.m.]

Title of Rule and Other Identifying Information: Forest practices administrative appeals.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Patricia Anderson, Department of Natural Resources, P.O. Box 47012, Olympia, WA 98504-7012, fax (360) 902-1428, AND RECEIVED BY November 1, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: This rule making will amend rules in Title 222 WAC, Forest practices to:

- Incorporate provisions of 2010 natural resources reform (SHB 2935) pertaining to appeals of forest practices decisions;
- Incorporate provisions of 2007 legislation (2SSB 5883) pertaining to the notice of conversion to a nonforestry use; and
- Correct a typographical error in WAC 222-30-023.

Reasons Supporting Proposal: The intent is to make forest practices rule consistent with Washington state statute and correct a typographical error.

Statutory Authority for Adoption: RCW 76.09.040.

Statute Being Implemented: Statutes amended in SHB 2935 (2010 legislation); and RCW 76.09.060 as amended in 2SSB 5883 (2007 legislation).

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Forest practices board, governmental.

Name of Agency Personnel Responsible for Drafting: Gretchen Robinson, 1111 Washington Street S.E., Olympia, (360) 902-1705; Implementation: Mark Engel, 1111 Washington Street S.E., Olympia, (360) 902-1390; and Enforcement: Julie Sackett, 1111 Washington Street S.E., Olympia, (360) 902-1405.

August 25, 2010

Peter Goldmark

Chair

AMENDATORY SECTION (Amending WSR 01-12-042, filed 5/30/01, effective 7/1/01)

WAC 222-12-070 Enforcement policy. Procedures for enforcement of these rules by the department are provided in chapter 222-46 WAC. Where the department of ecology determines that a person has failed to comply with the forest practices rules relating to water quality protection, and that the department of natural resources has not issued a stop work order or notice to comply, the department of ecology shall inform the department thereof in writing. If the department of natural resources fails to take authorized enforcement action within 24 hours, under RCW 76.09.080, 76.09.-090, 76.09.120 or 76.09.130, the department of ecology may petition ~~((to))~~ the ~~((chairman of the))~~ appeals board, ~~((who))~~ which shall, within 48 hours, either deny the petition or direct the department of natural resources to immediately issue a stop work order or a notice to comply or impose a penalty. No civil or criminal penalties shall be imposed for past actions or omissions if such actions or omissions were conducted pursuant to an approval or directive of the department of natural resources.

AMENDATORY SECTION (Amending WSR 05-12-119, filed 5/31/05, effective 7/1/05)

WAC 222-12-080 Administrative and judicial appeals. (1) Certain decisions of the department may be appealed to the ~~((forest practices))~~ appeals board under chapter 76.09 RCW except that notices to comply may not be appealed to the ~~((forest practices))~~ appeals board unless first appealed to the department under RCW 76.09.090. Proceedings at the ~~((forest practices))~~ appeals board are governed by the Administrative Procedure Act, chapter 34.05 RCW, and ~~((Title 223))~~ chapter 371-08 WAC.

(2) ~~((Forest practices applications and notifications related to qualifying projects under chapter 43.21L RCW may be appealed to the environmental and land use hearings board. Proceedings at the environmental and land use hearings board are governed by chapter 43.21L RCW and chapter 199-08 WAC.~~

~~((3))~~ A petition for judicial review of a decision of the appeals boards may be filed in accordance with the Administrative Procedure Act, chapter 34.05 RCW. ~~((In addition, RCW 43.21L.140 governs judicial review of a final decision of the environmental and land use hearings board.))~~

AMENDATORY SECTION (Amending WSR 10-11-081, filed 5/17/10, effective 6/17/10)

WAC 222-16-010 *General definitions. Unless otherwise required by context, as used in these rules:

"**Act**" means the Forest Practices Act, chapter 76.09 RCW.

"**Affected Indian tribe**" means any federally recognized Indian tribe that requests in writing from the department information on forest practices applications and notification filed on specified areas.

"**Alluvial fan**" see "sensitive sites" definition.

"**Appeals board**" means the ~~((forest practices appeals))~~ pollution control hearings board established in ~~((the act))~~ RCW 43.21B.010.

"**Aquatic resources**" means water quality, fish, the Columbia torrent salamander (*Rhyacotriton kezeri*), the Cascade torrent salamander (*Rhyacotriton cascadae*), the Olympic torrent salamander (*Rhyacotriton olympian*), the Dunn's salamander (*Plethodon dunni*), the Van Dyke's salamander (*Plethodon vandyke*), the tailed frog (*Ascaphus truei*) and their respective habitats.

"**Area of resource sensitivity**" means areas identified in accordance with WAC 222-22-050 (2)(d) or 222-22-060 (2).

"**Bankfull depth**" means the average vertical distance between the channel bed and the estimated water surface elevation required to completely fill the channel to a point above which water would enter the flood plain or intersect a terrace or hillslope. In cases where multiple channels exist, the bankfull depth is the average depth of all channels along the cross-section. (See board manual section 2.)

"**Bankfull width**" means:

(a) For streams - the measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross-section (see board manual section 2).

(b) For lakes, ponds, and impoundments - line of mean high water.

(c) For tidal water - line of mean high tide.

(d) For periodically inundated areas of associated wetlands - line of periodic inundation, which will be found by examining the edge of inundation to ascertain where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland.

"**Basal area**" means the area in square feet of the cross section of a tree bole measured at 4 1/2 feet above the ground.

"**Bedrock hollows**" (colluvium-filled bedrock hollows, or hollows; also referred to as zero-order basins, swales, or bedrock depressions) means landforms that are commonly spoon-shaped areas of convergent topography within unchanneled valleys on hillslopes. (See board manual section 16 for identification criteria.)

"**Board**" means the forest practices board established by the act.

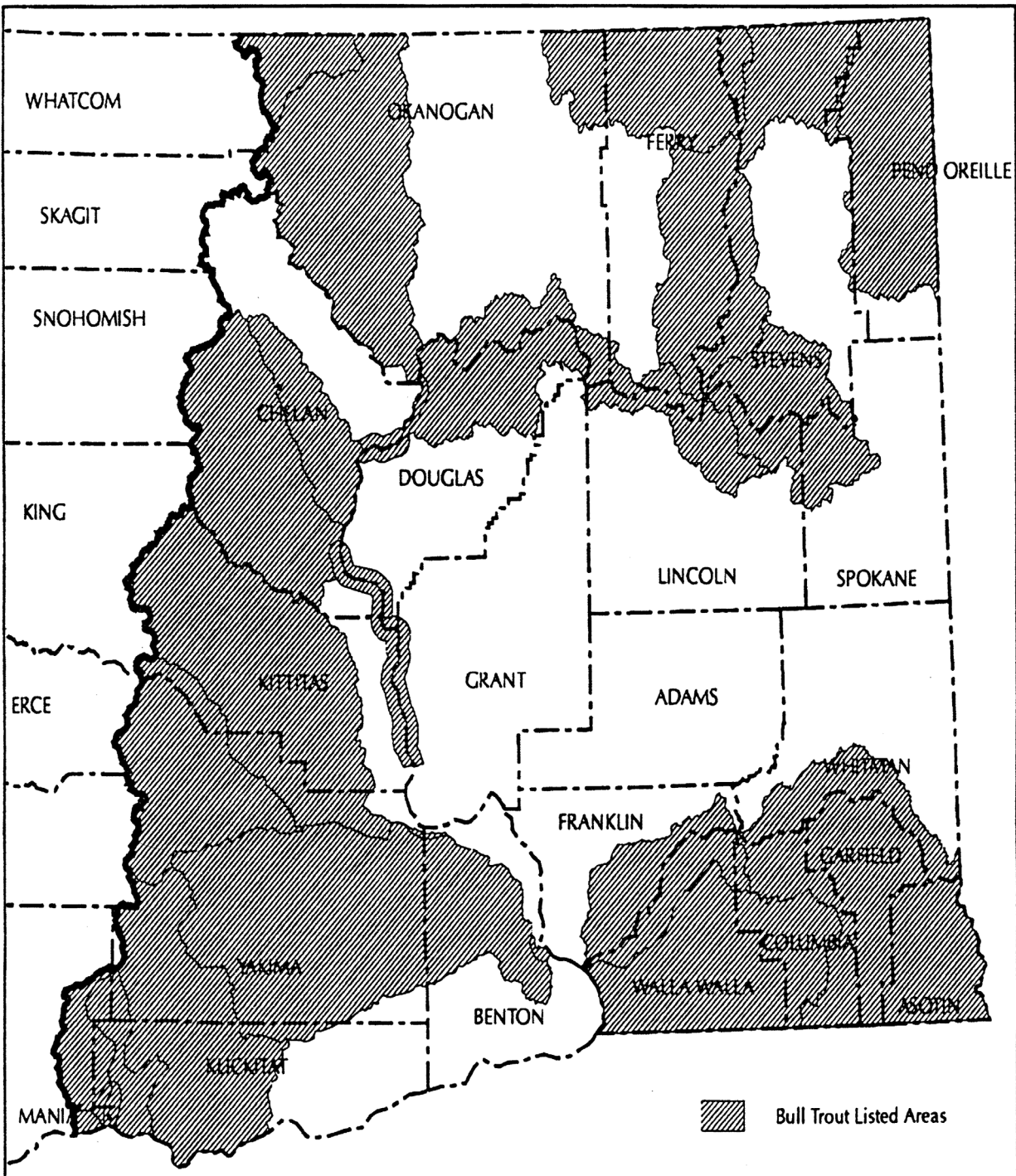
"**Bog**" means wetlands which have the following characteristics: Hydric organic soils (peat and/or muck) typically 16 inches or more in depth (except over bedrock or hardpan); and vegetation such as sphagnum moss, Labrador tea, bog

laurel, bog rosemary, sundews, and sedges; bogs may have an overstory of spruce, western hemlock, lodgepole pine, western red cedar, western white pine, Oregon crabapple, or quaking aspen, and may be associated with open water. This includes nutrient-poor fens. (See board manual section 8.)

"Borrow pit" means an excavation site outside the limits of construction to provide material necessary to that construction, such as fill material for the embankments.

"Bull trout habitat overlay" means those portions of Eastern Washington streams containing bull trout habitat as identified on the department of fish and wildlife's bull trout map. Prior to the development of a bull trout field protocol and the habitat-based predictive model, the "bull trout habitat overlay" map may be modified to allow for locally based corrections using current data, field knowledge, and best professional judgment. A landowner may meet with the departments of natural resources, fish and wildlife and, in consultation with affected tribes and federal biologists, determine whether certain stream reaches have habitat conditions that are unsuitable for supporting bull trout. If such a determination is mutually agreed upon, documentation submitted to the department will result in the applicable stream reaches no longer being included within the definition of bull trout habitat overlay. Conversely, if suitable bull trout habitat is discovered outside the current mapped range, those waters will be included within the definition of "bull trout habitat overlay" by a similar process.

Bull Trout Overlay Map



"Channel migration zone (CMZ)" means the area where the active channel of a stream is prone to move and this results in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. For this purpose, near-term means the time scale required to grow a mature forest. (See board manual section 2 for descriptions and illustrations of CMZs and delineation guidelines.)

"Chemicals" means substances applied to forest lands or timber including pesticides, fertilizers, and other forest chemicals.

"Clearcut" means a harvest method in which the entire stand of trees is removed in one timber harvesting operation. Except as provided in WAC 222-30-110, an area remains clearcut until:

It meets the minimum stocking requirements under WAC 222-34-010(2) or 222-34-020(2); and

The largest trees qualifying for the minimum stocking levels have survived on the area for five growing seasons or, if not, they have reached an average height of four feet.

"Columbia River Gorge National Scenic Area or CRGNSA" means the area established pursuant to the Columbia River Gorge National Scenic Area Act, 16 U.S.C. §544b(a).

"CRGNSA special management area" means the areas designated in the Columbia River Gorge National Scenic Area Act, 16 U.S.C. §544b(b) or revised pursuant to 16 U.S.C. §544b(c). For purposes of this rule, the special management area shall not include any parcels excluded by 16 U.S.C. §544f(o).

"CRGNSA special management area guidelines" means the guidelines and land use designations for forest practices developed pursuant to 16 U.S.C. §544f contained in the CRGNSA management plan developed pursuant to 15 U.S.C. §544d.

"Commercial tree species" means any species which is capable of producing a merchantable stand of timber on the particular site, or which is being grown as part of a Christmas tree or ornamental tree-growing operation.

"Completion of harvest" means the latest of:

Completion of removal of timber from the portions of forest lands harvested in the smallest logical unit that will not be disturbed by continued logging or an approved slash disposal plan for adjacent areas; or

Scheduled completion of any slash disposal operations where the department and the applicant agree within 6 months of completion of yarding that slash disposal is necessary or desirable to facilitate reforestation and agree to a time schedule for such slash disposal; or

Scheduled completion of any site preparation or rehabilitation of adjoining lands approved at the time of approval of the application or receipt of a notification: Provided, That delay of reforestation under this paragraph is permitted only to the extent reforestation would prevent or unreasonably hinder such site preparation or rehabilitation of adjoining lands.

"Constructed wetlands" means those wetlands voluntarily developed by the landowner. Constructed wetlands do not include wetlands created, restored, or enhanced as part of a mitigation procedure or wetlands inadvertently created as a result of current or past practices including, but not limited to: Road construction, landing construction, railroad construction, or surface mining.

"Contamination" means introducing into the atmosphere, soil, or water, sufficient quantities of substances as may be injurious to public health, safety or welfare, or to domestic, commercial, industrial, agriculture or recreational uses, or to livestock, wildlife, fish or other aquatic life.

"Convergent headwalls" (or headwalls) means tear-drop-shaped landforms, broad at the ridgetop and terminating where headwaters converge into a single channel; they are broadly concave both longitudinally and across the slope, but may contain sharp ridges separating the headwater channels. (See board manual section 16 for identification criteria.)

"Conversion activities" means activities associated with conversions of forest land to land uses other than commercial timber operation. These activities may be occurring

during or after timber harvest on forest land. They may include but are not limited to the following:

- Preparation for, or installation of, utilities on the forest practices activity site. The development or maintenance of existing rights of way providing utilities exclusively for other ownerships shall not be considered conversions of forest land (see WAC 222-20-010(5)).

- Any of, or any combination of, the following activities in preparation for nonforestry use of the land: Grading, filling, or stump removal.

- Preparation for, or construction of, any structure requiring local government approval.

- Construction of, or improvement of, roads to a standard greater than needed to conduct forest practices activities.

- Clearing for, or expansion of, rock pits for nonforest practices uses or developing surface mines.

"Conversion option harvest plan" means a voluntary plan developed by the landowner and approved by the local governmental entity indicating the limits of harvest areas, road locations, and open space.

"Conversion to a use other than commercial timber operation" means a bona fide conversion to an active use which is incompatible with timber growing.

"Cooperative habitat enhancement agreement (CHEA)" see WAC 222-16-105.

"Critical habitat (federal)" means the habitat of any threatened or endangered species designated as critical habitat by the United States Secretary of the Interior or Commerce under Sections 3 (5)(A) and 4 (a)(3) of the Federal Endangered Species Act.

"Critical habitat (state)" means those habitats designated by the board in accordance with WAC 222-16-080.

"Critical nesting season" means for marbled murrelets - April 1 to August 31.

"Cultural resources" means archaeological and historic sites and artifacts, and traditional religious, ceremonial and social uses and activities of affected Indian tribes.

"Cumulative effects" means the changes to the environment caused by the interaction of natural ecosystem processes with the effects of two or more forest practices.

"Daily peak activity" means for marbled murrelets - one hour before official sunrise to two hours after official sunrise and one hour before official sunset to one hour after official sunset.

"Date of receipt," as that term is defined in RCW 43.21B.001, means:

(a) Five business days after the date of mailing; or

(b) The date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the department, shall constitute sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

"Debris" means woody vegetative residue less than 3 cubic feet in size resulting from forest practices activities which would reasonably be expected to cause significant damage to a public resource.

"Deep-seated landslides" means landslides in which most of the area of the slide plane or zone lies below the max-

imum rooting depth of forest trees, to depths of tens to hundreds of feet. (See board manual section 16 for identification criteria.)

"Demographic support" means providing sufficient suitable spotted owl habitat within the SOSEA to maintain the viability of northern spotted owl sites identified as necessary to meet the SOSEA goals.

"Department" means the department of natural resources.

"Desired future condition (DFC)" is a reference point on a pathway and not an endpoint for stands. DFC means the stand conditions of a mature riparian forest at 140 years of age, the midpoint between 80 and 200 years. Where basal area is the only stand attribute used to describe 140-year old stands, these are referred to as the "Target Basal Area."

"Diameter at breast height (dbh)" means the diameter of a tree at 4 1/2 feet above the ground measured from the uphill side.

"Dispersal habitat" see WAC 222-16-085(2).

"Dispersal support" means providing sufficient dispersal habitat for the interchange of northern spotted owls within

or across the SOSEA, as necessary to meet SOSEA goals. Dispersal support is provided by a landscape consisting of stands of dispersal habitat interspersed with areas of higher quality habitat, such as suitable spotted owl habitat found within RMZs, WMZs or other required and voluntary leave areas.

"Drainage structure" means a construction technique or feature that is built to relieve surface runoff and/or intercepted ground water from roadside ditches to prevent excessive buildup in water volume and velocity. A drainage structure is not intended to carry any typed water. Drainage structures include structures such as: Cross drains, relief culverts, ditch diversions, water bars, or other such structures demonstrated to be equally effective.

"Eastern Washington" means the geographic area in Washington east of the crest of the Cascade Mountains from the international border to the top of Mt. Adams, then east of the ridge line dividing the White Salmon River drainage from the Lewis River drainage and east of the ridge line dividing the Little White Salmon River drainage from the Wind River drainage to the Washington-Oregon state line.

Eastern Washington Definition Map



"Eastern Washington timber habitat types" means elevation ranges associated with tree species assigned for the purpose of riparian management according to the following:

Timber Habitat Types	Elevation Ranges
ponderosa pine	0 - 2500 feet
mixed conifer	2501 - 5000 feet
high elevation	above 5000 feet

"Edge" of any water means the outer edge of the water's bankfull width or, where applicable, the outer edge of the associated channel migration zone.

"End hauling" means the removal and transportation of excavated material, pit or quarry overburden, or landing or road cut material from the excavation site to a deposit site not adjacent to the point of removal.

"Equipment limitation zone" means a 30-foot wide zone measured horizontally from the outer edge of the bank-

full width of a Type Np or Ns Water. It applies to all perennial and seasonal nonfish bearing streams.

"Erodible soils" means those soils that, when exposed or displaced by a forest practices operation, would be readily moved by water.

"Even-aged harvest methods" means the following harvest methods:

Clearcuts;

Seed tree harvests in which twenty or fewer trees per acre remain after harvest;

Shelterwood regeneration harvests in which twenty or fewer trees per acre remain after harvest;

Group or strip shelterwood harvests creating openings wider than two tree heights, based on dominant trees;

Shelterwood removal harvests which leave fewer than one hundred fifty trees per acre which are at least five years old or four feet in average height;

Partial cutting in which fewer than fifty trees per acre remain after harvest;

Overstory removal when more than five thousand board feet per acre is removed and fewer than fifty trees per acre at least ten feet in height remain after harvest; and

Other harvesting methods designed to manage for multiple age classes in which six or fewer trees per acre remain after harvest.

Except as provided above for shelterwood removal harvests and overstory removal, trees counted as remaining after harvest shall be at least ten inches in diameter at breast height and have at least the top one-third of the stem supporting green, live crowns. Except as provided in WAC 222-30-110, an area remains harvested by even-aged methods until it meets the minimum stocking requirements under WAC 222-34-010(2) or 222-34-020(2) and the largest trees qualifying for the minimum stocking levels have survived on the area for five growing seasons or, if not, they have reached an average height of four feet.

"Fen" means wetlands which have the following characteristics: Peat soils 16 inches or more in depth (except over bedrock); and vegetation such as certain sedges, hardstem bulrush and cattails; fens may have an overstory of spruce and may be associated with open water.

"Fertilizers" means any substance or any combination or mixture of substances used principally as a source of plant food or soil amendment.

"Fill" means the placement of earth material or aggregate for road or landing construction or other similar activities.

"Fish" means for purposes of these rules, species of the vertebrate taxonomic groups of *Cephalospidomorphi* and *Osteichthyes*.

"Fish habitat" means habitat, which is used by fish at any life stage at any time of the year including potential habitat likely to be used by fish, which could be recovered by restoration or management and includes off-channel habitat.

"Fish passage barrier" means any artificial in-stream structure that impedes the free passage of fish.

"Flood level - 100 year" means a calculated flood event flow based on an engineering computation of flood magnitude that has a 1 percent chance of occurring in any given

year. For purposes of field interpretation, landowners may use the following methods:

Flow information from gauging stations;

Field estimate of water level based on guidance for "Determining the 100-Year Flood Level" in the forest practices board manual section 2.

The 100-year flood level shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or under license from the federal government, the state, or a political subdivision of the state.

"Forest land" means all land which is capable of supporting a merchantable stand of timber and is not being actively used for a use which is incompatible with timber growing. Forest land does not include agricultural land that is or was enrolled in the conservation reserve enhancement program by contract if such agricultural land was historically used for agricultural purposes and the landowner intends to continue to use the land for agricultural purposes in the future. For small forest landowner road maintenance and abandonment planning only, the term "forest land" excludes the following:

(a) Residential home sites. A residential home site may be up to five acres in size, and must have an existing structure in use as a residence;

(b) Cropfields, orchards, vineyards, pastures, feedlots, fish pens, and the land on which appurtenances necessary to the production, preparation, or sale of crops, fruit, dairy products, fish, and livestock exist.

"Forest landowner" means any person in actual control of forest land, whether such control is based either on legal or equitable title, or on any other interest entitling the holder to sell or otherwise dispose of any or all of the timber on such land in any manner. However, any lessee or other person in possession of forest land without legal or equitable title to such land shall be excluded from the definition of "forest landowner" unless such lessee or other person has the right to sell or otherwise dispose of any or all of the timber located on such forest land. The following definitions apply only to road maintenance and abandonment planning:

(1) **"Large forest landowner"** is a forest landowner who is not a small forest landowner.

(2) **"Small forest landowner"** is a forest landowner who at the time of submitting a forest practices application or notification meets all of the following conditions:

- Has an average annual timber harvest level of two million board feet or less from their own forest lands in Washington state;

- Did not exceed this annual average harvest level in the three year period before submitting a forest practices application or notification;

- Certifies to the department that they will not exceed this annual harvest level in the ten years after submitting the forest practices application or notification.

However, the department will agree that an applicant is a small forest landowner if the landowner can demonstrate that the harvest levels were exceeded in order to raise funds to pay estate taxes or to meet equally compelling and unexpected obligations such as court-ordered judgments and extraordinary medical expenses.

"Forest practice" means any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, including but not limited to:

- Road and trail construction;
- Harvesting, final and intermediate;
- Precommercial thinning;
- Reforestation;
- Fertilization;
- Prevention and suppression of diseases and insects;
- Salvage of trees; and
- Brush control.

"Forest practice" shall not include: Forest species seed orchard operations and intensive forest nursery operations; or preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms, and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

"Forest road" means ways, lanes, roads, or driveways on forest land used since 1974 for forest practices. "Forest road" does not include skid trails, highways, or local government roads except where the local governmental entity is a forest landowner. For road maintenance and abandonment planning purposes only, "forest road" does not include forest roads used exclusively for residential access located on a small forest landowner's forest land.

"Forest trees" does not include hardwood trees cultivated by agricultural methods in growing cycles shorter than 15 years if the trees were planted on land that was not in forest use immediately before the trees were planted and before the land was prepared for planting the trees. "Forest trees" includes Christmas trees but does not include Christmas trees that are cultivated by agricultural methods, as that term is defined in RCW 84.33.035.

"Full bench road" means a road constructed on a side hill without using any of the material removed from the hillside as a part of the road. This construction technique is usually used on steep or unstable slopes.

"Green recruitment trees" means those trees left after harvest for the purpose of becoming future wildlife reserve trees under WAC 222-30-020(11).

"Ground water recharge areas for glacial deep-seated slides" means the area upgradient that can contribute water to the landslide, assuming that there is an impermeable perching layer in or under a deep-seated landslide in glacial deposits. (See board manual section 16 for identification criteria.)

"Headwater spring" means a permanent spring at the head of a perennial channel. Where a headwater spring can be found, it will coincide with the uppermost extent of Type Np Water.

"Herbicide" means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any tree, bush, weed or algae and other aquatic weeds.

"Horizontal distance" means the distance between two points measured at a zero percent slope.

"Hyporheic" means an area adjacent to and below channels where interstitial water is exchanged with channel

water and water movement is mainly in the downstream direction.

"Identified watershed processes" means the following components of natural ecological processes that may in some instances be altered by forest practices in a watershed:

- Mass wasting;
- Surface and road erosion;
- Seasonal flows including hydrologic peak and low flows and annual yields (volume and timing);
- Large organic debris;
- Shading; and
- Stream bank and bed stability.

"Inner gorges" means canyons created by a combination of the downcutting action of a stream and mass movement on the slope walls; they commonly show evidence of recent movement, such as obvious landslides, vertical tracks of disturbance vegetation, or areas that are concave in contour and/or profile. (See board manual section 16 for identification criteria.)

"Insecticide" means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any insect, other arthropods or mollusk pests.

"Interdisciplinary team" (ID Team) means a group of varying size comprised of individuals having specialized expertise, assembled by the department to respond to technical questions associated with a proposed forest practices activity.

"Islands" means any island surrounded by salt water in Kitsap, Mason, Jefferson, Pierce, King, Snohomish, Skagit, Whatcom, Island, or San Juan counties.

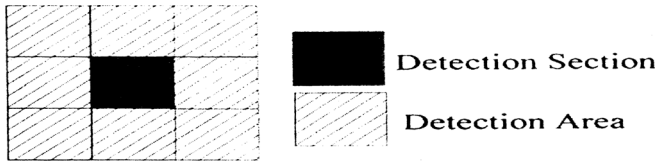
"Limits of construction" means the area occupied by the completed roadway or landing, including the cut bank, fill slope, and the area cleared for the purpose of constructing the roadway or landing.

"Load bearing portion" means that part of the road, landing, etc., which is supportive soil, earth, rock or other material directly below the working surface and only the associated earth structure necessary for support.

"Local governmental entity" means the governments of counties and the governments of cities and towns as defined in chapter 35.01 RCW.

"Low impact harvest" means use of any logging equipment, methods, or systems that minimize compaction or disturbance of soils and vegetation during the yarding process. The department shall determine such equipment, methods or systems in consultation with the department of ecology.

"Marbled murrelet detection area" means an area of land associated with a visual or audible detection of a marbled murrelet, made by a qualified surveyor which is documented and recorded in the department of fish and wildlife data base. The marbled murrelet detection area shall be comprised of the section of land in which the marbled murrelet detection was made and the eight sections of land immediately adjacent to that section.



"Marbled murrelet nesting platform" means any horizontal tree structure such as a limb, an area where a limb branches, a surface created by multiple leaders, a deformity, or a debris/moss platform or stick nest equal to or greater than 7 inches in diameter including associated moss if present, that is 50 feet or more above the ground in trees 32 inches dbh and greater (generally over 90 years of age) and is capable of supporting nesting by marbled murrelets.

"Median home range circle" means a circle, with a specified radius, centered on a spotted owl site center. The radius for the median home range circle in the Hoh-Clearwater/Coastal Link SOSEA is 2.7 miles; for all other SOSEAs the radius is 1.8 miles.

"Merchantable stand of timber" means a stand of trees that will yield logs and/or fiber:

Suitable in size and quality for the production of lumber, plywood, pulp or other forest products;

Of sufficient value at least to cover all the costs of harvest and transportation to available markets.

"Multiyear permit" means a permit to conduct forest practices which is effective for longer than two years but no longer than five years.

"Northern spotted owl site center" means the location of status 1, 2 or 3 northern spotted owls based on the following definitions:

- Status 1: Pair or reproductive - a male and female heard and/or observed in close proximity to each other on the same visit, a female detected on a nest, or one or both adults observed with young.
- Status 2: Two birds, pair status unknown - the presence or response of two birds of opposite sex where pair status cannot be determined and where at least one member meets the resident territorial single requirements.
- Status 3: Resident territorial single - the presence or response of a single owl within the same general area on three or more occasions within a breeding season with no response by an owl of the opposite sex after a complete survey; or three or more responses over several years (i.e., two responses in year one and one response in year two, for the same general area).

In determining the existence, location, and status of northern spotted owl site centers, the department shall consult with the department of fish and wildlife and use only those sites documented in substantial compliance with guidelines or protocols and quality control methods established by and available from the department of fish and wildlife.

"Notice of a conversion to a nonforestry use" means a notice issued by the department pursuant to RCW 76.09.060

(3)(b). A landowner who receives such notice is subject to the actions and requirements described in RCW 76.09.460 and 76.09.470.

"Notice to comply" means a notice issued by the department pursuant to RCW 76.09.090 of the act and may require initiation and/or completion of action necessary to prevent, correct and/or compensate for material damage to public resources which resulted from forest practices.

"Occupied marbled murrelet site" means:

(1) A contiguous area of suitable marbled murrelet habitat where at least one of the following marbled murrelet behaviors or conditions occur:

- A nest is located; or
- Downy chicks or eggs or egg shells are found; or
- Marbled murrelets are detected flying below, through, into or out of the forest canopy; or
- Birds calling from a stationary location within the area; or
- Birds circling above a timber stand within one tree height of the top of the canopy; or

(2) A contiguous forested area, which does not meet the definition of suitable marbled murrelet habitat, in which any of the behaviors or conditions listed above has been documented by the department of fish and wildlife and which is distinguishable from the adjacent forest based on vegetative characteristics important to nesting marbled murrelets.

(3) For sites defined in (1) and (2) above, the sites will be presumed to be occupied based upon observation of circling described in (1)(e), unless a two-year survey following the 2003 Pacific Seabird Group (PSG) protocol has been completed and an additional third-year of survey following a method listed below is completed and none of the behaviors or conditions listed in (1)(a) through (d) of this definition are observed. The landowner may choose one of the following methods for the third-year survey:

(a) Conduct a third-year survey with a minimum of nine visits conducted in compliance with 2003 PSG protocol. If one or more marbled murrelets are detected during any of these nine visits, three additional visits conducted in compliance with the protocol of the first nine visits shall be added to the third-year survey. Department of fish and wildlife shall be consulted prior to initiating third-year surveys; or

(b) Conduct a third-year survey designed in consultation with the department of fish and wildlife to meet site specific conditions.

(4) For sites defined in (1) above, the outer perimeter of the occupied site shall be presumed to be the closer, measured from the point where the observed behaviors or conditions listed in (1) above occurred, of the following:

(a) 1.5 miles from the point where the observed behaviors or conditions listed in (1) above occurred; or

(b) The beginning of any gap greater than 300 feet wide lacking one or more of the vegetative characteristics listed under "suitable marbled murrelet habitat"; or

(c) The beginning of any narrow area of "suitable marbled murrelet habitat" less than 300 feet in width and more than 300 feet in length.

(5) For sites defined under (2) above, the outer perimeter of the occupied site shall be presumed to be the closer, mea-

sured from the point where the observed behaviors or conditions listed in (1) above occurred, of the following:

(a) 1.5 miles from the point where the observed behaviors or conditions listed in (1) above occurred; or

(b) The beginning of any gap greater than 300 feet wide lacking one or more of the distinguishing vegetative characteristics important to murrelets; or

(c) The beginning of any narrow area of suitable marbled murrelet habitat, comparable to the area where the observed behaviors or conditions listed in (1) above occurred, less than 300 feet in width and more than 300 feet in length.

(6) In determining the existence, location and status of occupied marbled murrelet sites, the department shall consult with the department of fish and wildlife and use only those sites documented in substantial compliance with guidelines or protocols and quality control methods established by and available from the department of fish and wildlife.

"Old forest habitat" see WAC 222-16-085 (1)(a).

"Operator" means any person engaging in forest practices except an employee with wages as his/her sole compensation.

"Ordinary high-water mark" means the mark on the shores of all waters, which will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation: Provided, That in any area where the ordinary high-water mark cannot be found, the ordinary high-water mark adjoining saltwater shall be the line of mean high tide and the ordinary high-water mark adjoining freshwater shall be the line of mean high-water.

"Other forest chemicals" means fire retardants when used to control burning (other than water), nontoxic repellents, oil, dust-control agents (other than water), salt, and other chemicals used in forest management, except pesticides and fertilizers, that may present hazards to the environment.

"Park" means any park included on the parks register maintained by the department pursuant to WAC 222-20-100(2). Developed park recreation area means any park area developed for high density outdoor recreation use.

"Partial cutting" means the removal of a portion of the merchantable volume in a stand of timber so as to leave an uneven-aged stand of well-distributed residual, healthy trees that will reasonably utilize the productivity of the soil. Partial cutting does not include seedtree or shelterwood or other types of regeneration cutting.

"Pesticide" means any insecticide, herbicide, fungicide, or rodenticide, but does not include nontoxic repellents or other forest chemicals.

"Plantable area" is an area capable of supporting a commercial stand of timber excluding lands devoted to permanent roads, utility rights of way, that portion of riparian management zones where scarification is not permitted, and any other area devoted to a use incompatible with commercial timber growing.

"Power equipment" means all machinery operated with fuel burning or electrical motors, including heavy machinery, chain saws, portable generators, pumps, and powered backpack devices.

"Preferred tree species" means the following species listed in descending order of priority for each timber habitat type:

Ponderosa pine habitat type	Mixed conifer habitat type
all hardwoods	all hardwoods
ponderosa pine	western larch
western larch	ponderosa pine
Douglas-fir	western red cedar
western red cedar	western white pine
	Douglas-fir
	lodgepole pine

"Public resources" means water, fish, and wildlife and in addition means capital improvements of the state or its political subdivisions.

"Qualified surveyor" means an individual who has successfully completed the marbled murrelet field training course offered by the department of fish and wildlife or its equivalent.

"Rehabilitation" means the act of renewing, or making usable and reforesting forest land which was poorly stocked or previously nonstocked with commercial species.

"Resource characteristics" means the following specific measurable characteristics of fish, water, and capital improvements of the state or its political subdivisions:

For fish and water:

Physical fish habitat, including temperature and turbidity;

Turbidity in hatchery water supplies; and

Turbidity and volume for areas of water supply.

For capital improvements of the state or its political subdivisions:

Physical or structural integrity.

If the methodology is developed and added to the manual to analyze the cumulative effects of forest practices on other characteristics of fish, water, and capital improvements of the state or its subdivisions, the board shall amend this list to include these characteristics.

"Riparian function" includes bank stability, the recruitment of woody debris, leaf litter fall, nutrients, sediment filtering, shade, and other riparian features that are important to both riparian forest and aquatic system conditions.

"Riparian management zone (RMZ)" means:

(1) **For Western Washington**

(a) The area protected on each side of a Type S or F Water measured horizontally from the outer edge of the bank-full width or the outer edge of the CMZ, whichever is greater (see table below); and

Site Class	Western Washington Total RMZ Width
I	200'
II	170'
III	140'

Site Class	Western Washington Total RMZ Width
IV	110'
V	90'

(b) The area protected on each side of Type Np Waters, measured horizontally from the outer edge of the bankfull width. (See WAC 222-30-021(2).)

(2) For Eastern Washington

(a) The area protected on each side of a Type S or F Water measured horizontally from the outer edge of the bankfull width or the outer edge of the CMZ, whichever is greater (see table below); and

Site Class	Eastern Washington Total RMZ Width
I	130'
II	110'
III	90' or 100'*
IV	75' or 100'*
V	75' or 100'*

* Dependent upon stream size. (See WAC 222-30-022.)

(b) The area protected on each side of Type Np Waters, measured horizontally from the outer edge of the bankfull width. (See WAC 222-30-022(2).)

(3) **For exempt 20 acre parcels**, a specified area alongside Type S and F Waters where specific measures are taken to protect water quality and fish and wildlife habitat.

"RMZ core zone" means:

(1) **For Western Washington**, the 50 foot buffer of a Type S or F Water, measured horizontally from the outer edge of the bankfull width or the outer edge of the channel migration zone, whichever is greater. (See WAC 222-30-021.)

(2) **For Eastern Washington**, the thirty foot buffer of a Type S or F Water, measured horizontally from the outer edge of the bankfull width or the outer edge of the channel migration zone, whichever is greater. (See WAC 222-30-022.)

"RMZ inner zone" means:

(1) **For Western Washington**, the area measured horizontally from the outer boundary of the core zone of a Type S or F Water to the outer limit of the inner zone. The outer limit of the inner zone is determined based on the width of the affected water, site class and the management option chosen for timber harvest within the inner zone. (See WAC 222-30-021.)

(2) **For Eastern Washington**, the area measured horizontally from the outer boundary of the core zone 45 feet (for streams less than 15 feet wide) or 70 feet (for streams more than 15 feet wide) from the outer boundary of the core zone. (See WAC 222-30-022.)

"RMZ outer zone" means the area measured horizontally between the outer boundary of the inner zone and the RMZ width as specified in the riparian management zone definition above. RMZ width is measured from the outer edge of the bankfull width or the outer edge of the channel

migration zone, whichever is greater. (See WAC 222-30-021 and 222-30-022.)

"Road construction" means either of the following:

- (a) Establishing any new forest road;
- (b) Road work located outside an existing forest road prism, except for road maintenance.

"Road maintenance" means either of the following:

- (a) All road work located within an existing forest road prism;
- (b) Road work located outside an existing forest road prism specifically related to maintaining water control, road safety, or visibility, such as:
 - Maintaining, replacing, and installing drainage structures;
 - Controlling road-side vegetation;
 - Abandoning forest roads according to the process outlined in WAC 222-24-052(3).

"Rodenticide" means any substance or mixture of substances intended to prevent, destroy, repel, or mitigate rodents or any other vertebrate animal which the director of the state department of agriculture may declare by regulation to be a pest.

"Salvage" means the removal of snags, down logs, windthrow, or dead and dying material.

"Scarification" means loosening the topsoil and/or disrupting the forest floor in preparation for regeneration.

"Sensitive sites" are areas near or adjacent to Type Np Water and have one or more of the following:

(1) **Headwall seep** is a seep located at the toe of a cliff or other steep topographical feature and at the head of a Type Np Water which connects to the stream channel network via overland flow, and is characterized by loose substrate and/or fractured bedrock with perennial water at or near the surface throughout the year.

(2) **Side-slope seep** is a seep within 100 feet of a Type Np Water located on side-slopes which are greater than 20 percent, connected to the stream channel network via overland flow, and characterized by loose substrate and fractured bedrock, excluding muck with perennial water at or near the surface throughout the year. Water delivery to the Type Np channel is visible by someone standing in or near the stream.

(3) **Type Np intersection** is the intersection of two or more Type Np Waters.

(4) **Headwater spring** means a permanent spring at the head of a perennial channel. Where a headwater spring can be found, it will coincide with the uppermost extent of Type Np Water.

(5) **Alluvial fan** means a depositional land form consisting of cone-shaped deposit of water-borne, often coarse-sized sediments.

(a) The upstream end of the fan (cone apex) is typically characterized by a distinct increase in channel width where a stream emerges from a narrow valley;

(b) The downstream edge of the fan is defined as the sediment confluence with a higher order channel; and

(c) The lateral margins of a fan are characterized by distinct local changes in sediment elevation and often show disturbed vegetation.

Alluvial fan does not include features that were formed under climatic or geologic conditions which are not currently present or that are no longer dynamic.

"**Shorelines of the state**" shall have the same meaning as in RCW 90.58.030 (Shoreline Management Act).

"**Side casting**" means the act of moving excavated material to the side and depositing such material within the limits of construction or dumping over the side and outside the limits of construction.

"**Site class**" means a grouping of site indices that are used to determine the 50-year or 100-year site class. In order to determine site class, the landowner will obtain the site class index from the state soil survey, place it in the correct index range shown in the two tables provided in this definition, and select the corresponding site class. The site class will then drive the RMZ width. (See WAC 222-30-021 and 222-30-022.)

(1) For Western Washington

Site class	50-year site index range (state soil survey)
I	137+
II	119-136
III	97-118
IV	76-96
V	<75

(2) For Eastern Washington

Site class	100-year site index range (state soil survey)	50-year site index range (state soil survey)
I	120+	86+
II	101-120	72-85
III	81-100	58-71
IV	61-80	44-57
V	≤60	<44

(3) For purposes of this definition, the site index at any location will be the site index reported by the *Washington State Department of Natural Resources State Soil Survey*, (soil survey) and detailed in the associated forest soil summary sheets. If the soil survey does not report a site index for the location or indicates noncommercial or marginal forest land, or the major species table indicates red alder, the following apply:

(a) If the site index in the soil survey is for red alder, and the whole RMZ width is within that site index, then use site class V. If the red alder site index is only for a portion of the RMZ width, or there is on-site evidence that the site has historically supported conifer, then use the site class for conifer in the most physiographically similar adjacent soil polygon.

(b) In Western Washington, if no site index is reported in the soil survey, use the site class for conifer in the most physiographically similar adjacent soil polygon.

(c) In Eastern Washington, if no site index is reported in the soil survey, assume site class III, unless site specific information indicates otherwise.

(d) If the site index is noncommercial or marginally commercial, then use site class V.

See also section 7 of the board manual.

"**Site preparation**" means those activities associated with the removal of slash in preparing a site for planting and shall include scarification and/or slash burning.

"**Skid trail**" means a route used by tracked or wheeled skidders to move logs to a landing or road.

"**Slash**" means pieces of woody material containing more than 3 cubic feet resulting from forest practices activities.

"**Small forest landowner long-term application**" means a proposal from a small forest landowner to conduct forest practices activities for terms of three to fifteen years. Small forest landowners as defined in WAC 222-21-010(13) are eligible to submit long-term applications.

"**SOSEA goals**" means the goals specified for a spotted owl special emphasis area as identified on the SOSEA maps (see WAC 222-16-086). SOSEA goals provide for demographic and/or dispersal support as necessary to complement the northern spotted owl protection strategies on federal land within or adjacent to the SOSEA.

"**Spoil**" means excess material removed as overburden or generated during road or landing construction which is not used within limits of construction.

"**Spotted owl conservation advisory group**" means a three-person advisory group designated by the board as follows: One person shall be a representative of Washington's forest products industry, one person shall be a representative of a Washington-based conservation organization actively involved with spotted owl conservation, and one person shall be a representative of the department's forest practices program. Members of the group shall have a detailed working knowledge of spotted owl habitat relationships and factors affecting northern spotted owl conservation. On an annual basis, beginning November 2010, the board will determine whether this group's function continues to be needed for spotted owl conservation.

"**Spotted owl dispersal habitat**" see WAC 222-16-085(2).

"**Spotted owl special emphasis areas (SOSEA)**" means the geographic areas as mapped in WAC 222-16-086. Detailed maps of the SOSEAs indicating the boundaries and goals are available from the department at its regional offices.

"**Stop work order**" means the "stop work order" defined in RCW 76.09.080 of the act and may be issued by the department to stop violations of the forest practices chapter or to prevent damage and/or to correct and/or compensate for damages to public resources resulting from forest practices.

"**Stream-adjacent parallel roads**" means roads (including associated right of way clearing) in a riparian management zone on a property that have an alignment that is parallel to the general alignment of the stream, including roads used by others under easements or cooperative road agreements. Also included are stream crossings where the alignment of the road continues to parallel the stream for more than 250 feet on either side of the stream. Not included are federal, state, county or municipal roads that are not sub-

ject to forest practices rules, or roads of another adjacent landowner.

"Sub-mature habitat" see WAC 222-16-085 (1)(b).

"Suitable marbled murrelet habitat" means a contiguous forested area containing trees capable of providing nesting opportunities:

(1) With all of the following indicators unless the department, in consultation with the department of fish and wildlife, has determined that the habitat is not likely to be occupied by marbled murrelets:

(a) Within 50 miles of marine waters;

(b) At least forty percent of the dominant and codominant trees are Douglas-fir, western hemlock, western red cedar or sitka spruce;

(c) Two or more nesting platforms per acre;

(d) At least 7 acres in size, including the contiguous forested area within 300 feet of nesting platforms, with similar forest stand characteristics (age, species composition, forest structure) to the forested area in which the nesting platforms occur.

"Suitable spotted owl habitat" see WAC 222-16-085 (1).

"Temporary road" means a forest road that is constructed and intended for use during the life of an approved forest practices application/notification. All temporary roads must be abandoned in accordance to WAC 222-24-052(3).

"Threaten public safety" means to increase the risk to the public at large from snow avalanches, identified in consultation with the department of transportation or a local government, or landslides or debris torrents caused or triggered by forest practices.

"Threatened or endangered species" means all species of wildlife listed as "threatened" or "endangered" by the United States Secretary of the Interior or Commerce, and all species of wildlife designated as "threatened" or "endangered" by the Washington fish and wildlife commission.

"Timber" means forest trees, standing or down, of a commercial species, including Christmas trees. However, timber does not include Christmas trees that are cultivated by agricultural methods, as that term is defined in RCW 84.33-035.

"Unconfined avulsing stream" means generally fifth order or larger waters that experience abrupt shifts in channel location, creating a complex flood plain characterized by extensive gravel bars, disturbance species of vegetation of variable age, numerous side channels, wall-based channels, oxbow lakes, and wetland complexes. Many of these streams have dikes and levees that may temporarily or permanently restrict channel movement.

"Validation," as used in WAC 222-20-016, means the department's agreement that a small forest landowner has correctly identified and classified resources, and satisfactorily completed a roads assessment for the geographic area described in Step 1 of a long-term application.

"Water bar" means a diversion ditch and/or hump in a trail or road for the purpose of carrying surface water runoff into the vegetation duff, ditch, or other dispersion area so that it does not gain the volume and velocity which causes soil movement and erosion.

"Watershed administrative unit (WAU)" means an area shown on the map specified in WAC 222-22-020(1).

"Watershed analysis" means, for a given WAU, the assessment completed under WAC 222-22-050 or 222-22-060 together with the prescriptions selected under WAC 222-22-070 and shall include assessments completed under WAC 222-22-050 where there are no areas of resource sensitivity.

"Weed" is any plant which tends to overgrow or choke out more desirable vegetation.

"Western Washington" means the geographic area of Washington west of the Cascade crest and the drainages defined in Eastern Washington.

"Wetland" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, bogs, fens, and similar areas. This includes wetlands created, restored, or enhanced as part of a mitigation procedure. This does not include constructed wetlands or the following surface waters of the state intentionally constructed from wetland sites: Irrigation and drainage ditches, grass lined swales, canals, agricultural detention facilities, farm ponds, and landscape amenities.

"Wetland functions" include the protection of water quality and quantity, providing fish and wildlife habitat, and the production of timber.

"Wetland management zone" means a specified area adjacent to Type A and B Wetlands where specific measures are taken to protect the wetland functions.

"Wildlife" means all species of the animal kingdom whose members exist in Washington in a wild state. The term "wildlife" includes, but is not limited to, any mammal, bird, reptile, amphibian, fish, or invertebrate, at any stage of development. The term "wildlife" does not include feral domestic mammals or the family Muridae of the order Rodentia (old world rats and mice).

"Wildlife reserve trees" means those defective, dead, damaged, or dying trees which provide or have the potential to provide habitat for those wildlife species dependent on standing trees. Wildlife reserve trees are categorized as follows:

Type 1 wildlife reserve trees are defective or deformed live trees that have observably sound tops, limbs, trunks, and roots. They may have part of the top broken out or have evidence of other severe defects that include: "Cat face," animal chewing, old logging wounds, weather injury, insect attack, or lightning strike. Unless approved by the landowner, only green trees with visible cavities, nests, or obvious severe defects capable of supporting cavity dependent species shall be considered as Type 1 wildlife reserve trees. These trees must be stable and pose the least hazard for workers.

Type 2 wildlife reserve trees are dead Type 1 trees with sound tops, limbs, trunks, and roots.

Type 3 wildlife reserve trees are live or dead trees with unstable tops or upper portions. Unless approved by the landowner, only green trees with visible cavities, nests, or obvious severe defects capable of supporting cavity dependent species shall be considered as Type 3 wildlife reserve trees. Although the roots and main portion of the trunk are sound,

these reserve trees pose high hazard because of the defect in live or dead wood higher up in the tree.

Type 4 wildlife reserve trees are live or dead trees with unstable trunks or roots, with or without bark. This includes "soft snags" as well as live trees with unstable roots caused by root rot or fire. These trees are unstable and pose a high hazard to workers.

"Windthrow" means a natural process by which trees are uprooted or sustain severe trunk damage by the wind.

"Yarding corridor" means a narrow, linear path through a riparian management zone to allow suspended cables necessary to support cable logging methods or suspended or partially suspended logs to be transported through these areas by cable logging methods.

"Young forest marginal habitat" see WAC 222-16-085 (1)(b).

AMENDATORY SECTION (Amending WSR 07-20-044, filed 9/26/07, effective 10/27/07)

WAC 222-20-050 Conversion to nonforest use. (1) If an application to harvest signed by the landowner indicates that within three years after completion, the forest land will be converted to a specified active use which is incompatible with timber growing, the reforestation requirements of these rules shall not apply and the information relating to reforestation on the application form need not be supplied. However, if such specified active use is not initiated within three years after such harvest is completed, the reforestation requirements (see chapter 222-34 WAC) shall apply and such reforestation shall be completed within one additional year.

(2) For Class II, III, and IV special forest practices, if a landowner wishes to maintain the option for conversion to a use other than commercial timber growing, the landowner may request the appropriate local governmental entity to approve a conversion option harvest plan. This plan, if approved by the local governmental entity and followed by the landowner, shall release the landowner from the six-year moratorium on future development, but does not create any other rights. The conversion option harvest plan shall be attached to the application or notification as a condition. Violation of the conversion option harvest plan will result in the reinstatement of the local governmental entity's right to the six-year moratorium. Reforestation requirements will not be waived in the conversion option harvest plan. Reforestation rules shall apply at the completion of the harvest operation as required in chapter 222-34 WAC. Nothing herein shall preclude the local governmental entity from charging a fee to approve such a plan. (See RCW 76.09.060 (3)(b)(i).)

(3) If the application or notification does not state that any land covered by the application or notification will be or is intended to be converted to a specified active use incompatible with commercial timber growing, or if the forest practice takes place without a required application or notification, then the provisions of RCW 76.09.060 (3)(b)(i) regarding the six-year moratorium apply.

(4) A notice of a conversion to a nonforestry use issued by the department under the provisions of RCW 76.09.060 (3)(b) may be appealed to the appeals board in accordance with RCW 43.21B.110 and 43.21B.230.

AMENDATORY SECTION (Amending WSR 08-24-011, filed 11/21/08, effective 12/22/08)

WAC 222-30-023 Riparian management zones for exempt 20-acre parcels.

Note: Compliance with this section does not ensure compliance with the federal Endangered Species Act or the Clean Water Act.

On parcels of 20 contiguous acres or less, landowners with total parcel ownership of less than 80 forested acres shall not be required to leave the riparian buffers described in WAC 222-30-021 and 222-30-022. These landowners are required to follow applicable watershed analysis riparian prescriptions in effect as of January 1, 1999, or if there are no watershed analysis riparian prescriptions in effect these landowners are required to follow the riparian management zone rules below.

***(1) Western Washington RMZs for exempt 20-acre parcels.** Riparian management zones are measured horizontally from the outer edge of bankfull width of a Type S or F Water and extend to the line where vegetation changes from wetland to upland plant community, or the line required to leave sufficient shade as required by WAC 222-30-040, whichever is greater, but must not be less than 29 feet in width nor more than the maximum widths described in (f) of this subsection, provided that the riparian management zone width shall be expanded as necessary to include wetlands or ponds adjacent to the stream. When the riparian management zone overlaps a Type A or B Wetland or a wetland management zone, the requirement which best protects public resources shall apply.

(a) Harvest units shall be designed so that felling, bucking, yarding or skidding, and reforestation can be accomplished in accordance with these rules, including those rules relating to stream bank integrity and shade requirements to maintain stream temperature. Where the need for additional actions or restrictions adjacent to waters not covered by the following become evident, WAC 222-12-050 and 222-12-060 may apply.

(b) When requested in writing by the applicant, the department shall assist in preparation of an alternate plan for the riparian management zone.

(c) Landowners must meet the following shade requirements in effect January 1, 1999, to maintain stream temperature.

***(i) Determination of adequate shade.** The temperature prediction method in (c)(ii) and (iii) of this subsection shall be used to determine appropriate shade levels for flowing Type S and F Waters to prevent excessive water temperatures which may have detrimental impact on aquatic resources.

***(ii) Temperature prediction method.** In addition to the riparian management zone requirements described in (f) of this subsection, leave trees shall be retained within the maximum riparian management zones on flowing Type S and F Waters as provided by the method described in the board manual which includes the following considerations:

(A) Minimum shade retention requirements; and

(B) Regional water temperature characteristics; and

(C) Elevation; and

(D) Temperature criteria defined for stream classes in chapter 173-201A WAC.

*(iii) Leave tree requirements for shade. The method described in (c)(ii) of this subsection shall be used to establish the minimum shade cover based on site-specific characteristics. When site-specific data indicate that preharvest conditions do not meet the minimums established by the method, no additional shade removal from riparian management zones will be allowed.

(iv) Waivers. The department may waive or modify the shade requirements where:

(A) The applicant agrees to a staggered setting program producing equal or greater shade requirements to maintain stream temperature; or

(B) The applicant provides alternative means of stream temperature control satisfactory to the department; or

(C) The temperature method indicates that additional shade will not affect stream temperature.

(d) For wildlife habitat within the riparian management zone, leave an average of 5 undisturbed and uncut wildlife trees per acre at the ratio of 1 deciduous tree to 1 conifer tree equal in size to the largest existing trees of those species within the zone. Where the 1 to 1 ratio is not possible, then

substitute either species present. Forty percent or more of the leave trees shall be live and undamaged on completion of harvest. Wildlife trees shall be left in clumps whenever possible.

(e) When 10 percent or more of the harvest unit lies within any combination of a riparian management zone of Type S or F Waters or a wetland management zone and the harvest unit is a clearcutting of 20 acres or less, leave not less than 50 percent of the trees required in ~~((e))~~ (f) of this subsection.

(f) Within the riparian management zone, trees shall be left for wildlife and fisheries habitat as provided for in the chart below. Fifty percent or more of the trees shall be live and undamaged on completion of the harvest. The leave trees shall be randomly distributed where feasible; some clumping is allowed to accommodate operational considerations. The number, size, species and ratio of leave trees, deciduous to conifer, is specified by the bed material and average width of the water type within the harvest unit. Trees left according to (c) of this subsection may be included in the number of required leave trees in this subsection.

**Western Washington Riparian Leave Tree Requirements
For exempt 20-acre parcels**

Water Type/Average Bankfull Width	RMZ Maximum Width	Ratio of Conifer to Deciduous/ Minimum Size Leave Trees	# Trees/1000 ft. each side	
			Gravel/Cobble <10" Diameter	Boulder/Bedrock
S or F Water greater than or equal to 75'	115'	representative of stand	58 trees	29 trees
S Water less than 75' and F Water less than 75' and greater than or equal to 10'	86'	representative of stand	115 trees	60 trees
F Water less than 10' and greater than or equal to 5'	58'	2 to 1 12" or next largest available ¹	86 trees	29 trees
F Water less than 5'	29'	1 to 1 6" or next largest available ¹	29 trees	29 trees

¹ "Or next largest available" requires that the next largest trees to those specified in the rule be left standing when those available are smaller than the size specified.

Ponds or lakes which are Type S or F Waters shall have the same leave tree requirements as boulder/bedrock streams.

***(2) Eastern Washington riparian management zones for exempt 20-acre parcels.** These zones shall be measured horizontally from the outer edge of bankfull width of Type S or F Waters and extend to the line where vegetation changes from wetland to upland plant community, or to the line required to leave sufficient shade as required by WAC 222-30-040, whichever is greater, but shall not be less than the minimum width nor more than the maximum widths described in (c) of this subsection, provided that the riparian management zone width shall be expanded as necessary to include wetlands or ponds adjacent to the stream. When the

riparian management zone overlaps a Type A or B Wetland or a wetland management zone, the requirement which best protects public resources shall apply.

(a) Harvest units shall be designed so that felling, bucking, yarding or skidding, and reforestation can be accomplished in accordance with these rules, including those rules relating to stream bank integrity and shade requirements to maintain stream temperature. Where the need for additional actions or restrictions adjacent to waters not covered by the following become evident, WAC 222-12-050 and 222-12-060 may apply.

(b) When requested in writing by the applicant, the department shall assist in preparation of an alternate plan for the riparian management zone.

(c) Within the riparian management zone, trees shall be left for wildlife and fisheries habitat as provided for below.

Fifty percent or more of the trees shall be live and undamaged on completion of the harvest. The leave trees shall be randomly distributed where feasible; some clumping is allowed to accommodate operational considerations.

(i) The width of the riparian management zone shall be based on the adjacent harvest type as defined in WAC 222-16-010 "Partial cutting." When the adjacent unit harvest type is:

Partial cutting - The riparian management zone width shall be a minimum of 35 feet to a maximum of 58 feet on each side of the stream.

Other harvest types - The riparian management zone shall average 58 feet in width on each side of the stream with a minimum width of 35 feet and a maximum of 345 feet on each side of the stream.

(ii) Leave tree requirements within the riparian management zones of Type S or F Waters:

(A) Leave all trees 12 inches or less in diameter breast height (dbh); and

(B) Leave all wildlife reserve trees within the riparian management zone where operations in the vicinity do not violate the state safety regulations (chapter 296-54 WAC and chapter 49.17 RCW administered by department of labor and industries, safety division); and

(C) Leave 18 live conifer trees per acre between 12 inches dbh and 20 inches dbh distributed by size, as representative of the stand; and

(D) Leave 4 live conifer trees per acre 20 inches dbh or larger and the 2 largest live deciduous trees per acre 16 inches dbh or larger. Where these deciduous trees do not exist, and where 2 wildlife reserve trees per acre 20 inches or larger do not exist, substitute 2 live conifer trees per acre 20 inches dbh or larger. If live conifer trees of 20 inches dbh or larger do not exist within the riparian management zone, then substitute the 5 largest live conifer trees per acre; and

(E) Leave 3 live deciduous trees per acre between 12 inches and 16 inches dbh where they exist.

(iii) Minimum leave tree requirements per acre for Type S or F Waters. Trees left for (c)(ii) of this subsection shall be included in the minimum counts.

(A) On streams with a boulder/bedrock bed, the minimum leave tree requirements shall be 75 trees per acre 4 inches dbh or larger.

(B) On streams with a gravel/cobble (less than 10 inches diameter) bed, the minimum leave tree requirement shall be 155 trees per acre 4 inches dbh or larger.

(C) On lakes or ponds, the minimum leave tree requirement shall be 86 trees per acre 4 inches dbh or larger.

Note: See the board manual for guidelines for calculating trees per acre and average RMZ widths.

(d) When 10 percent or more of the harvest unit lies within any combination of a riparian management zone of Type S or F Waters or a wetland management zone and the harvest unit is 20 acres or less, leave not less than 50 percent of the trees required in (c) of this subsection. (See WAC 222-16-010 "Partial cutting.")

***(3) Riparian leave tree areas for exempt 20-acre parcels.** The department will require trees to be left along Type Np Waters where such practices are necessary to protect public resources. Where such practices are necessary,

leave at least 29 conifer or deciduous trees, 6 inches in diameter or larger, on each side of every 1000 feet of stream length within 29 feet of the stream. The leave trees may be arranged to accommodate the operation.

(4) For the purposes of this section RMZ means: A specified area alongside Type S and F Waters where specific measures are taken to protect water quality and fish and wildlife habitat.

AMENDATORY SECTION (Amending WSR 08-24-011, filed 11/21/08, effective 12/22/08)

WAC 222-46-030 Notice to comply. If a violation, a deviation, material damage or potential for material damage to a public resource has occurred and the department determines that a stop work order is unnecessary, then the department shall issue and serve upon the operator and/or landowner a notice.

(1) The notice shall clearly set forth:

(a) **The specific** nature, extent, and time of failure to comply with the approved application; or identifying the damage or potential damage; and/or

(b) The relevant provisions of the Forest Practices Act or of the forest practices rules relating thereto;

(c) **The right** of the operator, landowner, or timber owner to a hearing before the department; and

(d) **The specific** course of action ordered by the department to be followed by the operator to correct such failure to comply and to prevent, correct and/or compensate for material damage to public resources which resulted from any violation, unauthorized deviation, or willful or negligent disregard for potential damage to a public resource; and/or those courses of action necessary to prevent continuing damage to public resources where the damage is resulting from the forest practices activities but has not resulted from any violation, unauthorized deviation, or negligence.

(2) **Local governmental entity conditions.** If the notice to comply involves a condition imposed pursuant to WAC 222-20-040(3), then the specific course of action ordered by the department shall include a requirement that the operator obtain approval of the local governmental entity of the action to be taken.

(3) **The department** shall mail a copy of the notice to comply to the forest landowner and the timber owner at the addresses shown on the application, showing the date of service upon the operator. The department shall also mail a copy to the local governmental entity if a condition imposed pursuant to WAC 222-20-040(3) is involved.

(4) **Such notice to comply shall become a final order** of the department: Provided, That no direct appeal to the appeals board will be allowed from such final order. Such operator shall undertake the course of action so ordered by the department unless, within fifteen days after the date of service of such notice to comply, the operator, forest landowner, or timber owner, shall request the department in writing to schedule a hearing. If so requested, the department shall schedule a hearing on a date not more than twenty days after receiving such request. The local governmental entity shall participate in the hearing if a condition imposed pursuant to WAC 222-20-040(3) is involved. Within ten days after

such hearing, the department shall issue a final order either withdrawing its notice to comply or clearly setting forth the specific course of action to be followed by such operator. Such operator shall undertake the course of action so ordered by the department unless within thirty days after the date of receipt of such final order, the operator, forest landowner, or timber owner appeals such final order to the appeals board. No person shall be under any obligation under this section to prevent, correct, or compensate for any damage to public resources which occurs more than one year after the date of completion of the forest practices operations involved exclusive of reforestation, unless such forest practices were not conducted in accordance with forest practices rules: Provided, That this provision shall not relieve the forest landowner from any obligation to comply with forest practices rules pertaining to providing continuing road maintenance. No action to recover damages shall be taken under this section more than two years after the date the damage involved occurs.

AMENDATORY SECTION (Amending WSR 08-24-011, filed 11/21/08, effective 12/22/08)

WAC 222-46-040 Stop work orders. (1) **The department** shall have the authority to serve upon an operator a stop work order which shall be a final order of the department if:

(a) There is any violation of the provisions of the Forest Practices Act or these rules; or

(b) There is a deviation from the approved application; or

(c) Immediate action is necessary to prevent continuation of or to avoid material damage to a public resource.

(2) **The stop work order** shall set forth:

(a) The specific nature, extent, and time of the violation, deviation, damage, or potential damage;

(b) An order to stop all work connected with the violation, deviation, damage, or potential damage;

(c) The specific course of action needed to correct such violation or deviation or to prevent damage and to correct and/or compensate for damage to public resources which has resulted from any violation, unauthorized deviation, or willful or negligent disregard for potential damage to a public resource. The stop work order shall also set forth those courses of action necessary to prevent continuing damage to public resources where the damage is resulting from the forest practices activities but has not resulted from any violation, unauthorized deviation, or negligence. If the stop work order involves a condition imposed pursuant to WAC 222-20-040 (3), then the specific course of action ordered by the department shall include a requirement that the operator obtain approval of the local governmental entity of the action to be taken.

(d) The stop work order shall also set forth the right of the operator to a hearing before the appeals board.

(3) The department shall immediately file a copy of such order with the appeals board and mail a copy thereof to the timber owner and forest landowner at the addresses shown on the application. The department shall also mail a copy to the local governmental entity if a condition imposed pursuant to WAC 222-20-040(3) is involved.

(4) The operator, timber owner, or forest landowner may commence an appeal to the appeals board within ~~((fifteen))~~ thirty days ((after service upon)) from the date of receipt of the order by the operator. If such appeal is commenced, a hearing shall be held not more than twenty days after copies of the notice of appeal were filed with the appeals board. Such proceeding shall be a contested case within the meaning of chapter 34.05 RCW.

(5) The operator shall comply with the order of the department immediately upon being served, but the appeals board if requested shall have authority to continue or discontinue in whole or in part the order of the department under such conditions as it may impose pending the outcome of the proceeding.

AMENDATORY SECTION (Amending WSR 08-24-011, filed 11/21/08, effective 12/22/08)

WAC 222-46-060 Civil penalties. (1) **Amount of penalty.** Every person who violates any provisions of RCW 76.09.010 through 76.09.280 or of the forest practices rules adopted pursuant thereto, or who converts forest land to a use other than commercial timber operation within three years after completion of the forest practice without the consent of the county, city, or town, shall be subject to a penalty in an amount of not more than ten thousand dollars for each such violation. Each and every such violation shall be a separate and distinct violation. In case of a failure to comply with a stop work order, every day's continuance thereafter shall be a separate and distinct violation.

(2) **Penalty assessments** shall consider the following:

(a) Repairability of the adverse effect from the violation;

(b) Whether the violation of the act or rules was intentional;

(c) Cooperation with the department;

(d) Previous violation history;

(e) Severity of the impact or the potential for material damage to public resources; and

(f) The extent to which a penalty to be imposed on a forest landowner for a forest practices violation committed by another should be reduced because the owner was unaware of the violation and did not receive substantial economic benefits from the violation.

(3) **Calculation of penalty.** The department shall evaluate any violation to determine if a civil penalty is warranted. When penalties are to be assessed they shall be calculated using the following process:

(a) Determine the base penalty; see WAC 222-46-065.

(b) The penalty may be adjusted using factors specific to the incident and the site. The following additional factors will be independently considered and added to the base penalty to calculate the civil penalty:

(i) Repairability:

Repairability shall be based on the length of time natural restoration or implementation of a restoration plan will take and whether repair can be achieved. The penalty will be substantially increased when natural restoration will not occur within three years and the damage cannot be effectively corrected. For this factor, up to double the base penalty may be added to the penalty.

(ii) Intention:

In making a determination of intent, the department shall consider, but not be limited to, the following considerations: The foreseeability of the violation; whether precautions were taken to avoid the violation; whether an informal conference or enforcement action was served on the violator prior to the violation. For this factor, up to double the base penalty may be added to the penalty.

(iii) Cooperation:

The department shall consider whether the violator did or did not make any attempt to correct the problem. Timeliness of action(s) and/or ignoring or evading agency contacts or directives shall determine if the penalty shall be increased. For this factor, up to double the base penalty may be added to the penalty.

(iv) Previous violation(s):

The department shall consider whether the violator has previous violations of a forest practices rule or regulation as documented in an enforcement action. The department may consider company organizations and assignment of operational responsibilities when evaluating previous violations. A history of violations with adverse impacts or potential for adverse impacts or that shows a pattern of ignoring the rules or the act, shall result in a substantially larger penalty.

Enforcement actions for the purposes of this section shall include notices to comply, stop work orders, civil penalties, and criminal citations when those enforcement actions are associated with forest practices violations. For this factor, up to quadruple the base penalty may be added to the penalty.

(v) Severity:

The department shall adjust the penalty based on the extent and magnitude of the damage or potential damage to public resources. For this factor, up to quadruple the base penalty may be added to the penalty.

(vi) Landowner involvement:

If in the opinion of the department, the landowner exercised reasonable prudence in the development of timber sale contracts or supervision of the forest practices operations, was unaware of the forest practices violation, and the landowner received no substantial economic benefit from the violation, then the landowner generally would not be assessed a civil penalty.

(c) In accordance with RCW 76.09.170, the penalty may not exceed ten thousand dollars for each and every violation.

(d) The department shall determine whether all or a portion of the penalty should be assessed against the operator, landowner, and/or timber owner. The department should consider the responsible party, the degree of control, the sophistication of the party and whether different parties conducted different violations.

(4) **Other participants.** Every person who through an act of commission or omission procures, aids or abets in the violation shall be considered to have violated the provisions of this section and shall be subject to the penalty provided for in this section.

(5) **Government employees.** No penalty shall be imposed under this section upon any governmental official, an employee of any governmental department, agency, or entity, or a member of any board created by the act for any act

or omission in his/her duties in the administration of the act or of these rules.

(6) **Written notice.** The penalty shall be imposed by a notice in writing, either by certified mail with return receipt requested or by personal service, to the person incurring the same from the department describing the violation with reasonable particularity.

(7) **Remission or mitigation.** Within fifteen days after the notice is received, the person incurring the penalty may apply in writing to the supervisor of the department or his or her designee for the remission or mitigation of such penalty. Upon receipt of the application, the department may remit or mitigate the penalty upon whatever terms the department in its discretion deems proper: Provided, That the department deems such remission or mitigation to be in the best interests of carrying out the purposes of the act. The department shall have authority to ascertain the facts regarding all such applications in such reasonable manner and under such rules as they may deem proper. The reviewer may reduce, dismiss or not change the civil penalty.

(8) **Right of appeal.** Any person incurring any penalty hereunder may appeal the same to the ~~((forest practices))~~ appeals board. Such appeals shall be filed within thirty days after the date of receipt of ~~((notice imposing any))~~ the penalty unless an application for remission or mitigation is made to the department. When such an application for remission or mitigation is made, such appeals shall be filed within thirty days of receipt of notice from the department setting forth the disposition of the application for remission or mitigation. Concurrently with the filing of any appeal to the ~~((forest practices))~~ appeals board as provided in this section, the appellant shall file a copy of the appeal with the department region from which the penalty was issued and a copy with the office of the attorney general.

(9) **Penalties due.** The penalty imposed under this section shall become due and payable thirty days after receipt of a notice imposing the same unless application for remission or mitigation is made or an appeal is filed. When such an application for remission or mitigation is made, any penalty incurred under this section shall become due and payable thirty days after receipt of notice setting forth the disposition of such application unless an appeal is filed from such disposition. Whenever an appeal of the penalty incurred is filed, the penalty shall become due and payable only upon completion of all administrative and judicial review proceedings and the issuance of a final order or decision confirming the penalty in whole or in part.

(10) **Enforcement.** If the amount of any penalty is not paid to the department within thirty days after it becomes due and payable, the attorney general, upon the request of the department, shall bring an action in the name of the state of Washington in the superior court of Thurston county or of any county in which such violator may do business, to recover such penalty, interest, costs, and attorneys' fees. In all such actions the procedure and rules of evidence shall be the same as an ordinary civil action except as otherwise provided in the Forest Practices Act. In addition to or as an alternative to seeking enforcement of penalties in superior court, the department may bring an action in district court as provided

in Title 3 RCW, to collect penalties, interest, costs, and attorneys' fees.

(11) **Liens.** Penalties imposed under this section for violations associated with a conversion to a use other than commercial timber operation shall be a lien upon the real property of the person assessed the penalty. The department may collect such amounts in the same manner provided in chapter 60.04 RCW for mechanics' liens.

(12) Any person incurring a penalty is also responsible for the payment of all costs and attorneys' fees incurred with the penalty as well as interest accruing on the unpaid penalty amount.

AMENDATORY SECTION (Amending WSR 08-24-011, filed 11/21/08, effective 12/22/08)

WAC 222-46-070 Injunctions, civil suits, disapprovals. (1) **The department** may take any necessary action to enforce any final order or final decision.

(2)(a) The department may disapprove any forest practices application or notification submitted by any person who has failed to comply with a final order or decision as set forth in RCW 76.09.080, 76.09.090, or 76.09.110, or has failed to pay any civil penalties as provided in RCW 76.09.170. This disapproval will last for up to one year from the issuance of a notice of intent to disapprove notifications and applications under this section, or until the violator pays all outstanding civil penalties and complies with all validly issued and outstanding notices to comply and stop work orders, whichever is longer.

(b) For purposes of this subsection, "validly issued" means a stop work order or notice to comply for which no appeal or request for hearing has been filed; or if appealed, it has not been declared invalid by a final order or decision and all appeals are exhausted.

(c) The department shall provide written notice of its intent to disapprove future applications or notifications, and shall forward copies of such notice to any affected landowner, timber owner or operator. The disapproval period shall run from thirty days following the date of actual notice or from the date all appeals, if any, have been exhausted.

(d) Any person provided notice of intent to disapprove an application or notification may seek review from the ((~~forest practices~~)) appeals board within thirty days of the date of notice.

(e) While the notice of intent to disapprove is in effect, the violator(s) may not serve as a person in charge of, be employed by, manage, or otherwise participate to any degree in forest practices.

(3) **A county** may bring injunctive, declaratory, or other actions for enforcement for forest practices activities within its jurisdiction in the superior court as provided by law against the department, the forest landowner, timber owner or operator to enforce the forest practices regulations or any final order of the department or the appeals board. No civil or criminal penalties shall be imposed for past actions or omissions if such actions or omissions were conducted pursuant to an approval or directive of the department. A county may not commence injunctions, declaratory actions, or other actions for enforcement under this subsection unless the department

fails to take appropriate actions after ten days' written notice to the department by the county of a violation of the forest practices rules or final orders of the department or the appeals board.

AMENDATORY SECTION (Amending WSR 01-12-042, filed 5/30/01, effective 7/1/01)

WAC 222-46-090 Financial assurances. (1) The purpose in requiring financial assurances is to ensure that the landowner or operator has sufficient resources to cover any penalties and mitigation measures, which might be assessed.

(2) The department may require financial assurance prior to the conduct of any further forest practices from an operator or landowner who within the preceding three-year period has:

(a) Operated without an approved forest practices application, other than an unintentional operation in connection with an approved application outside the approved boundary of such an application;

(b) Continued to operate in breach of, or failed to comply with, the terms of an effective stop work order or notice to comply; or

(c) Failed to pay any civil or criminal penalty.

(3) The department must deny any application or notification for failure to submit financial assurances as required.

(4) In deciding whether to require financial assurances, the department shall consider:

(a) The organizational size of the operator or landowner;

(b) Whether the violation was self-reported;

(c) The cooperation exhibited when the violation was discovered; and

(d) Any other factors the department believes indicate that financial assurances are, or are not, warranted.

(5) When the department determines that a financial assurance is required, a notice will be issued to the landowner or operator with violations listed above. The notice cannot be appealed. The financial assurances will be required with all future forest practices activities submitted within the time frame indicated in the notice. The notice shall include the following:

(a) A reference to subsection (6) of this section which identifies the criteria for establishing the amount of the financial assurance;

(b) The types of financial assurance which can be submitted;

(c) The time period during which financial assurances will be required with every future application or notification;

(d) A statement that the department must deny any application or notification from a landowner or operator who submits an application or notification without their required financial assurance;

(e) A statement that an application or notification can be appealed pursuant to ((~~RCW 76.09.220 (8)(a))~~) section 24, chapter 210, Laws of 2010, and the requirement to submit financial assurances may be challenged at that time.

(6) The amount shall be set by the department within 10 days of receipt of a Class III or IV application, or within 3 days of receipt of a Class II notification. Applicants who have been notified of a financial assurance requirement are encouraged to use the early review process for applications

outlined in WAC 222-20-090. In establishing the amount of the financial assurances to be required, the department shall begin with the following base amounts:

- Class II Notifications - \$10,000
- Class III Applications - \$30,000
- Class IV General Applications - \$20,000
- Class IV Special Applications - \$50,000

The base amounts listed above are based on an estimate of the potential for civil penalties, fees and required mitigation that could result from noncompliance with forest practices rules and department directives on forest practices applications or notifications of that classification. The base amounts can be increased or decreased depending on application specific factors including, but not limited to, size of the proposed harvest area, miles of new road construction and road maintenance, proximity to water, proximity to unstable soils, proximity to threatened or endangered species, and types of violations committed by the applicant in the past. In addition, the department should consider the risk to the state of the applicant being unable to pay civil penalties or perform required mitigation work. In weighing this risk, the department should consider the applicant's past history of payment to the department, and any other financial information the applicant chooses to submit to the department. The base amount of financial assurance to be required may be increased or decreased depending on the department's assessment of this risk.

(7) The financial assurance provided shall protect the department and the state from the risk that the landowner or operator may be financially unable to pay civil penalties, fees and/or perform mitigation work required by the department, including mitigation work performed by the department pursuant to RCW 76.09.120, because of violations of the Forest Practices Act or rules. The department may, for any reason, refuse any financial assurance not deemed adequate. The financial assurance provided may be in the following form:

- (a) Bank letter of credit;
- (b) Cash deposit;
- (c) Savings account assignment; or
- (d) Corporate surety bond executed in favor of the department.

(8) The department may obtain compensation from a financial assurance whenever the landowner or operator has failed to pay a civil penalty that is due and owing or has failed to complete mitigation as required. Payment for a specific civil penalty or mitigation does not relieve the surety, operator or landowner of financial responsibility for any other civil penalty or mitigation.

(9) Liability under the financial assurance shall be maintained until all forest practices under the forest practices notification or application issued by the department are completed or until the notification or application expires, and all of the landowner or operator's obligations under the Forest Practices Act and rules are completed to the satisfaction of the department including payment of civil penalties and completion of required mitigation work. Liability under the financial assurance may be released only upon written notification by the department. Notification shall be given upon completion of compliance or acceptance of a substitute financial assurance.

(10) Financial assurances are estimates only. Nothing in this section shall be construed to limit the department's authority to assess and collect civil penalties and fees and to require mitigation work in amounts that exceed existing financial assurances.

WSR 10-18-081
EXPEDITED RULES
DEPARTMENT OF
LABOR AND INDUSTRIES

[Filed August 31, 2010, 3:17 p.m.]

Title of Rule and Other Identifying Information: Chapter 296-307 WAC, Safety standards for agriculture.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Naomi Goodman, Department of Labor and Industries, P.O. Box 44001, Olympia, WA 98504-4001, AND RECEIVED BY November 2, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The department is responding to a Federal Register notice where Occupational Safety and Health Administration (OSHA) updated their respirator requirements for the controlled negative pressure REDON fit testing protocol. We are updating our rule to be identical to OSHA's rule.

In addition there are some minor typos and language changes that will be made to make this rule consistent with other division of occupational safety and health (DOSH) rules.

The proposed language in chapter 296-307 WAC will meet L&I's statutory mandate to be as-effective-as the federal equivalent.

Reasons Supporting Proposal: By law, L&I's DOSH is required to have laws at-least-as-effective-as OSHA.

Statutory Authority for Adoption: RCW 49.17.050.

Statute Being Implemented: Chapter 49.17 RCW.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Department of labor and industries, governmental.

Name of Agency Personnel Responsible for Drafting: Tracy Spencer, Tumwater, (360) 902-5530; Implementation and Enforcement: Michael Silverstein, Tumwater, (360) 902-4805.

August 31, 2010

Judy Schurke

Director

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-018 What are the employer's responsibilities?

You must:

- (1) Provide a safe and healthful working environment.
- (2) Ensure that employees do not use defective or unsafe tools and equipment, including tools and equipment that may be furnished by the employee.
- (3) Implement a written accident prevention program as required by these standards.
- (4) Implement a hazard communication program as required by WAC 296-307-550.
- (5) Establish a system for reporting and recording accidents on the OSHA ~~((200))~~ 300 log. (See chapter 296-27 WAC.)
- (6) Provide safety education and training programs.
- (7) Implement the requirements of WAC 296-62-074 through 296-62-07451 to ensure the safety of employees who are exposed to cadmium in the workplace.
- (8) Implement the requirements of WAC 296-307-642 through 296-307-656 to ensure the safety of employees who are exposed to confined spaces in the workplace.
- (9) Control chemical agents.

You must:

- Control chemical agents in a manner that they will not present a hazard to your workers; or
- Protect workers from the hazard of contact with, or exposure to, chemical agents.

Reference: Pesticides are chemical agents and are covered by chapter 296-307 WAC Part I, Pesticides (worker protection standard). Pesticides may also be covered by WAC 296-307-594, Respirators.

- (10) Protect employees from biological agents.

You must:

- Protect employees from exposure to hazardous concentrations of biological agents that may result from processing, handling or using materials or waste.

Note: Examples of biological agents include:

- Animals or animal waste
- Body fluids
- Biological agents in a medical research lab
- Mold or mildew.

AMENDATORY SECTION (Amending WSR 98-24-096, filed 12/1/98, effective 3/1/99)

WAC 296-307-12010 Exemptions—Standards for workers—40 CFR, § 170.104. The workers listed in this section are exempt from the specified provisions of WAC 296-307-120.

- (1) Owners of agricultural establishments.

(a) The owner of an agricultural establishment is not required to provide to himself/herself or members of his/her immediate family who are performing tasks related to the production of agricultural plants on their own agricultural establishment the protections of:

- (i) WAC 296-307-12020 (3)(e) through (i);
- (ii) ~~((WAC 296-307-12020 (3)(e) through (i); as referenced in WAC 296-307-12020 (4)(b)(iii) and (5);~~ ~~((iii)))~~ WAC 296-307-12025;

- ~~((iv)))~~ (iii) WAC 296-307-12030;
- ~~((iv)))~~ (iv) WAC 296-307-12040;
- ~~((v)))~~ (v) WAC 296-307-12045;
- ~~((vii)))~~ (vi) WAC 296-307-12050;
- ~~((viii)))~~ (vii) WAC 296-307-12055.

(b) The owner of the agricultural establishment must provide the protections listed in (a)(i) through ~~((viii)))~~ (vii) of this subsection to other workers and other persons who are not members of his/her immediate family.

- (2) Crop advisors.

(a) Provided that the conditions of this section are met, a person who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or a state or tribal lead agency for pesticide enforcement, and persons performing crop advising tasks under such qualified crop advisor's direct supervision, are exempt from the provisions of:

- (i) WAC 296-307-12050.
- (ii) WAC 296-307-12055.

A person is under the direct supervision of a crop advisor when the crop advisor exerts the supervisory controls set out in (b)(iii) and (iv) of this subsection. Direct supervision does not require that the crop advisor be physically present at all times, but the crop advisor must be readily accessible to the employees at all times.

- (b) Conditions of exemption.

(i) The certification or licensing program requires pesticide safety training that includes, at least, all the information in WAC 296-307-13025 (3)(d).

(ii) Applies only when performing crop advising tasks in the treated area.

(iii) The crop advisor must make specific determinations regarding the appropriate PPE, appropriate decontamination supplies, and how to conduct the tasks safely. The crop advisor must convey this information to each person under his direct supervision in a language that the person understands.

(iv) Before entering a treated area, the certified or licensed crop advisor must inform, through an established practice of communication, each person under his/her direct supervision of the pesticide product and active ingredient(s) applied, method of application, time of application, the restricted entry interval which tasks to undertake, and how to contact the crop advisor.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-594 Scope. This part applies to all use of respirators at work.

(1) Respirators are required whenever respiratory hazards (including oxygen-deficient conditions) are present. For example, use respirators at any of the following times:

(a) While exposure controls are being evaluated or put in place;

(b) When it is not feasible to use exposure controls to remove or reduce the airborne hazard to below the PEL.

(2) This chapter applies whenever respirators are used at work.

IMPORTANT:

Before you decide to use respirators, you are required to evaluate respiratory hazards and implement control methods as outlined in WAC 296-307-624 through 296-307-628, Respiratory hazards.

The term "respiratory hazards" will be used throughout this part to refer to oxygen deficient conditions and harmful airborne hazards.

Definition:

Respirators are a type of personal protective equipment designed to protect the wearer from respiratory hazards.

You can use Table 1 for general guidance on which sections apply to you.

Table 1
Sections that apply to your workplace

If employees...	Then the sections marked with an "X" apply...					
	596	598	600	602-618	620	622
Request and are permitted to voluntarily use filtering-face-piece respirators, and are not exposed to a respiratory hazard		X				X
Request and are permitted to voluntarily use respirators that are NOT filtering-facepiece respirators, and are not exposed to a respiratory hazard	X	X			X	X
Are required to use any respirator by WISHA or the employer	X		X	X	X	X
Would use an escape respirator in an emergency	X		X	X	X	X

Reference: See WAC 296-307-100, Personal protective equipment (PPE) to find requirements for other types of personal protective equipment (PPE), such as eye, hand, and head protection.

AMENDATORY SECTION (Amending WSR 06-08-087, filed 4/4/06, effective 9/1/06)

WAC 296-307-62625 Permissible exposure limits of air contaminants.

IMPORTANT:

The following information applies to Table 3, Permissible Exposure Limits for Air Contaminants.

- Exposure needs to be determined from personal air samples taken in the breathing zone or from monitoring representative of the employee's breathing zone.

- Ppm refers to parts of vapor or gas per million parts of air by volume, at 25 degrees C and 760 mm Hg pressure.

- Mg/m³ refers to milligrams of substance per cubic meter of air.

- For a metal that is measured as the metal itself, only the CAS number for the metal is given. The CAS numbers for individual compounds of the metal are not provided. For more information about CAS registry numbers see the web site: <http://www.cas.org>.

- Time weighted averages (TWA₈) represent the maximum allowed average exposure for any 8-hour time period. For work periods longer than 8 hours the TWA₈ needs to be

determined using the 8 continuous hours with the highest average concentration.

- Short-term exposure limits (STEL) represent maximum allowed average exposure for any fifteen-minute period, unless another time period is noted in Table 3.

- The ceiling represents the maximum allowed exposure for the shortest time period that can feasibly be measured.

- An "X" in the "skin" column indicates the substance can be absorbed through the skin, either by airborne or direct contact.

- Requirements for the use of gloves, coveralls, goggles, and other personal protective equipment can be found in WAC 296-307-100.

- The respirable fraction of particulate is measured by sampling with a size-selector having the following characteristics:

Mean aerodynamic diameter in micrometers	Percent passing the selector
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Abate (Temephos)	3383-96-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Acetaldehyde	75-07-0	100 ppm	150 ppm	—	—
Acetic acid	64-19-7	10 ppm	20 ppm	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Acetic anhydride	108-24-7	—	—	5 ppm	—
Acetone	67-64-1	750 ppm	1,000 ppm	—	—
Acetonitrile	75-05-8	40 ppm	60 ppm	—	—
2-Acetylaminofluorene	53-96-3	—	—	—	—
Acetylene	74-86-2	Simple asphyxiant	—	—	—
Acetylene dichloride (1,2-Dichloroethylene)	540-59-0	200 ppm	250 ppm	—	—
Acetylene tetrabromide	79-27-6	1 ppm	3 ppm	—	—
Acetylsalicylic acid (Aspirin)	50-78-2	5 mg/m ³	10 mg/m ³	—	—
Acrolein	107-02-8	0.1 ppm	0.3 ppm	—	—
Acrylamide	79-06-1	0.03 mg/m ³	0.09 mg/m ³	—	X
Acrylic acid	79-10-7	10 ppm	20 ppm	—	X
Acrylonitrile (Vinyl cyanide)	107-13-1	2 ppm	10 ppm	—	—
Aldrin	309-00-2	0.25 mg/m ³	0.75 mg/m ³	—	X
Allyl alcohol	107-18-6	2 ppm	4 ppm	—	X
Allyl chloride	107-05-1	1 ppm	2 ppm	—	—
Allyl glycidyl ether (AGE)	106-92-3	5 ppm	10 ppm	—	—
Allyl propyl disulfide	2179-59-1	2 ppm	3 ppm	—	—
alpha-Alumina (Aluminum oxide)	1344-28-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Aluminum (as Al)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pyro powders	—	5 mg/m ³	10 mg/m ³	—	—
Welding fumes	—	5 mg/m ³	10 mg/m ³	—	—
Soluble salts	—	2 mg/m ³	4 mg/m ³	—	—
Alkyls (NOC)	—	2 mg/m ³	4 mg/m ³	—	—
Aluminum oxide (Alundum, Corundum)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
4-Aminodiphenyl	92-67-1	—	—	—	—
2-Aminoethanol (Ethanolamine)	141-43-5	3 ppm	6 ppm	—	—
2-Aminopyridine	504-29-0	0.5 ppm	1.5 ppm	—	—
Amitrole	61-82-5	0.2 mg/m ³	0.6 mg/m ³	—	—
Ammonia	7664-41-7	25 ppm	35 ppm	—	—
Ammonium chloride, fume	12125-02-9	10 mg/m ³	20 mg/m ³	—	—
Ammonium sulfamate (Ammate)	7773-06-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5.0 mg/m ³	10 mg/m ³	—	—
n-Amyl acetate	628-63-7	100 ppm	150 ppm	—	—
sec-Amyl acetate	626-38-0	125 ppm	156 ppm	—	—
Aniline and homologues	62-53-3	2 ppm	4 ppm	—	X
Anisidine (o, p-isomers)	29191-52-4	0.1 ppm	0.3 ppm	—	X
Antimony and compounds (as Sb)	7440-36-0	0.5 mg/m ³	1.5 mg/m ³	—	—
ANTU (alpha Naphthyl thiourea)	86-88-4	0.3 mg/m ³	0.9 mg/m ³	—	—
Argon	7440-37-1	Simple asphyxiant	—	—	—
Arsenic, organic compounds (as As)	7440-38-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Arsenic, inorganic compounds (as As) (when use is covered by WAC 296-62-07347)	7440-38-2	0.01 mg/m ³	—	—	—
Arsenic, inorganic compounds (as As) (when use is not covered by WAC 296-62-07347)	7440-38-2	0.2 mg/m ³	0.6 mg/m ³	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Arsine	7784-42-1	0.05 ppm	0.15 ppm	—	—
Asbestos	—	—	—	—	—
Asphalt (Petroleum fumes)	8052-42-4	5 mg/m ³	10 mg/m ³	—	—
Atrazine	1912-24-9	5 mg/m ³	10 mg/m ³	—	—
Azinphos methyl (Guthion)	86-50-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Azodrin (Monocrotophos)	6923-22-4	0.25 mg/m ³	0.75 mg/m ³	—	—
Barium, soluble compounds (as Ba)	7440-39-3	0.5 mg/m ³	1.5 mg/m ³	—	—
Barium sulfate	7727-43-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Baygon (Propoxur)	114-26-1	0.5 mg/m ³	1.5 mg/m ³	—	—
Benomyl	17804-35-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Benzene	71-43-2	1 ppm	5 ppm	—	—
Benzidine	92-87-5	—	—	—	—
p-Benzoquinone (Quinone)	106-51-4	0.1 ppm	0.3 ppm	—	—
Benzo(a) pyrene (Coal tar pitch volatiles)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Benzoyl peroxide	94-36-0	5 mg/m ³	10 mg/m ³	—	—
Benzyl chloride	100-44-7	1ppm	3 ppm	—	—
Beryllium and beryllium compounds (as Be)	7440-41-7	0.002 mg/m ³	0.005 mg/m ³ (30 min.)	0.025 mg/m ³	—
Biphenyl (Diphenyl)	92-52-4	0.2 ppm	0.6 ppm	—	—
Bismuth telluride, undoped	1304-82-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Bismuth telluride, Se-doped	—	5 mg/m ³	10 mg/m ³	—	—
Borates, tetra, sodium salts	—	—	—	—	—
Anhydrous	1330-43-4	1 mg/m ³	3 mg/m ³	—	—
Decahydrate	1303-96-4	5 mg/m ³	10 mg/m ³	—	—
Pentahydrate	12179-04-3	1 mg/m ³	3 mg/m ³	—	—
Boron oxide	1303-86-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Boron tribromide	10294-33-4	—	—	1 ppm	—
Boron trifluoride	6737-07-2	—	—	1 ppm	—
Bromacil	314-40-9	1 ppm	3 ppm	—	—
Bromine	7726-95-6	0.1 ppm	0.3 ppm	—	—
Bromine pentafluoride	7789-30-2	0.1 ppm	0.3 ppm	—	—
Bromochloromethane (Chlorobromomthane)	74-97-5	200 ppm	250 ppm	—	—
Bromoform	15-25-2	0.5 ppm	1.5 ppm	—	X
Butadiene (1,3-butadiene)	106-99-0	1 ppm	5 ppm	—	—
Butane	106-97-8	800 ppm	1,000 ppm	—	—
Butanethiol (Butyl mercaptan)	109-79-5	0.5 ppm	1.5 ppm	—	—
2-Butanone (Methyl ethyl ketone)	78-93-3	200 ppm	300 ppm	—	—
2-Butoxy ethanol (Butyl cellosolve)	111-76-2	25 ppm	38 ppm	—	X
n-Butyl acetate	123-86-4	150 ppm	200 ppm	—	—
sec-Butyl acetate	105-46-4	200 ppm	250 ppm	—	—
tert-Butyl acetate	540-88-5	200 ppm	250 ppm	—	—
Butyl acrylate	141-32-2	10 ppm	20 ppm	—	—
n-Butyl alcohol	71-36-3	—	—	50 ppm	X
sec-Butyl alcohol	78-92-2	100 ppm	150 ppm	—	—
tert-Butyl alcohol	75-65-0	100 ppm	150 ppm	—	—
Butylamine	109-73-9	—	—	5 ppm	X

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Butyl cellosolve (2-Butoxy ethanol)	111-76-2	25 ppm	38 ppm	—	—
tert-Butyl chromate (as CrOs)	1189-85-1	—	—	0.1 mg/m ³	X
n-Butyl glycidyl ether (BGE)	2426-08-6	25 ppm	38 ppm	—	—
n-Butyl lactate	138-22-7	5 ppm	10 ppm	—	—
Butyl mercaptan	109-79-5	0.5 ppm	1.5 ppm	—	—
o-sec-Butylphenol	89-72-5	5 ppm	10 ppm	—	X
p-tert-Butyl-toluene	98-51-1	10 ppm	20 ppm	—	—
Cadmium oxide fume (as Cd)	1306-19-0	0.005 mg/m ³	—	—	—
Cadmium dust and salts (as Cd)	7440-43-9	0.005 mg/m ³	—	—	—
Calcium arsenate	—	0.01 mg/m ³	—	—	—
Calcium carbonate	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Calcium cyanamide	156-62-7	0.5 mg/m ³	1.5 mg/m ³	—	—
Calcium hydroxide	1305-62-0	5 mg/m ³	10 mg/m ³	—	—
Calcium oxide	1305-78-8	2 mg/m ³	4 mg/m ³	—	—
Calcium silicate	1344-95-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Calcium sulfate	7778-18-9	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Camphor (synthetic)	76-22-2	2 mg/m ³	4 mg/m ³	—	—
Caprolactam	105-60-2	—	—	—	—
Dust	—	1 mg/m ³	3 mg/m ³	—	—
Vapor	—	5 ppm	10 ppm	—	—
Captafol (Difolatan)	2425-06-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Captan	133-06-2	5 mg/m ³	10 mg/m ³	—	—
Carbaryl (Sevin)	63-25-2	5 mg/m ³	10 mg/m ³	—	—
Carbofuran (Furadon)	1563-66-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Carbon black	1333-86-4	3.5 mg/m ³	7 mg/m ³	—	—
Carbon dioxide	124-38-9	5,000 ppm	30,000 ppm	—	—
Carbon disulfide	75-15-0	4 ppm	12 ppm	—	X
Carbon monoxide	630-08-0	35 ppm	200 ppm (5 min.)	1,500 ppm	—
Carbon tetrabromide	558-13-4	0.1 ppm	0.3 ppm	—	—
Carbon tetrachloride (Tetrachloromethane)	56-23-5	2 ppm	4 ppm	—	X
Carbonyl chloride (Phosgene)	7803-51-2	0.1 ppm	0.3 ppm	—	—
Carbonyl fluoride	353-50-4	2 ppm	5 ppm	—	—
Catechol (Pyrocatechol)	120-80-9	5 ppm	10 ppm	—	X
Cellosolve acetate (2-Ethoxyethylacetate)	111-15-9	5 ppm	10 ppm	—	X
Cellulose (paper fiber)	9004-34-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Cesium hydroxide	21351-79-1	2 mg/m ³	4 mg/m ³	—	—
Chlordane	57-74-9	0.5 mg/m ³	1.5 mg/m ³	—	X
Chlorinated camphene (Toxaphen)	8001-35-2	0.5 mg/m ³	1 mg/m ³	—	X
Chlorinated diphenyl oxide	55720-99-5	0.5 mg/m ³	1.5 mg/m ³	—	—
Chlorine	7782-50-5	0.5 ppm	—	1 ppm	—
Chlorine dioxide	10049-04-4	0.1 ppm	0.3 ppm	—	—
Chlorine trifluoride	7790-91-2	—	—	0.1 ppm	—
Chloroacetaldehyde	107-20-0	—	—	1 ppm	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
a-Chloroacetophenone (Phenacyl chloride)	532-21-4	0.05 ppm	0.15 ppm	—	—
Chloroacetyl chloride	79-04-9	0.05 ppm	0.15 ppm	—	—
Chlorobenzene (Monochlorobenzene)	108-90-7	75 ppm	113 ppm	—	—
o-Chlorobenzylidene malononitrile (OCBM)	2698-41-1	—	—	0.05 ppm	X
Chlorobromomethane	74-97-5	200 ppm	250 ppm	—	—
2-Chloro-1, 3-butadiene (beta-Chloroprene)	126-99-8	10 ppm	20 ppm	—	X
Chlorodifluoromethane	75-45-6	1,000 ppm	1,250 ppm	—	—
Chlorodiphenyl (42% Chlorine) (PCB) (Polychlorobiphenyls)	53469-21-9	1 mg/m ³	3 mg/m ³	—	X
Chlorodiphenyl (54% Chlorine) (Polychlorobiphenyls (PCB))	11097-69-1	0.5 mg/m ³	1.5 mg/m ³	—	X
1-Chloro-2, 3-epoxypropane (Epichlorhydrin)	106-89-8	2 ppm	4 ppm	—	X
2-Chloroethanol (Ethylene chlorohydrin)	107-07-3	—	—	1 ppm	X
Chloroethylene (vinyl chloride)	75-01-4	1 ppm	5 ppm	—	—
Chloroform (Trichloromethane)	67-66-3	2 ppm	4 ppm	—	—
1-Chloro-1-nitropropane	600-25-9	2 ppm	4 ppm	—	—
bis-Chloromethyl ether	542-88-1	—	—	—	—
Chloromethyl methyl ether (Methyl chloromethyl ether)	107-30-2	—	—	—	—
Chloropentafluoroethane	76-15-3	1,000 ppm	1,250 ppm	—	—
Chloropicrin (Nitrotrichloromethane)	76-06-2	0.1 ppm	0.3 ppm	—	—
beta-Chloroprene (2-Chloro-1, 3-butadiene)	126-99-8	10 ppm	20 ppm	—	X
o-Chlorostyrene	2039-87-4	50 ppm	75 ppm	—	—
o-Chlorotoluene	95-49-8	50 ppm	75 ppm	—	—
2-Chloro-6-trichloromethyl pyridine (Nitrapyrin)	1929-82-4	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Chlorpyrifos	2921-88-2	0.2 mg/m ³	0.6 mg/m ³	—	X
Chromic acid and chromates (as CrO ₃)	Varies with compound	0.1 mg/m ³	0.3 mg/m ³	—	—
Chromium, soluble, chromic and chromous salts (as Cr)	7440-47-3	0.5 mg/m ³	1.5 mg/m ³	—	—
Chromium (VI) compounds (as Cr)	—	0.05 mg/m ³	0.15 mg/m ³	—	—
Chromium metal and insoluble salts	7440-47-3	0.5 mg/m ³	1.5 mg/m ³	—	—
Chromyl chloride	14977-61-8	0.025 ppm	0.075 ppm	—	—
Chrysene (Coal tar pitch volatiles)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Clopidol	2971-90-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Coal dust (less than 5% SiO ₂)	—	—	—	—	—
Respirable fraction	—	2 mg/m ³	4 mg/m ³	—	—
Coal dust (greater than or equal to 5% SiO ₂)	—	—	—	—	—
Respirable fraction	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Coal tar pitch volatiles (benzene soluble fraction) (Particulate polycyclic aromatic hydrocarbons)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Cobalt, metal fume & dust (as Co)	7440-48-4	0.05 mg/m ³	0.15 mg/m ³	—	—
Cobalt carbonyl (as Co)	10210-68-1	0.1 mg/m ³	0.3 mg/m ³	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Cobalt hydrocarbonyl (as Co)	16842-03-8	0.1 mg/m ³	0.3 mg/m ³	—	—
Coke oven emissions	—	0.15 mg/m ³	—	—	—
Copper (as Cu)	7440-50-8	—	—	—	—
Fume	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Dusts and mists	—	1 mg/m ³	3 mg/m ³	—	—
Cotton dust (raw) (waste sorting, blending, cleaning, willowing and garetting)	—	1 mg/m ³	—	—	—
Corundum (Aluminum oxide)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Crag herbicide (Sesone, Sodium-2, 4-dichloro-phenoxyethyl sulfate)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Cresol (all isomers)	1319-77-3	5 ppm	10 ppm	—	X
Crotonaldehyde	123-73-9; 4170-30-3	2 ppm	4 ppm	—	—
Crufomate	299-86-5	5 mg/m ³	10 mg/m ³	—	—
Cumene	98-82-8	50 ppm	75 ppm	—	X
Cyanamide	420-04-2	2 mg/m ³	4 mg/m ³	—	—
Cyanide (as CN)	Varies with compound	5 mg/m ³	10 mg/m ³	—	X
Cyanogen	460-19-5	10 ppm	20 ppm	—	—
Cyanogen chloride	506-77-4	—	—	0.3 ppm	—
Cyclohexane	110-82-7	300 ppm	375 ppm	—	—
Cyclohexanol	108-93-0	50 ppm	75 ppm	—	X
Cyclohexanone	108-94-1	25 ppm	38 ppm	—	X
Cyclohexene	110-83-8	300 ppm	375 ppm	—	—
Cyclohexylamine	108-91-8	10 ppm	20 ppm	—	—
Cyclonite (RDX)	121-82-4	1.5 mg/m ³	3.0 mg/m ³	—	X
Cyclopentadiene	542-92-7	75 ppm	113 ppm	—	—
Cyclopentane	287-92-3	600 ppm	750 ppm	—	—
Cyhexatin (Tricyclohexyltin hydroxide)	13121-70-5	5 mg/m ³	10 mg/m ³	—	—
2,4-D (Dichlorophenoxy-acetic acid)	94-75-7	10 mg/m ³	20 mg/m ³	—	—
DBCP (1,2-Dibromo-3-chloropropane)	96-12-8	0.001 ppm	—	0.005 ppm	—
DDT (Dichlorodiphenyltri-chloroethane)	50-29-3	1 mg/m ³	3 mg/m ³	—	X
DDVP, (Dichlorvos)	62-73-7	0.1 ppm	0.3 ppm	—	X
Dasanit (Fensulfothion)	115-90-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Decaborane	17702-41-9	0.05 ppm	0.15 ppm	—	X
Demeton	8065-48-3	0.01 ppm	0.03 ppm	—	X
Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	123-42-2	50 ppm	75 ppm	—	—
1, 2-Diaminoethane (Ethylene-diamine)	107-15-3	10 ppm	20 ppm	—	—
Diazinon	333-41-5	0.1 mg/m ³	0.3 mg/m ³	—	X
Diazomethane	334-88-3	0.2 ppm	0.6 ppm	—	—
Diborane	19287-45-7	0.1 ppm	0.3 ppm	—	—
Dibrom (see Naled)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
1, 2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.001 ppm	—	0.005 ppm	—
2-N-Dibutylamino ethanol	102-81-8	2 ppm	4 ppm	—	X
Dibutyl phosphate	107-66-4	1 ppm	2 ppm	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Dibutyl phthalate	84-74-2	5 mg/m ³	10 mg/m ³	—	—
Dichloroacetylene	7572-29-4	—	—	0.1 ppm	—
o-Dichlorobenzene	95-50-1	—	—	50 ppm	—
p-Dichlorobenzene	106-46-7	75 ppm	110 ppm	—	—
3, 3'-Dichlorobenzidine	91-94-1	—	—	—	—
Dichlorodiphenyltri-chloroethane (DDT)	50-29-3	1 mg/m ³	3 mg/m ³	—	X
Dichlorodifluoromethane	75-71-8	1,000 ppm	1,250 ppm	—	—
1, 3-Dichloro-5, 5-dimethyl hydantoin	118-52-5	0.2 mg/m ³	0.4 mg/m ³	—	—
1, 1-Dichloroethane (Ethylidene chloride)	75-34-3	100 ppm	150 ppm	—	—
1, 2-Dichloroethane (Ethylene dichloride)	107-06-2	1 ppm	2 ppm	—	—
1, 1-Dichloroethylene (Vinylidene chloride)	75-35-4	1 ppm	3 ppm	—	—
1, 2-Dichloroethylene (Acetylene dichloride)	540-59-0	200 ppm	250 ppm	—	—
Dichloroethyl ether	111-44-4	5 ppm	10 ppm	—	X
Dichlorofluoromethane	75-43-4	10 ppm	20 ppm	—	—
Dichloromethane (Methylene chloride)	75-09-2	25 ppm	125 ppm	—	—
1, 1-Dichloro-1-nitroethane	594-72-9	2 ppm	10 ppm	—	—
Dichlorophenoxyacetic acid (2, 4-D)	94-75-7	10 mg/m ³	20 mg/m ³	—	—
1, 2-Dichloropropane (Propylene dichloride)	78-87-5	75 ppm	110 ppm	—	—
Dichloropropene	542-75-6	1 ppm	3 ppm	—	X
2, 2-Dichloropropionic acid	75-99-0	1 ppm	3 ppm	—	—
Dichlorotetrafluoroethane	76-14-2	1,000 ppm	1,250 ppm	—	—
Dichlorvos (DDVP)	62-73-7	0.1 ppm	0.3 ppm	—	X
Dicrotophos	141-66-2	0.25 mg/m ³	0.75 mg/m ³	—	X
Dicyclopentadiene	77-73-6	5 ppm	10 ppm	—	—
Dicyclopentadienyl iron	102-54-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Dieldrin	60-57-1	0.25 mg/m ³	0.75 mg/m ³	—	X
Diethanolamine	111-42-2	3 ppm	6 ppm	—	—
Diethylamine	109-89-7	10 ppm	25 ppm	—	—
2-Diethylaminoethanol	100-37-8	10 ppm	20 ppm	—	X
Diethylene triamine	111-40-0	1 ppm	3 ppm	—	X
Diethyl ether (Ethyl ether)	60-29-7	400 ppm	500 ppm	—	—
Diethyl ketone	96-22-0	200 ppm	250 ppm	—	—
Diethyl phthalate	84-66-2	5 mg/m ³	10 mg/m ³	—	—
Difluorodibromomethane	75-61-6	100 ppm	150 ppm	—	—
Difolatan (Captafol)	2425-06-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Diglycidyl ether (DGE)	2238-07-5	0.1 ppm	0.3 ppm	—	—
Dihydroxybenzene (Hydroquinone)	123-31-9	2 mg/m ³	4 mg/m ³	—	—
Diisobutyl ketone (2, 6- Dimethylheptanone)	108-83-8	25 ppm	38 ppm	—	—
Diisopropylamine	108-18-9	5 ppm	10 ppm	—	X
Dimethoxymethane (Methylal)	109-87-5	1,000 ppm	1,250 ppm	—	—
Dimethyl acetamide	127-19-5	10 ppm	20 ppm	—	X
Dimethylamine	124-40-3	10 ppm	20 ppm	—	—
4-Dimethylaminoazo benzene	60-11-7	—	—	—	—
Dimethylaminobenzene (Xylidene)	1300-73-8	2 ppm	4 ppm	—	X
Dimethylaniline (N, N-Dimethylani- line)	121-69-7	5 ppm	10 ppm	—	X

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Dimethylbenzene (Xylene)	1300-73-8	100 ppm	150 ppm	—	—
Dimethyl-1, 2-dibromo-2, 2-dichloroethyl phosphate (Naled)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
Dimethylformamide	68-12-2	10 ppm	20 ppm	—	X
2, 6-Dimethylheptanone (Diisobutyl ketone)	108-83-8	25 ppm	38 ppm	—	—
1, 1-Dimethylhydrazine	57-14-7	0.5 ppm	1.5 ppm	—	X
Dimethyl phthalate	131-11-3	5 mg/m ³	10 mg/m ³	—	—
Dimethyl sulfate	77-78-1	0.1 ppm	0.3 ppm	—	X
Dinitolmide (3, 5-Dinitro-o-toluamide)	148-01-6	5 mg/m ³	10 mg/m ³	—	—
Dinitrobenzene (all isomers - alpha, meta and para)	528-29-0; 99-65-0; 100-25-4	0.15 ppm	0.45 ppm	—	X
Dinitro-o-cresol	534-52-1	0.2 mg/m ³	0.6 mg/m ³	—	X
3, 5-Dinitro-o-toluamide (Dinitolmide)	148-01-6	5 mg/m ³	10 mg/m ³	—	—
Dinitrotoluene	25321-14-6	1.5 mg/m ³	3 mg/m ³	—	X
Dioxane (Diethylene dioxide)	123-91-1	25 ppm	38 ppm	—	X
Dioxathion	78-34-2	0.2 mg/m ³	0.6 mg/m ³	—	X
Diphenyl (Biphenyl)	92-52-4	0.2 ppm	0.6 ppm	—	—
Diphenylamine	122-39-4	10 mg/m ³	20 mg/m ³	—	—
Diphenylmethane diisocyanate (Methylene bisphenyl isocyanate (MDI))	101-68-8	—	—	0.02 ppm	—
Dipropylene glycol methyl ether	34590-94-8	100 ppm	150 ppm	—	X
Dipropyl ketone	123-19-3	50 ppm	75 ppm	—	—
Diquat	85-00-7	0.5 mg/m ³	1.5 mg/m ³	—	—
Di-sec, Octyl phthalate (Di-2-ethylhexylphthalate)	117-81-7	5 mg/m ³	10 mg/m ³	—	—
Disulfram	97-77-8	2 mg/m ³	4 mg/m ³	—	—
Disulfoton	298-04-4	0.1 mg/m ³	0.3 mg/m ³	—	X
2, 6-Di-tert-butyl-p-cresol	128-37-0	10 mg/m ³	20 mg/m ³	—	—
Diuron	330-54-1	10 mg/m ³	20 mg/m ³	—	—
Divinyl benzene	1321-74-0	10 ppm	20 ppm	—	—
Emery	12415-34-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Endosulfan (Thiodan)	115-29-7	0.1 mg/m ³	0.3 mg/m ³	—	X
Endrin	72-20-8	0.1 mg/m ³	0.3 mg/m ³	—	X
Epichlorhydrin (1-Chloro-2, 3-epoxypropane)	106-89-8	2 ppm	4 ppm	—	X
EPN	2104-64-5	0.5 mg/m ³	1.5 mg/m ³	—	X
1, 2-Epoxypropane (Propylene oxide)	75-56-9	20 ppm	30 ppm	—	—
2, 3-Epoxy-1-propanol (Glycidol)	556-52-5	25 ppm	38 ppm	—	—
Ethane	—	Simple asphyxiant	—	—	—
Ethanethiol (Ethyl mercaptan)	75-08-1	0.5 ppm	1.5 ppm	—	—
Ethanol (Ethyl alcohol)	64-17-5	1,000 ppm	1,250 ppm	—	—
Ethanolamine (2-Aminoethanol)	141-43-5	3 ppm	6 ppm	—	—
Ethion	563-12-2	0.4 mg/m ³	1.2 mg/m ³	—	X
2-Ethoxyethanol (Glycol monoethyl ether)	110-80-5	5 ppm	10 ppm	—	X
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	5 ppm	10 ppm	—	X
Ethyl acetate	141-78-6	400 ppm	500 ppm	—	—
Ethyl acrylate	140-88-5	5 ppm	25 ppm	—	X

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Ethyl alcohol (ethanol)	64-17-5	1,000 ppm	1,250 ppm	—	—
Ethylamine	75-04-07	10 ppm	20 ppm	—	—
Ethyl amyl ketone (5-Methyl-3-hepatone)	541-85-5	25 ppm	38 ppm	—	—
Ethyl benzene	100-41-4	100 ppm	125 ppm	—	—
Ethyl bromide	74-96-4	200 ppm	250 ppm	—	—
Ethyl butyl ketone (3-Heptanone)	106-35-4	50 ppm	75 ppm	—	—
Ethyl chloride	75-00-3	1,000 ppm	1,250 ppm	—	—
Ethylene	74-85-1	Simple asphyxiant	—	—	—
Ethylene chlorohydrin (2-Chloro-ethanol)	107-07-3	—	—	1 ppm	X
Ethylenediamine (1,2-Diaminoethane)	107-15-3	10 ppm	20 ppm	—	X
Ethylene dibromide	106-93-4	0.1 ppm	0.5 ppm	—	—
Ethylene dichloride (1,2-Dichloro-ethane)	107-06-2	1 ppm	2 ppm	—	—
Ethylene glycol	107-21-1	—	—	50 ppm	—
Ethylene glycol dinitrate	628-96-6	—	0.1 mg/m ³	—	X
Ethylene glycol monomethyl ether acetate (Methyl cellosolve acetate)	—	5 ppm	10 ppm	—	X
Ethyleneimine	151-56-4	—	—	—	X
Ethylene oxide (see chapter 296-855 WAC)	75-21-8	1 ppm	5 ppm	—	—
Ethyl ether (Diethyl ether)	60-29-7	400 ppm	500 ppm	—	—
Ethyl formate	109-94-4	100 ppm	125 ppm	—	—
Ethylidene chloride (1, 1-Dichloro-ethane)	107-06-2	1 ppm	2 ppm	—	—
Ethylidene norbornene	16219-75-3	—	—	5.0 ppm	—
Ethyl mercaptan (Ethanethiol)	75-08-1	0.5 ppm	1.5 ppm	—	—
n-Ethylmorpholine	100-74-3	5 ppm	10 ppm	—	X
Ethyl sec-amyl ketone (5-methyl-3-heptanone)	541-85-5	25 ppm	38 ppm	—	—
Ethyl silicate	78-10-4	10 ppm	20 ppm	—	—
Fenamiphos	22224-92-6	0.1 mg/m ³	0.3 mg/m ³	—	X
Fensulfothion (Dasanit)	115-90-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Fenthion	55-38-9	0.2 mg/m ³	0.6 mg/m ³	—	X
Ferbam	—	—	—	—	—
Total particulate	14484-64-1	10 mg/m ³	20 mg/m ³	—	—
Ferrovandium dust	12604-58-9	1 mg/m ³	3 mg/m ³	—	—
Fluorides (as F)	Varies with compound	2.5 mg/m ³	5 mg/m ³	—	—
Fluorine	7782-41-4	0.1 ppm	0.3 ppm	—	—
Fluorotrichloromethane (see Trichlorofluoro methane)	75-69-4	—	—	1,000 ppm	—
Fonofos	944-22-9	0.1 mg/m ³	0.3 mg/m ³	—	X
Formaldehyde	50-00-0	0.75 ppm	2 ppm	—	—
Formamide	75-12-7	20 ppm	30 ppm	—	—
Formic acid	64-18-6	5 ppm	10 ppm	—	—
Furadon (carbofuran)	1563-66-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Furfural	98-01-1	2 ppm	4 ppm	—	X
Furfuryl alcohol	98-00-0	10 ppm	15 ppm	—	X
Gasoline	8006-61-9	300 ppm	500 ppm	—	—
Germanium tetrahydride	7782-65-2	0.2 ppm	0.6 ppm	—	—
Glass, fibrous or dust	—	10 mg/m ³	20 mg/m ³	—	—
Gluteraldehyde	111-30-8	—	—	0.2 ppm	—
Glycerin mist	56-81-5	—	—	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Glycidol (2, 3-Epoxy-1-propanol)	556-52-5	25 ppm	38 ppm	—	—
Glycol monoethyl ether (2-Ethoxyethanol)	110-80-5	5 ppm	10 ppm	—	X
Grain dust (oat, wheat, barley)	—	10 mg/m ³	20 mg/m ³	—	—
Graphite, natural	7782-42-5	—	—	—	—
Respirable particulate	—	2.5 mg/m ³	5 mg/m ³	—	—
Graphite, synthetic	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Guthion (Azinphosmethyl)	86-50-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Gypsum	13397-24-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Hafnium	7440-58-6	0.5 mg/m ³	1.5 mg/m ³	—	—
Helium	—	Simple asphyxiant	—	—	—
Heptachlor	76-44-8	0.5 mg/m ³	1.5 mg/m ³	—	X
Heptane (n-heptane)	142-82-5	400 ppm	500 ppm	—	—
2-Heptanone (Methyl n-amyl ketone)	110-43-0	50 ppm	75 ppm	—	—
3-Heptanone (Ethyl butyl ketone)	106-35-4	50 ppm	75 ppm	—	—
Hexachlorobutadiene	87-68-3	0.02 ppm	0.06 ppm	—	X
Hexachlorocyclopentadiene	77-47-4	0.01 ppm	0.03 ppm	—	—
Hexachloroethane	67-72-1	1 ppm	3 ppm	—	X
Hexachloronaphthalene	1335-87-1	0.2 mg/m ³	0.6 mg/m ³	—	X
Hexafluoroacetone	684-16-2	0.1 ppm	0.3 ppm	—	X
Hexane	—	—	—	—	—
n-hexane	110-54-3	50 ppm	75 ppm	—	—
other isomers	Varies with compound	500 ppm	1,000 ppm	—	—
2-Hexanone (Methyl-n-butyl ketone)	591-78-6	5 ppm	10 ppm	—	—
Hexone (Methyl isobutyl ketone)	108-10-1	50 ppm	75 ppm	—	—
sec-Hexyl acetate	108-84-9	50 ppm	75 ppm	—	—
Hexylene glycol	107-41-5	—	—	25 ppm	—
Hydrazine	302-01-2	0.1 ppm	0.3 ppm	—	X
Hydrogen	—	Simple asphyxiant	—	—	—
Hydrogenated terphenyls	61788-32-7	0.5 ppm	1.5 ppm	—	—
Hydrogen bromide	10035-10-6	—	—	3.0 ppm	—
Hydrogen chloride	7647-01-0	—	—	5.0 ppm	—
Hydrogen cyanide	74-90-8	—	4.7 ppm	—	X
Hydrogen fluoride	7664-39-3	—	—	3 ppm	—
Hydrogen peroxide	7722-84-1	1 ppm	3 ppm	—	—
Hydrogen selenide (as Se)	7783-07-5	0.05 ppm	0.15 ppm	—	—
Hydrogen sulfide	7783-06-4	10 ppm	15 ppm	—	—
Hydroquinone (Dihydroxybenzene)	123-31-9	2 mg/m ³	4 mg/m ³	—	—
4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)	123-42-2	50 ppm	75 ppm	—	—
2-Hydroxypropyl acrylate	99-61-1	0.5 ppm	1.5 ppm	—	X
Indene	95-13-6	10 ppm	20 ppm	—	—
Indium and compounds (as In)	7440-74-6	0.1 mg/m ³	0.3 mg/m ³	—	—
Iodine	7553-56-2	—	—	0.1 ppm	—
Iodoform	75-47-8	0.6 ppm	1.8 ppm	—	—
Iron oxide dust and fume (as Fe)	1309-37-1	—	—	—	—
Total particulate	—	5 mg/m ³	10 mg/m ³	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Iron pentacarbonyl (as Fe)	13463-40-6	0.1 ppm	0.2 ppm	—	—
Iron salts, soluble (as Fe)	Varies with compound	1 mg/m ³	3 mg/m ³	—	—
Isoamyl acetate	123-92-2	100 ppm	150 ppm	—	—
Isoamyl alcohol (primary and secondary)	123-51-3	100 ppm	125 ppm	—	—
Isobutyl acetate	110-19-0	150 ppm	188 ppm	—	—
Isobutyl alcohol	78-83-1	50 ppm	75 ppm	—	—
Isooctyl alcohol	26952-21-6	50 ppm	75 ppm	—	X
Isophorone	78-59-1	4 ppm	—	5 ppm	—
Isophorone diisocyanate	4098-71-9	0.005 ppm	0.02 ppm	—	X
Isopropoxyethanol	109-59-1	25 ppm	38 ppm	—	—
Isopropyl acetate	108-21-4	250 ppm	310 ppm	—	—
Isopropyl alcohol	67-63-0	400 ppm	500 ppm	—	—
Isopropylamine	75-31-0	5 ppm	10 ppm	—	—
N-Isopropylaniline	768-52-5	2 ppm	4 ppm	—	X
Isopropyl ether	108-20-3	250 ppm	313 ppm	—	—
Isopropyl glycidyl ether (IGE)	4016-14-2	50 ppm	75 ppm	—	—
Kaolin	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Ketene	463-51-4	0.5 mg/m ³	1.5 mg/m ³	—	—
Lannate (Methomyl)	16752-77-5	2.5 mg/m ³	5 mg/m ³	—	—
Lead, inorganic (as Pb)	7439-92-1	0.05 mg/m ³	—	—	—
Lead arsenate (as Pb)	3687-31-8	0.05 mg/m ³	—	—	—
Lead chromate (as Pb)	7758-97-6	0.05 mg/m ³	—	—	—
Limestone	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Lindane	58-89-9	0.5 mg/m ³	1.5 mg/m ³	—	X
Lithium hydride	7580-67-8	0.025 mg/m ³	0.075 mg/m ³	—	—
L.P.G. (liquified petroleum gas)	68476-85-7	1,000 ppm	1,250 ppm	—	—
Magnesite	546-93-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Magnesium oxide fume	1309-48-4	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Malathion	121-75-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	X
Maleic anhydride	108-31-6	0.25 ppm	0.75 ppm	—	—
Manganese and compounds (as Mn)	7439-96-5	—	—	5 mg/m ³	—
Manganese cyclopentadienyl tricarbonyl (as Mn)	12079-65-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Manganese tetroxide and fume (as Mn)	7439-96-5	1 mg/m ³	3 mg/m ³	—	—
Marble	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
MBOCA (4, 4'-Methylene bis (2-chloro-aniline))	101-14-4	—	—	—	X
MDA (4, 4'-Methylene dianiline)	101-77-9	0.01 ppm	0.1 ppm	—	X
MDI (Methylene bisphenyl isocyanate) (Diphenylmethane diisocyanate)	101-68-8	—	—	0.02 ppm	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
MEK (Methyl ethyl ketone) (2-Butanone)	78-93-3	200 ppm	300 ppm	—	—
MEKP (Methyl ethyl ketone peroxide)	1338-23-4	—	—	0.2 ppm	—
Mercury (as Hg)	7439-97-6	—	—	—	—
Aryl and inorganic	—	0.1 mg/m ³	0.3 mg/m ³	—	X
Organo-alkyl compounds	—	0.01 mg/m ³	0.03 mg/m ³	—	X
Vapor	—	0.05 mg/m ³	0.15 mg/m ³	—	X
Mesityl oxide	141-79-7	15 ppm	25 ppm	—	—
Methacrylic acid	79-41-4	20 ppm	30 ppm	—	X
Methane	—	Simple asphyxiant	—	—	—
Methanethiol (Methyl mercaptan)	74-93-1	0.5 ppm	1.5 ppm	—	—
Methanol (Methyl alcohol)	67-56-1	200 ppm	250 ppm	—	X
Methomyl (lannate)	16752-77-5	2.5 mg/m ³	5 mg/m ³	—	—
Methoxychlor	72-43-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
2-Methoxyethanol (Methyl cellosolve)	109-86-4	5 ppm	10 ppm	—	X
2-Methoxyethyl acetate (Methyl cellosolve acetate)	110-49-6	5 ppm	10 ppm	—	X
4-Methoxyphenol	150-76-5	5 mg/m ³	10 mg/m ³	—	—
Methyl acetate	79-20-9	200 ppm	250 ppm	—	—
Methyl acetylene (propyne)	74-99-7	1,000 ppm	1,250 ppm	—	—
Methyl acetylene-propadiene mixture (MAPP)	—	1,000 ppm	1,250 ppm	—	—
Methyl acrylate	96-33-3	10 ppm	20 ppm	—	X
Methylacrylonitrile	126-98-7	1 ppm	3 ppm	—	X
Methylal (Dimethoxy-methane)	109-87-5	1,000 ppm	1,250 ppm	—	—
Methyl alcohol (methanol)	67-56-1	200 ppm	250 ppm	—	X
Methylamine	74-89-5	10 ppm	20 ppm	—	—
Methyl amyl alcohol (Methyl isobutyl carbinol)	108-11-2	25 ppm	40 ppm	—	X
Methyl n-amyl ketone (2-Heptanone)	110-43-0	50 ppm	75 ppm	—	—
N-Methyl aniline (Monomethyl aniline)	100-61-8	0.5 ppm	1.5 ppm	—	X
Methyl bromide	74-83-9	5 ppm	10 ppm	—	X
Methyl-n-butyl ketone (2-Hexanone)	591-78-6	5 ppm	10 ppm	—	—
Methyl cellosolve (2-Methoxyethanol)	109-86-4	5 ppm	10 ppm	—	X
Methyl cellosolve acetate (2-Methoxyethyl acetate)	110-49-6	5 ppm	10 ppm	—	X
Methyl chloride	74-87-3	50 ppm	100 ppm	—	—
Methyl chloroform (1, 1, 1-trichlorethane)	71-55-6	350 ppm	450 ppm	—	—
Methyl chloromethyl ether (chloromethyl methyl ether)	107-30-2	—	—	—	—
Methyl 2-cyanoacrylate	137-05-3	2 ppm	4 ppm	—	—
Methylcyclohexane	108-87-2	400 ppm	500 ppm	—	—
Methylcyclohexanol	25639-42-3	50 ppm	75 ppm	—	—
Methylcyclohexanone	583-60-8	50 ppm	75 ppm	—	X
Methylcyclopentadienyl manganese tricarbonyl (as Mn)	12108-13-3	0.2 mg/m ³	0.6 mg/m ³	—	X
Methyl demeton	8022-00-2	0.5 mg/m ³	1.5 mg/m ³	—	X
Methylene bisphenyl isocyanate (MDI) (Diphenylmethane diisocyanate)	101-68-8	—	—	0.02 ppm	—
4, 4'-Methylene bis (2-chloro-aniline) (MBOCA)	101-14-4	—	—	—	X

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Methylene bis (4-cyclohexyliso cyanate)	5124-30-1	—	—	0.01 ppm	—
Methylene chloride (Dichloromethane)	75-09-2	25 ppm	125 ppm	—	—
4, 4-Methylene dianiline (MDA)	101-77-9	0.01 ppm	0.1 ppm	—	X
Methyl ethyl ketone (MEK) (2-Butanone)	78-93-3	200 ppm	300 ppm	—	—
Methyl ethyl ketone peroxide (MEKP)	1338-23-4	—	—	0.2 ppm	—
Methyl formate	107-31-3	100 ppm	150 ppm	—	—
5-Methyl-3-heptanone (Ethyl amyl ketone)	541-85-5	25 ppm	38 ppm	—	—
Methyl hydrazine (Monomethyl hydrazine)	60-34-4	—	—	0.2 ppm	X
Methyl iodide	74-88-4	2 ppm	4 ppm	—	X
Methyl isoamyl ketone	110-12-3	50 ppm	75 ppm	—	—
Methyl isobutyl carbinol (Methyl amyl alcohol)	108-11-2	25 ppm	40 ppm	—	X
Methyl isobutyl ketone (Hexone)	108-10-1	50 ppm	75 ppm	—	—
Methyl isocyanate	624-83-9	0.02 ppm	0.06 ppm	—	X
Methyl isopropyl ketone	563-80-4	200 ppm	250 ppm	—	—
Methyl mercaptan (Methanethiol)	74-93-1	0.5 ppm	1.5 ppm	—	—
Methyl methacrylate	80-62-6	100 ppm	150 ppm	—	—
Methyl parathion	298-00-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Methyl propyl ketone (2-Pentanone)	107-87-9	200 ppm	250 ppm	—	—
Methyl silicate	684-84-5	1 ppm	3 ppm	—	—
alpha-Methyl styrene	98-83-9	50 ppm	100 ppm	—	—
Mevinphos (Phosdrin)	7786-34-7	0.01 ppm	0.03 ppm	—	X
Metribuzin	21087-64-9	5 mg/m ³	10 mg/m ³	—	—
Mica (Silicates) Respirable fraction	12001-26-2	3 mg/m ³	6 mg/m ³	—	—
Molybdenum (as Mo)	7439-98-7	—	—	—	—
Soluble compounds	—	5 mg/m ³	10 mg/m ³	—	—
Insoluble compounds	—	10 mg/m ³	20 mg/m ³	—	—
Monochlorobenzene (Chlorobenzene)	108-90-7	75 ppm	113 ppm	—	—
Monocrotophos (Azodrin)	6923-22-4	0.25 mg/m ³	0.75 mg/m ³	—	—
Monomethyl aniline (N-Methyl aniline)	100-61-8	0.5 ppm	1.5 ppm	—	X
Monomethyl hydrazine	—	—	—	0.2 ppm	—
Morpholine	110-91-8	20 ppm	30 ppm	—	X
Naled (Dibrom)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
Naphtha	8030-30-6	100 ppm	150 ppm	—	X
Naphthalene	91-20-3	10 ppm	15 ppm	—	—
alpha-Naphthylamine	134-32-7	—	—	—	—
beta-Naphthylamine	91-59-8	—	—	—	—
Neon	7440-01-9	Simple asphyxiant	—	—	—
Nickel carbonyl (as Ni)	13463-39-3	0.001 ppm	0.003 ppm	—	—
Nickel (as Ni)	7440-02-0	—	—	—	—
Metal and insoluble compounds	—	1 mg/m ³	3 mg/m ³	—	—
Soluble compounds	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Nicotine	54-11-5	0.5 mg/m ³	1.5 mg/m ³	—	X
Nitrapyrin (2-Chloro-6 trichloromethyl pyridine)	1929-82-4	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Nitric acid	7697-37-2	2 ppm	4 ppm	—	—
Nitric oxide	10102-43-9	25 ppm	38 ppm	—	—
p-Nitroaniline	100-01-6	3 mg/m ³	6 mg/m ³	—	X

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Nitrobenzene	98-95-3	1 ppm	3 ppm	—	X
4-Nitrobiphenyl	92-93-3	—	—	—	—
p-Nitrochlorobenzene	100-00-5	0.5 mg/m ³	1.5 mg/m ³	—	X
4-Nitrodiphenyl	—	—	—	—	—
Nitroethane	79-24-3	100 ppm	150 ppm	—	—
Nitrogen	7727-37-9	Simple asphyxiant	—	—	—
Nitrogen dioxide	10102-44-0	—	1 ppm	—	—
Nitrogen oxide (Nitrous oxide)	10024-97-2	50 ppm	75 ppm	—	—
Nitrogen trifluoride	7783-54-2	10 ppm	20 ppm	—	—
Nitroglycerin	55-63-0	—	0.1 mg/m ³	—	X
Nitromethane	75-52-5	100 ppm	150 ppm	—	—
1-Nitropropane	108-03-2	25 ppm	38 ppm	—	—
2-Nitropropane	79-46-9	10 ppm	20 ppm	—	—
N-Nitrosodimethylamine	62-75-9	—	—	—	—
Nitrotoluene	—	—	—	—	—
o-isomer	88-72-2	2 ppm	4 ppm	—	X
m-isomer	98-08-2	2 ppm	4 ppm	—	X
p-isomer	99-99-0	2 ppm	4 ppm	—	X
Nitrotrichloromethane (Chloropicrin)	76-06-2	0.1 ppm	0.3 ppm	—	—
Nitrous oxide (Nitrogen oxide)	10024-97-2	50 ppm	75 ppm	—	—
Nonane	111-84-2	200 ppm	250 ppm	—	—
Octachloronaphthalene	2234-13-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Octane	111-65-9	300 ppm	375 ppm	—	—
Oil mist mineral (particulate)	8012-95-1	5 mg/m ³	10 mg/m ³	—	—
Osmium tetroxide (as Os)	20816-12-0	0.0002 ppm	0.0006 ppm	—	—
Oxalic acid	144-62-7	1 mg/m ³	2 mg/m ³	—	—
Oxygen difluoride	7783-41-7	—	—	0.05 ppm	—
Ozone	10028-15-6	0.1 ppm	0.3 ppm	—	—
Paper fiber (Cellulose)	9004-34-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Paraffin wax fume	8002-74-2	2 mg/m ³	4 mg/m ³	—	—
Paraquat	—	—	—	—	—
Respirable fraction	4685-14-7	0.1 mg/m ³	0.3 mg/m ³	—	X
	1910-42-5	—	—	—	—
	2074-50-2	—	—	—	—
Parathion	56-38-2	0.1 mg/m ³	0.3 mg/m ³	—	X
Particulate polycyclic aromatic hydrocarbons (benzene soluble fraction) (coal tar pitch volatiles)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Particulates not otherwise regulated	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pentaborane	19624-22-7	0.005 ppm	0.015 ppm	—	—
Pentachloronaphthalene	1321-64-8	0.5 mg/m ³	1.5 mg/m ³	—	X
Pentachlorophenol	87-86-5	0.5 mg/m ³	1.5 mg/m ³	—	X
Pentaerythritol	115-77-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pentane	109-66-0	600 ppm	750 ppm	—	—
2-Pentanone (methyl propyl ketone)	107-87-9	200 ppm	250 ppm	—	—
Perchloroethylene (tetrachloroethylene)	127-18-4	25 ppm	38 ppm	—	—
Perchloromethyl mercaptan	594-42-3	0.1 ppm	0.3 ppm	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Perchloryl fluoride	7616-94-6	3 ppm	6 ppm	—	—
Perlite	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Petroleum distillates (Naphtha, rubber solvent)	—	100 ppm	150 ppm	—	—
Phenacyl chloride (a-Chloroacetophenone)	532-21-4	0.05 ppm	0.15 ppm	—	—
Phenol	108-95-2	5 ppm	10 ppm	—	X
Phenothiazine	92-84-2	5 mg/m ³	10 mg/m ³	—	X
p-Phenylene diamine	106-50-3	0.1 mg/m ³	0.3 mg/m ³	—	X
Phenyl ether (vapor)	101-84-8	1 ppm	3 ppm	—	—
Phenyl ether-diphenyl mixture (vapor)	—	1 ppm	3 ppm	—	—
Phenylethylene (Styrene)	100-42-5	50 ppm	100 ppm	—	—
Phenyl glycidyl ether (PGE)	122-60-1	1 ppm	3 ppm	—	—
Phenylhydrazine	100-63-0	5 ppm	10 ppm	—	X
Phenyl mercaptan	108-98-5	0.5 ppm	1.5 ppm	—	—
Phenylphosphine	638-21-1	—	—	0.05 ppm	—
Phorate	298-02-2	0.05 mg/m ³	0.2 mg/m ³	—	X
Phosdrin (Mevinphos)	7786-34-7	0.01 ppm	0.03 ppm	—	X
Phosgene (carbonyl chloride)	75-44-5	0.1 ppm	0.3 ppm	—	—
Phosphine	7803-51-2	0.3 ppm	1 ppm	—	—
Phosphoric acid	7664-38-2	1 mg/m ³	3 mg/m ³	—	—
Phosphorus (yellow)	7723-14-0	0.1 mg/m ³	0.3 mg/m ³	—	—
Phosphorous oxychloride	10025-87-3	0.1 ppm	0.3 ppm	—	—
Phosphorus pentachloride	10026-13-8	0.1 ppm	0.3 ppm	—	—
Phosphorus pentasulfide	1314-80-3	1 mg/m ³	3 mg/m ³	—	—
Phosphorus trichloride	12-2-19	0.2 ppm	0.5 ppm	—	—
Phthalic anhydride	85-44-9	1 ppm	3 ppm	—	—
m-Phthalodinitrile	626-17-5	5 mg/m ³	10 mg/m ³	—	—
Picloram	1918-02-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Picric acid (2, 4, 6-Trinitrophenol)	88-89-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Pindone (2-Pivalyl-1, 3-indandione, Pival)	83-26-1	0.1 mg/m ³	0.3 mg/m ³	—	—
Piperazine dihydrochloride	142-64-3	5 mg/m ³	10 mg/m ³	—	—
Pival (Pindone)	83-26-1	0.1 mg/m ³	0.3 mg/m ³	—	—
Plaster of Paris	26499-65-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Platinum (as Pt)	7440-06-4	—	—	—	—
Metal	—	1 mg/m ³	3 mg/m ³	—	—
Soluble salts	—	0.002 mg/m ³	0.006 mg/m ³	—	—
Polychlorobiphenyls (Chlorodiphenyls)	—	—	—	—	—
42% Chlorine (PCB)	53469-21-9	1 mg/m ³	3 mg/m ³	—	X
54% Chlorine (PCB)	11097-69-1	0.5 mg/m ³	1.5 mg/m ³	—	X
Portland cement	65997-15-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Potassium hydroxide	1310-58-3	—	—	2 mg/m ³	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Propane	74-98-6	1,000 ppm	1,250 ppm	—	—
Propargyl alcohol	107-19-7	1 ppm	3 ppm	—	X
beta-Propiolactone	57-57-8	—	—	—	—
Propionic acid	79-09-4	10 ppm	20 ppm	—	—
Propoxur (Baygon)	114-26-1	0.5 mg/m ³	1.5 mg/m ³	—	—
n-Propyl acetate	109-60-4	200 ppm	250 ppm	—	—
n-Propyl alcohol	71-23-8	200 ppm	250 ppm	—	X
n-Propyl nitrate	627-13-4	25 ppm	40 ppm	—	—
Propylene	—	Simple asphyxiant	—	—	—
Propylene dichloride (1, 2-Dichloropropane)	78-87-5	75 ppm	110 ppm	—	—
Propylene glycol dinitrate	6423-43-4	0.05 ppm	0.15 ppm	—	X
Propylene glycol monomethyl ether	107-98-2	100 ppm	150 ppm	—	—
Propylene imine	75-55-8	2 ppm	4 ppm	—	X
Propylene oxide (1,2-Epoxypropane)	75-56-9	20 ppm	30 ppm	—	—
Propyne (Methyl acetylene)	74-99-7	1,000 ppm	1,250 ppm	—	—
Pyrethrum	8003-34-7	5 mg/m ³	10 mg/m ³	—	—
Pyridine	110-86-1	5 ppm	10 ppm	—	—
Pyrocatechol (Catechol)	120-80-9	5 ppm	10 ppm	—	X
Quinone (p-Benzoquinone)	106-51-4	0.1 ppm	0.3 ppm	—	—
RDX (Cyclonite)	—	1.5 mg/m ³	3 mg/m ³	—	X
Resorcinol	108-46-3	10 ppm	20 ppm	—	—
Rhodium (as Rh)	7440-16-6	—	—	—	—
Insoluble compounds, metal fumes and dusts	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Soluble compounds, salts	—	0.001 mg/m ³	0.003 mg/m ³	—	—
Ronnel	299-84-3	10 mg/m ³	20 mg/m ³	—	—
Rosin core solder, pyrolysis products (as formaldehyde)	8050-09-7	0.1 mg/m ³	0.3 mg/m ³	—	—
Rotenone	83-79-4	5 mg/m ³	10 mg/m ³	—	—
Rouge	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Rubber solvent (naphtha)	8030-30-6	100 ppm	150 ppm	—	—
Selenium compounds (as Se)	7782-49-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Selenium hexafluoride (as Se)	7783-79-1	0.05 ppm	0.15 ppm	—	—
Sesone (Crag herbicide)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sevin (Carbaryl)	63-25-2	5 mg/m ³	10 mg/m ³	—	—
Silane (see Silicon tetrahydride)	7803-62-5	5 ppm	10 ppm	—	—
Silica, amorphous, precipitated and gel	112926-00-8	6 mg/m ³	12 mg/m ³	—	—
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica	61790-53-2	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Silica, crystalline cristobalite	—	—	—	—	—
Respirable fraction	14464-46-1	0.05 mg/m ³	0.15 mg/m ³	—	—
Silica, crystalline quartz	—	—	—	—	—
Respirable fraction	14808-60-7	0.1 mg/m ³	0.3 mg/m ³	—	—
Silica, crystalline tripoli (as quartz)	—	—	—	—	—
Respirable fraction	1317-95-9	0.1 mg/m ³	0.3 mg/m ³	—	—
Silica, crystalline tridymite	—	—	—	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Respirable fraction	15468-32-3	0.05 mg/m ³	0.15 mg/m ³	—	—
Silica, fused	—	—	—	—	—
Respirable fraction	60676-86-0	0.1 mg/m ³	0.3 mg/m ³	—	—
Silicates (less than 1% crystalline silica)	—	—	—	—	—
Mica	—	—	—	—	—
Respirable fraction	12001-26-2	3 mg/m ³	6 mg/m ³	—	—
Soapstone	—	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Talc (containing asbestos)	—	—	—	—	—
Talc (containing no asbestos)	—	—	—	—	—
Respirable fraction	14807-96-6	2 mg/m ³	4 mg/m ³	—	—
Tremolite	—	—	—	—	—
Silicon	7440-21-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Silicon carbide	409-21-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Silicon tetrahydride (Silane)	7803-62-5	5 ppm	10 ppm	—	—
Silver, metal dust and soluble compounds (as Ag)	7440-22-4	0.01 mg/m ³	0.03 mg/m ³	—	—
Soapstone	—	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Sodium azide (as HN3 or NaN3)	26628-22-8	—	—	0.1 ppm	X
Sodium bisulfite	7631-90-5	5 mg/m ³	10 mg/m ³	—	—
Sodium-2, 4-dichloro-phenoxyethyl sulfate (Crag herbicide)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sodium fluoroacetate	62-74-8	0.05 mg/m ³	0.15 mg/m ³	—	X
Sodium hydroxide	1310-73-2	—	—	2 mg/m ³	—
Sodium metabisulfite	7681-57-4	5 mg/m ³	10 mg/m ³	—	—
Starch	9005-25-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Stibine	7803-52-3	0.1 ppm	0.3 ppm	—	—
Stoddard solvent	8052-41-3	100 ppm	150 ppm	—	—
Strychnine	57-24-9	0.15 mg/m ³	0.45 mg/m ³	—	—
Styrene (Phenylethylene, Vinyl benzene)	100-42-5	50 ppm	100 ppm	—	—
Subtilisins	9014-01-1	—	0.00006 mg/m ³ (60 min.)	—	—
Sucrose	57-50-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sulfotep (TEDP)	3689-24-5	0.2 mg/m ³	0.6 mg/m ³	—	X
Sulfur dioxide	7446-09-5	2 ppm	5 ppm	—	—
Sulfur hexafluoride	2551-62-4	1,000 ppm	1,250 ppm	—	—
Sulfuric acid	7664-93-9	1 mg/m ³	3 mg/m ³	—	—
Sulfur monochloride	10025-67-9	—	—	1 ppm	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Sulfur pentafluoride	5714-22-1	—	—	0.01 ppm	—
Sulfur tetrafluoride	7783-60-0	—	—	0.1 ppm	—
Sulfuryl fluoride	2699-79-8	5 ppm	10 ppm	—	—
Sulprofos	35400-43-2	1 mg/m ³	3 mg/m ³	—	—
Systox (Demeton)	8065-48-3	0.01 ppm	0.03 ppm	—	X
2, 4, 5-T	93-76-5	10 mg/m ³	20 mg/m ³	—	—
Talc (containing asbestos)	—	—	—	—	—
Talc (containing no asbestos)	—	—	—	—	—
Respirable fraction	14807-96-6	2 mg/m ³	4 mg/m ³	—	—
Tantalum	—	—	—	—	—
Metal and oxide dusts	7440-25-7	5 mg/m ³	10 mg/m ³	—	—
TDI					
(Toluene-2, 4-diisocyanate)	584-84-9	0.005 ppm	0.02 ppm	—	—
TEDP (Sulfotep)	3689-24-5	0.2 mg/m ³	0.6 mg/m ³	—	X
Tellurium and compounds (as Te)	13494-80-9	0.1 mg/m ³	0.3 mg/m ³	—	—
Tellurium hexafluoride (as Te)	7783-80-4	0.02 ppm	0.06 ppm	—	—
Temephos (Abate)	3383-96-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
TEPP	107-49-3	0.004 ppm	0.012 ppm	—	X
Terphenyls	26140-60-3	—	—	0.5 ppm	—
1, 1, 1, 2-Tetrachloro-2, 2-difluoroethane	76-11-0	500 ppm	625 ppm	—	—
1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane	76-12-0	500 ppm	625 ppm	—	—
1, 1, 2, 2-Tetrachloroethane	79-34-5	1 ppm	3 ppm	—	X
Tetrachloroethylene					
(Perchloroethylene)	127-18-4	25 ppm	38 ppm	—	—
Tetrachloromethane					
(Carbon tetrachloride)	56-23-5	2 ppm	4 ppm	—	X
Tetrachloronaphthalene	1335-88-2	2 mg/m ³	4 mg/m ³	—	X
Tetraethyl lead (as Pb)	78-00-2	0.075 mg/m ³	0.225 mg/m ³	—	X
Tetrahydrofuran	109-99-9	200 ppm	250 ppm	—	—
Tetramethyl lead (as Pb)	75-74-1	0.075 mg/m ³	0.225 mg/m ³	—	X
Tetramethyl succinonitrile	3333-52-6	0.5 ppm	1.5 ppm	—	X
Tetranitromethane	509-14-8	1 ppm	3 ppm	—	—
Tetrasodium pyrophosphate	7722-88-5	5 mg/m ³	10 mg/m ³	—	—
Tetryl (2, 4, 6-trinitrophenyl-methylnitramine)	479-45-8	1.5 mg/m ³	3 mg/m ³	—	X
Thallium (soluble compounds) (as Tl)	7440-28-0	0.1 mg/m ³	0.3 mg/m ³	—	X
4, 4-Thiobis					
(6-tert-butyl-m-cresol)	96-69-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Thiodan (Endosulfan)	115-29-7	0.1 mg/m ³	0.3 mg/m ³	—	X
Thioglycolic acid	68-11-1	1 ppm	3 ppm	—	X
Thionyl chloride	7719-09-7	—	—	1 ppm	—
Thiram	137-26-8	5 mg/m ³	10 mg/m ³	—	—
Tin (as Sn)	—	—	—	—	—
Inorganic compounds	7440-31-5	2 mg/m ³	4 mg/m ³	—	—
Organic compounds	7440-31-5	0.1 mg/m ³	0.3 mg/m ³	—	X
Tin oxide (as Sn)	21651-19-4	2 mg/m ³	4 mg/m ³	—	—
Titanium dioxide	13463-67-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
TNT (2, 4, 6-Trinitrotoluene)	118-96-7	0.5 mg/m ³	1.5 mg/m ³	—	X
Toluene	108-88-3	100 ppm	150 ppm	—	—
Toluene-2, 4-diisocyanate (TDI)	584-84-9	0.005 ppm	0.02 ppm	—	—
m-Toluidine	108-44-1	2 ppm	4 ppm	—	X
o-Toluidine	95-53-4	2 ppm	4 ppm	—	X
p-Toluidine	106-49-0	2.0 ppm	4 ppm	—	X
Toxaphene (Chlorinated camphene)	8001-35-2	0.5 mg/m ³	1 mg/m ³	—	X
Tremolite	—	—	—	—	—
Tributyl phosphate	126-73-8	0.2 ppm	0.6 ppm	—	—
Trichloroacetic acid	76-03-9	1 ppm	3 ppm	—	—
1, 2, 4-Trichlorobenzene	120-82-1	—	—	5 ppm	—
1, 1, 1-Trichloroethane (Methyl chloroform)	71-55-6	350 ppm	450 ppm	—	—
1, 1, 2-Trichloroethane	79-00-5	10 ppm	20 ppm	—	—
Trichloroethylene	79-01-6	50 ppm	200 ppm	—	—
Trichlorofluoromethane (Fluorotrichloromethane)	75-69-4	—	—	1,000 ppm	—
Trichloromethane (Chloroform)	67-66-3	2 ppm	4 ppm	—	—
Trichloronaphthalene	1321-65-9	5 mg/m ³	10 mg/m ³	—	X
1, 2, 3-Trichloropropane	96-18-4	10 ppm	20 ppm	—	X
1, 1, 2-Trichloro-1, 2, 2-trifluoro ethane	76-13-1	1,000 ppm	1,250 ppm	—	—
Tricyclohexyltin hydroxide (Cyhexatin)	13121-70-5	5 mg/m ³	10 mg/m ³	—	—
Triethylamine	121-44-8	10 ppm	15 ppm	—	—
Trifluorobromomethane	75-63-8	1,000 ppm	1,250 ppm	—	—
Trimellitic anhydride	552-30-7	0.005 ppm	0.015 ppm	—	—
Trimethylamine	75-50-3	10 ppm	15 ppm	—	—
Trimethyl benzene	25551-13-7	25 ppm	38 ppm	—	—
Trimethyl phosphite	121-45-9	2 ppm	4 ppm	—	—
2, 4, 6-Trinitrophenol (Picric acid)	88-89-1	0.1 mg/m ³	0.3 mg/m ³	—	X
2, 4, 6-Trinitrophenyl-methylnitro mine (Tetryl)	479-45-8	1.5 mg/m ³	3 mg/m ³	—	X
2, 4, 6-Trinitrotoluene (TNT)	118-96-7	0.5 mg/m ³	1.5 mg/m ³	—	X
Triorthocresyl phosphate	78-30-8	0.1 mg/m ³	0.3 mg/m ³	—	X
Triphenyl amine	603-34-9	5 mg/m ³	10 mg/m ³	—	—
Triphenyl phosphate	115-86-6	3 mg/m ³	6 mg/m ³	—	—
Tungsten (as W)	7440-33-7	—	—	—	—
Soluble compounds	—	1 mg/m ³	3 mg/m ³	—	—
Insoluble compounds	—	5 mg/m ³	10 mg/m ³	—	—
Turpentine	8006-64-2	100 ppm	150 ppm	—	—
Uranium (as U)	7440-61-1	—	—	—	—
Soluble compounds	—	0.05 mg/m ³	0.15 mg/m ³	—	—
Insoluble compounds	—	0.2 mg/m ³	0.6 mg/m ³	—	—
n-Valeraldehyde	110-62-3	50 ppm	75 ppm	—	—
Vanadium (as V2O5)	—	—	—	—	—
Respirable fraction	1314-62-1	0.05 mg/m ³	0.15 mg/m ³	—	—
Vegetable oil mist	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Vinyl acetate	108-05-1	10 ppm	20 ppm	—	—
Vinyl benzene (Styrene)	100-42-5	50 ppm	100 ppm	—	—
Vinyl bromide	593-60-2	5 ppm	10 ppm	—	—
Vinyl chloride (Chloroethylene)	75-01-4	1 ppm	5 ppm	—	—
Vinyl cyanide (Acrylonitrile)	107-13-1	2 ppm	10 ppm	—	—

Table 3 "Permissible Exposure Limits for Air Contaminants"

Substance	CAS	TWA ₈	STEL	Ceiling	Skin
Vinyl cyclohexene dioxide	106-87-6	10 ppm	20 ppm	—	X
Vinyl toluene	25013-15-4	50 ppm	75 ppm	—	—
Vinylidene chloride (1, 1-Dichloroethylene)	75-35-4	1 ppm	3 ppm	—	—
VM & P Naphtha	8032-32-4	300 ppm	400 ppm	—	—
Warfarin	81-81-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Welding fumes (total particulate)	—	5 mg/m ³	10 mg/m ³	—	—
Wood dust	—	—	—	—	—
Nonallergenic; (All woods except allergenics)	—	5 mg/m ³	10 mg/m ³	—	—
Allergenics (e.g. cedar, mahogany and teak)	—	2.5 mg/m ³	5 mg/m ³	—	—
Xylenes (ortho, meta, and para isomers) (Dimethylbenzene)	1330-20-7	100 ppm	150 ppm	—	—
m-Xylene alpha, alpha-diamine	1477-55-0	—	—	0.1 mg/m ³	X
Xylidine (Dimethylaminobenzene)	1300-73-8	2 ppm	4 ppm	—	X
Yttrium	7440-65-5	1 mg/m ³	3 mg/m ³	—	—
Zinc chloride fume	7646-85-7	1 mg/m ³	2 mg/m ³	—	—
Zinc chromate (as CrO ₃)	Varies with compound	0.05 mg/m ³	—	0.1 mg/m ³	—
Zinc oxide	1314-13-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Zinc oxide fume	1314-13-2	5 mg/g ³	10 mg/m ³	—	—
Zinc stearate	557-05-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Zirconium compounds (as Zr)	7440-67-2	5 mg/m ³	10 mg/m ³	—	—

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-628 Definitions.

Ceiling - An exposure limit, measured over the shortest time period feasible, that must not be exceeded during any part of the employee's workday.

Dust - Solid particles suspended in air. Dusts are generated by handling, drilling, crushing, grinding, rapid impact, detonation, or decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, grain, etc.

Exposed or exposure - The contact an employee has with a toxic substance, harmful physical agent or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

Fume - Solid particles suspended in air, generated by condensation from the gaseous state, generally after volatilization from molten metals, etc.

Gas - A normally formless fluid which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

Mist - Liquid droplets suspended in air, generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, spraying or atomizing.

Oxygen deficient - An atmosphere with an oxygen content below 19.5% by volume.

Permissible exposure limits (PEL) - Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable ((WISHA)) **DOSH** rules.

Short-term exposure limit (STEL) - An exposure limit averaged over a short time period (usually measured for 15 minutes) that must not be exceeded during any part of an employee's workday.

Time weighted average (TWA₈) - An exposure limit averaged over 8 hours that must not be exceeded during an employee's workday.

Toxic substance - Any chemical substance or biological agent, such as bacteria, virus, and fungus, which is any of the following:

- Listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS)
- Shows positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer.

The subject of a material safety data sheet kept by or known to the employer showing the material may pose a hazard to human health.

Vapor - The gaseous form of a substance that is normally in the solid or liquid state.

AMENDATORY SECTION (Amending WSR 98-24-096, filed 12/1/98, effective 3/1/99)

WAC 296-307-40007 What requirements apply to systems mounted on farm wagons (implements of husbandry) for the transportation of ammonia? All anhydrous ammonia containers with a capacity of 3,000 gallons or less and equipment mounted on farm wagons (implements of husbandry) that is used to transport ammonia must meet the requirements of this section.

WAC 296-307-40011 through 296-307-40037 also apply unless otherwise noted.

(1) Containers must meet the following mounting requirements:

(a) The farm wagon or container has a stop so the container does not dislodge from its mounting when a farm wagon stops suddenly.

(b) The container is anchored to the farm wagon at one or more places on each side of the container.

(c) The weight of containers mounted on four-wheel farm wagons, is distributed evenly over both axles.

(d) When the cradle and the container are not welded together, material between them eliminates metal-to-metal friction.

(2) Container accessories must meet the following requirements:

(a) Each container has a fixed maximum liquid-level gauge.

(b) All containers with more than 250-gallon capacity have a pressure gauge with a dial graduated from 0-400 psi.

(c) The filling connection is fitted with one of the following:

(i) A combination back-pressure check valve and excess-flow valve; or

(ii) One double or two single back-pressure check valves; or

(iii) A positive shut-off valve that has either an internal back-pressure check valve or an internal excess flow valve.

(d) All containers with more than 250-gallon capacity are equipped for spray loading or with an approved vapor return valve.

(e) All vapor and liquid connections have approved excess flow valves or quick-closing internal valves that are only open for operating.

Exception: Safety-relief valves and connections that are specifically exempted by WAC 296-307-40019(5) are exempt from this requirement.

(f) Fittings are protected from physical damage by a rigid guard. The guard is designed to withstand force from any direction, equal to twice the weight of the container and lading, at a safety factor of four. If the guard is fully enclosed, the safety-relief valves are properly vented through the guard.

(g) If a liquid withdrawal line is installed in the bottom of a container, the connections and hose are at least as high as the lowest horizontal edge of the farm wagon axle.

(h) Both ends of the hose are secure while in transit.

(3) Each side and the rear end of the container must be marked in letters at least four inches high, with the words "ANHYDROUS AMMONIA" or, "CAUTION—AMMONIA," or marked according to DOT regulations.

(4) Farm wagons (implements of husbandry) must meet all state regulations and the following requirements:

(a) All farm wagons must be securely attached to the vehicle drawing them by drawbars with safety chains.

(b) A farm wagon must be constructed so that it will follow the path of the towing vehicle and will prevent the towed wagon from whipping or swerving dangerously from side to side.

(c) All farm wagons must have five gallons or more of readily available clean potable water.

AMENDATORY SECTION (Amending WSR 98-24-096, filed 12/1/98, effective 3/1/99)

WAC 296-307-41049 What requirements apply to liquid-level gauging devices? (1) Each container manufactured after December 31, 1965, and filled on a volumetric basis must have a fixed liquid-level gauge to indicate the maximum permitted filling level according to subsection (5) of this section. Each container manufactured after December 31, 1969, must have permanently attached to the container adjacent to the fixed level gauge a marking showing the percentage full that will be shown by that gauge. When used with a variable liquid-level gauge, the fixed liquid-level gauge will act as a check on the variable gauge. Gauges must be used in charging containers as required in WAC ((~~296-307-41034~~) 296-307-41037).

(2) All variable gauging devices must be arranged so that the maximum liquid level for butane, for a 50/50 mixture of butane and propane, and for propane, to which the container may be charged, is easily determined. Liquid levels from empty to full must be marked on the system nameplate or gauging device. Dials of magnetic or rotary gauges must show whether they are for cylindrical or spherical containers and whether for aboveground or underground service. The dials of gauges for aboveground containers of over 1,200 gallons water capacity must be so marked.

(3) Gauging devices that require bleeding of the product to the atmosphere, such as the rotary tube, fixed tube, and slip tube, shall be designed so that the bleed valve maximum opening is not larger than a No. 54 drill size, unless provided with excess flow valve.

(4) Gauging devices must have a design working pressure of at least 250 psig.

(5) Length of tube or position of fixed liquid-level gauge must be designed to indicate the maximum level to which the container may be filled for the product contained. This level shall be based on the volume of the product at 40°F at its maximum permitted filling density for aboveground containers and at 50°F for underground containers. You must calculate the filling point for which the fixed liquid level gauge must be designed according to this section.

Note: It is impossible to set out in a table the length of a fixed dip tube for various tank capacities because of the various tank diameters and lengths, and because the tank may be installed either vertically or horizontally. If you know the maximum permitted filling volume in gallons, however, you can determine the length of the

fixed tube by using a strapping table from the container manufacturer.

The fixed tube should be long enough so that when its lower end touches the surface of the liquid in the container, the contents of the container will be the maximum permitted volume as determined by the following formula:

$$\frac{\text{Water capacity of container}^1 \text{ (gals.)} \times \text{filling density}^2}{\text{Specific gravity of LP-gas}^1 \times \text{volume correction factor}^3 \times 100} = \text{Maximum volume of LP-gas}$$

¹Measure at 60°F.

²From WAC 296-307-41037(1).

³For aboveground containers the liquid temperature is assumed to be 40°F and for underground containers the liquid temperature is assumed to be 50°F. To correct the liquid volumes at these temperatures to 60°F, use the following factors:

(a) To determine maximum volume of LP-gas for which a fixed length of dip tube must be set:

**TABLE U-6
VOLUME CORRECTION FACTORS**

Specific gravity	Aboveground	Underground
0.500	1.033	1.017
.510	1.031	1.016
.520	1.029	1.015
.530	1.028	1.014
.540	1.026	1.013
.550	1.025	1.013
.560	1.024	1.012
.570	1.023	1.011
.580	1.021	1.011
.590	1.020	1.010

(b) To calculate the maximum volume of LP-gas that can be placed in a container when determining the length of the dip tube expressed as a percentage of total water content of the container, use the formula in (c) of this subsection.

(c) Determine the maximum weight of LP-gas that may be placed in a container for determining the length of a fixed dip tube by multiplying the maximum volume of LP-gas from Table U-6 by the pounds of LP-gas in a gallon at 40°F for aboveground and at 50°F for underground containers. Typical pounds per gallon are specified below:

Example: Assume a one hundred gallon total water capacity tank for aboveground storage of propane having a specific gravity of 0.510 of 60°F.

$$\frac{100 \text{ (gals.)} \times 42 \text{ (filling density)}}{0.510 \times 1.031 \text{ (correction factor from Table U-6)} \times 100} = \frac{4200}{52.6}$$

$\frac{4200}{52.6} = 79.8$ gallons propane, the maximum amount permitted to be placed in a 100-gallon total water capacity above ground container equipped with a fixed dip tube.

$$\frac{\text{Maximum volume of LP-gas (from formula in (a) of this subsection)} \times 100}{\text{Total water content of container in gallons}} = \text{Maximum percent of LP-gas}$$

	Aboveground, pounds per gallon	Underground, pounds per gallon
Propane	4.37	4.31
N Butane	4.97	4.92

(6) Fixed liquid-level gauges used on non-DOT containers must be stamped on the exterior of the gauge with the letters DT followed by the vertical distance (expressed in inches and carried out to one decimal place) from the top of container to the end of the dip tube or to the centerline of the gauge when located at the maximum permitted filling level. For portable containers that may be filled in the horizontal and/or vertical position the letters DT must be followed by V with the vertical distance from the top of the container to the end of the dip tube for vertical filling, and with H followed by the proper distance for horizontal filling. For DOT containers the stamping must be placed both on the exterior of the gauge and on the container. On aboveground or cargo containers where the gauges are positioned at specific levels, the marking may be specified in percent of total tank contents and the marking must be stamped on the container.

(7) Columnar gauge glasses must be restricted to charging plants where the fuel is withdrawn in the liquid phase only. They must have valves with metallic handwheels, excess flow valves, and extra-heavy glass adequately protected with a metal housing applied by the gauge manufacturer. They must be shielded against the direct rays of the sun. Columnar gauge glasses are prohibited on tank trucks, motor fuel tanks, and containers used in domestic, commercial, and industrial installations.

(8) Float gauging devices or equivalent that do not require flow for their operation and that have connections extending outside the container do not have to have excess flow valves if the piping and fittings are adequately designed to withstand the container pressure and are properly protected against physical damage and breakage.

AMENDATORY SECTION (Amending WSR 97-09-013, filed 4/7/97, effective 4/7/97)

WAC 296-307-53017 How can an employer order the OSHA charts? OSHA charts are available through OSHA area offices. You may find the address and telephone number of the nearest OSHA office in the local telephone directory under U.S. Government, U.S. Department of Labor, Occupational Safety and Health Administration. Single copies are available without charge.

If you want multiple copies of these charts, you may order them from the Publications Office, U.S. Department of Labor, Room N3101, Washington, D.C. 20210. Telephone: ((202) 523-9667) 202-693-1888.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-55060 Definitions.

Chemical

- An element or mixture of elements
- OR
- A compound or mixture of compounds
- OR
- A mixture of elements and compounds

Included are manufactured items (such as bricks, welding rods, and sheet metal) that are not exempt as an article.

Chemical manufacturer

An employer with a workplace where one or more chemicals are produced for use or distribution.

Chemical name

- The scientific designation of a chemical developed by the:
 - International Union of Pure and Applied Chemistry (IUPAC)
 - OR
 - Chemical abstracts service (CAS) rules of nomenclature
 - OR
 - A name that clearly identifies the chemical for the purpose of conducting a hazard evaluation.

Combustible liquid

Liquids with a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). A mixture with at least 99% of its components having flashpoints of 200°F (93.3°C), or higher, is not considered a combustible liquid.

Commercial account

An arrangement where a retailer is selling hazardous chemicals to an employer

- Generally in large quantities over time
- OR
- At costs below regular retail price.

Common name

Any designation or identification used to identify a chemical other than the chemical name, such as a:

- Code name or number
- OR
- Trade or brand name
- OR
- Generic name.

Compressed gas

A contained gas or mixture of gases with an absolute pressure greater than:

- 40 psi at 70°F (21.1°C)
- OR
- 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C)
- OR

A liquid with a vapor pressure greater than 40 psi at 100°F (37.8°C) as determined by ASTM D323-72.

Container

A vessel, other than a pipe or piping system, that holds a hazardous chemical. Examples include:

- Bags
- Barrels
- Bottles

- Boxes
- Cans
- Cylinders
- Drums
- Rail cars
- Reaction vessels
- Storage tanks.

Designated representative

• An individual or organization with written authorization from an employee.

OR

• A recognized or certified collective bargaining agent (not necessarily authorized by an employee).

OR

• A legal representative of a deceased or legally incapacitated employee.

Director

The director means the director of the department of labor and industries or their designee.

Distributor

A business, other than a chemical manufacturer or importer, that supplies hazardous chemicals to other distributors or to employers. ((See WAC 296-307-560 through 296-307-56050 for requirements dealing with manufacturers, distributors and importers—hazard communication.))

Employee

The term employee and other terms of like meaning, unless the context of the provision containing such term indicates otherwise, means an employee of an employer who is employed in the business of his or her employer whether by way of manual labor or otherwise and every person in this state who is engaged in the employment of or who is working under an independent contract the essence of which is personal labor for an employer under this standard whether by way of manual labor or otherwise.

Employer

An employer is any person, firm, corporation, partnership, business trust, legal representative, or other business entity which engages in any business, industry, profession, or activity in this state and employs one or more employees or who contracts with one or more persons, the essence of which is the personal labor of such person or persons and includes the state, counties, cities, and all municipal corporations, public corporations, political subdivisions of the state, and charitable organizations: Provided, That any persons, partnership, or business entity not having employees, and who is covered by the Industrial Insurance Act must be considered both an employer and an employee.

Explosive

A chemical that causes a sudden, almost instant release of pressure, gas, and heat when exposed to a sudden shock, pressure, or high temperature.

Exposure or exposed

An employee has been, or may have possibly been, subjected to a hazardous chemical, toxic substance or harmful physical agent while working. An employee could have been exposed to hazardous chemicals, toxic substances, or harmful physical agents in any of the following ways:

- Inhalation
- Ingestion

- Skin contact
- Absorption
- Related means.

The terms exposure and exposed only cover workplace exposure involving a toxic substance or harmful physical agent in the workplace different from typical nonoccupational situations in the way it is:

- Used
 - Handled
 - Stored
 - Generated
- OR
- Present.

Flammable

A chemical in one of the following categories:

- Aerosols that, when tested using a method described in 16 CFR 1500.45, yield either a:

– Flame projection of more than eighteen inches at full valve opening

OR

– A flashback (a flame extending back to the valve) at any degree of valve opening

- Gases that, at the temperature and pressure of the surrounding area, form a:

– Flammable mixture with air at a concentration of thirteen percent, by volume, or less

OR

– Range of flammable mixtures with air wider than twelve percent, by volume, regardless of the lower limit

- Liquids with a flashpoint below 100°F (37.8°C). A mixture with at least ninety-nine percent of its components having flashpoints of 100°F (37.8°C), or higher, is not considered a flammable liquid

- Solids, other than blasting agents or explosives, as defined in WAC 296-52-417 or 29 CFR 1910.109(a), that:

– Is likely to cause fire through friction, moisture, absorption, spontaneous chemical change or retained heat from manufacturing or processing

OR

– That can be readily ignited (and when ignited burns so vigorously and persistently that it creates a serious hazard)

OR

– When tested by the method described in 16 CFR 1500.44, ignite and burn with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

Flashpoint

- The minimum temperature at which a liquid gives off an ignitable concentration of vapor, when tested by any of the following measurement methods:

– Tagliabue closed tester. Use this for liquids with a viscosity less than 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not tend to form a surface film under test. See American National Standard Method of Test for Flashpoint by Tag Closed Tester, Z11.24.1979 (ASTM D 56-79)

– Pensky-Martens closed tester for liquids with a viscosity equal to, or greater than, 45 SUS at 100°F (37.8°C), or for liquids that contain suspended solids, or have a tendency to form a surface film under test. See American National Stan-

dard Method of Test for Flashpoint by Pensky-Martens Closed Tester, Z11.7.1979 (ASTM D 93-79)

– Setaflash closed tester: See American National Standard Method of Test for Flash Point by Setaflash Closed Tester (ASTM D 3278-78).

Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flashpoint measurement methods specified above.

Foreseeable emergency

Any potential event that could result in an uncontrolled release of a hazardous chemical into the workplace. Examples of foreseeable emergencies include equipment failure, rupture of containers, or failure of control equipment.

Hazardous chemical

A chemical, which is a physical or health hazard.

Hazard warning

Words, pictures, or symbols (alone or in combination), that appear on labels (or other forms of warning such as placards or tags) that communicate specific physical and health hazard(s), (including target organ effects), associated with chemical(s) in a container.

Health hazard

A chemical, mixture, biological agent, or physical agent that may cause health effects in short or long-term exposed employees. Based on statistically significant evidence from ~~((a single))~~ at least one study conducted by using established scientific principles. Health hazards include ~~((, but are not limited to, any of the following))~~:

- Carcinogens
- Toxic or highly toxic ~~((substances))~~ agents
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Hepatotoxins (liver toxins)
- Nephrotoxins (kidney toxins)
- Neurotoxins (nervous system toxins)
- Substances that act on the hematopoietic system (blood or blood forming system)
- Substances that can damage the lungs, skin, eyes, or mucous membranes

• Hot or cold conditions.

Identity

A chemical or common name listed on the material safety data sheet (MSDS) and label.

Importer

The first business within the Customs Territory of the USA that:

- Receives hazardous chemicals produced in other countries

AND

- Supplies them to manufacturers, distributors or employers within the USA.

Material safety data sheet (MSDS)

Written, printed, or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors ~~((or))~~ employers or employees about ~~((the))~~ a hazardous chemical, its hazards, and protective measures as required by ~~((this rule))~~ material safety data sheet and label preparation, chapter 296-839 WAC.

Mixture

A combination of 2 or more chemicals that retain their chemical identity after being combined.

Organic peroxide

An organic compound containing the bivalent-0-0-structure. It may be considered a structural derivative of hydrogen peroxide if one or both of the hydrogen atoms has been replaced by an organic radical.

Oxidizer

A chemical, other than a blasting agent or explosive as defined in WAC 296-52-417 or CFR 1910.109(a), that starts or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Permissible exposure limits (PELs)

See WAC 296-307-628 for the definition of this term.

Physical hazard

A chemical that has scientifically valid evidence to show it is one of the following:

- A combustible liquid
- A compressed gas
- Explosive
- Flammable
- An organic peroxide
- An oxidizer
- Pyrophoric
- Unstable (reactive)
- Water reactive.

Produce

To do one or more of the following:

- Manufacture
- Process
- Formulate
- Blend
- Extract
- Generate
- Emit
- Repackage.

Purchaser

An employer who buys one or more hazardous chemicals to use in their workplace.

Pyrophoric

Chemicals that ignite spontaneously in the air at a temperature of 130°F (54.4°C) or below.

Responsible party

Someone who can provide more information about the hazardous chemical and appropriate emergency procedures.

Specific chemical identity

This term applies to chemical substances. It can mean the:

- Chemical name
- Chemical abstracts service (CAS) registry number
- Any other information that reveals the precise chemical designation of the substance.

Trade secret

Any confidential:

- Formula
- Pattern
- Process
- Device
- Information

- Collection of information.

The trade secret is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it.

See WAC 296-62-053 for requirements dealing with trade secrets.

Unstable (reactive)

A chemical in its pure state, or as produced or transported, that will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shocks, pressure or temperature.

Use

To do one or more of the following:

- Package
- Handle
- React
- Emit
- Extract
- Generate as a by-product
- Transfer.

Water-reactive

A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Work area

A room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace

The term workplace means an establishment, job site, or project, at one geographical location containing one or more work areas.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-56050 Definitions. The following definitions apply to this chapter:

Article (manufactured item)

A manufactured item that

- Is not a fluid or particle

AND

• Is formed to a specific shape or design during manufacture for a particular end use function

AND

• Releases only trace amounts of a hazardous chemical during normal use and does not pose a physical or health risk to employees.

Chemical

- An element or mixture of elements

OR

- A compound or mixture of compounds

OR

- A mixture of elements and compounds

Included are manufactured items (such as bricks, welding rods and sheet metal) that are not exempt as an article.

Chemical name

• The scientific designation of a chemical developed by the

– International union of pure and applied chemistry (IUPAC)

OR

– Chemical abstracts service (CAS) rules of nomenclature

OR

• A name that clearly identifies the chemical for the purpose of conducting a hazard evaluation.

Combustible liquid

Liquids with a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). A mixture with at least 99% of its components having flashpoints of 200°F (93.3°C), or higher, is not considered a combustible liquid.

Commercial account

An arrangement where a retailer is selling hazardous chemicals to an employer

• Generally in large quantities over time

OR

• At costs below regular retail price.

Common name

Any designation or identification used to identify a chemical other than the chemical name, such as a

• Code name or number

OR

• Trade or brand name

OR

• Generic name.

Compressed gas

• A contained gas or mixture of gases with an absolute pressure greater than:

– 40 psi at 70°F (21.1°C)

OR

– 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C)

OR

• A liquid with a vapor pressure greater than 40 psi at 100°F (37.8°C), as determined by ASTM D323-72.

Container

A vessel, other than a pipe or piping system, that holds a hazardous chemical. Examples include:

- Bags
- Barrels
- Bottles
- Boxes
- Cans
- Cylinders
- Drums
- Reaction vessels
- Storage tanks
- Rail cars.

Designated representative

• An individual or organization with written authorization from an employee

OR

• A recognized or certified collective bargaining agent (not necessarily authorized by an employee)

OR

• A legal representative of a deceased or legally incapacitated employee.

Distributor

A business that supplies hazardous chemicals to other employers. Included are employers who conduct retail and wholesale transactions.

Explosive

A chemical that causes a sudden, almost instant release of pressure, gas, and heat when exposed to a sudden shock, pressure, or high temperature.

Flammable

A chemical in one of the following categories:

• Aerosols that, when tested using a method described in 16 CFR 1500.45, yield either a:

– Flame projection of more than eighteen inches at full valve opening

OR

– A flashback (a flame extending back to the valve) at any degree of valve opening

• Gases that, at the temperature and pressure of the surrounding area, form a:

– Flammable mixture with air at a concentration of thirteen percent, by volume, or less

OR

– Range of flammable mixtures with air wider than twelve percent, by volume, regardless of the lower limit

• Liquids with a flashpoint below 100°F (37.8°C). A mixture with at least ninety-nine percent of its components having flashpoints of 100°F (37.8°C), or higher, is not considered a flammable liquid

• Solids, other than blasting agents or explosives, as defined in WAC 296-52-417 or 29 CFR 1910.109(a), that:

– Is likely to cause fire through friction, moisture, absorption, spontaneous chemical change or retained heat from manufacturing or processing

OR

– That can be readily ignited (and when ignited burns so vigorously and persistently that it creates a serious hazard)

OR

– When tested by the method described in 16 CFR 1500.44, ignite and burn with a self-sustained flame at a rate greater than 1/10th of an inch per second along its major axis.

Flashpoint

The minimum temperature at which a liquid gives off an ignitable concentration of vapor, when tested by any of the following measurement methods:

• Tagliabue closed tester. Use this for liquids with a viscosity less than 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not tend to form a surface film under test. See American National Standard Method of Test for Flashpoint by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)

• Pensky-Martens closed tester. Use this for liquids with a viscosity equal to, or greater than, 45 SUS at 100°F (37.8°C) or for liquids that contain suspended solids or have a tendency to form a surface film under test. See American National Standard Method of Test for Flashpoint by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)

• Setaflash closed tester. See American National Standard Method of Test for Flashpoint by Setaflash Closed Tester (ASTM D 3278-78)

Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flash-point measurement methods specified above.

Hazardous chemical

A chemical, which is a physical or health hazard.

Hazard warning

Words, pictures or symbols (alone or in combination) that appear on labels (or other forms of warning such as placards or tags) that communicate specific physical and health hazards (including target organ effects) associated with chemicals in a container.

Health hazard

A chemical that may cause health effects in short or long-term exposed employees based on statistically significant evidence from a single study conducted by using established scientific principles.

Health hazards include, but are not limited to, any of the following:

- Carcinogens
- Toxic or highly toxic substances
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Hepatotoxins (liver toxins)
- Nephrotoxins (kidney toxins)
- Neurotoxins (nervous system toxins)
- Substances that act on the hematopoietic system (blood or blood forming system)
- Substances that can damage the lungs, skin, eyes, or mucous membranes.

Identity

A chemical or common name listed on the material safety data sheet (MSDS) and label.

Importer

The first business, within the Customs Territory of the United States, that receives hazardous chemicals produced in other countries and supplies them to manufacturers, distributors or employers within the United States.

Label

Written, printed, or graphic material displayed on, or attached to, a container of hazardous chemicals.

Manufacturer

An employer with a workplace where one or more chemicals (including items not exempt as "articles," see Table 1 in this part) are produced for use or distribution.

Material safety data sheet (MSDS)

Written, printed or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors or employers about the chemical, its hazards and protective measures as required by this rule.

Mixture

A combination of two or more chemicals that retain their chemical identity after being combined.

Organic peroxide

An organic compound containing the bivalent-O-O-structure. It may be considered a structural derivative of hydrogen peroxide if one or both of the hydrogen atoms has been replaced by an organic radical.

Oxidizer

A chemical, other than a blasting agent or explosive as defined in WAC ((296-52-417)) 296-52-60130 or 29 CFR 1910.109(a), that starts or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Permissible exposure limits

See WAC 296-307-628, for definition of this term.

Physical hazards

A chemical that has scientifically valid evidence to show it is one of the following:

- A combustible liquid
- A compressed gas
- Explosive
- Flammable
- An organic peroxide
- An oxidizer
- Pyrophoric
- Unstable (reactive)
- Water-reactive.

Produce

To do one or more of the following:

- Manufacture
- Process
- Formulate
- Blend
- Extract
- Generate
- Emit
- Repackage.

Pyrophoric

Chemicals that ignite spontaneously in the air at a temperature of 130°F (54.4°C) or below.

Responsible party

Someone who can provide more information about the hazardous chemical and appropriate emergency procedures.

Retailer

See "distributor."

Threshold limit values (TLVs)

Airborne concentrations of substances established by the American Conference of Governmental Industrial Hygienists (ACGIH), and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

TLVs are specified in the most recent edition of the *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* and include the following categories:

- Threshold limit value-time-weighted average (TLV-TWA)
- Threshold limit value-short-term exposure limit (TLV-STEL)
- Threshold limit value-ceiling (TLV-C).

Unstable (reactive)

A chemical in its pure state, or as produced or transported, that will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shocks, pressure or temperature.

Use

To do one or more of the following:

- Package
- Handle
- React
- Emit
- Extract
- Generate as a by-product
- Transfer.

Water-reactive

A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Wholesaler

See "distributor."

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-594 Scope. This part applies to all use of respirators at work.

(1) Respirators are required whenever respiratory hazards (including oxygen-deficient conditions) are present. For example, use respirators at any of the following times:

(a) While exposure controls are being evaluated or put in place;

(b) When it is not feasible to use exposure controls to remove or reduce the airborne hazard to below the PEL.

(2) This chapter applies whenever respirators are used at work.

IMPORTANT:

Before ~~((you decide to use))~~ using respirators, ~~((you))~~ **employers** are required to evaluate respiratory hazards and implement control methods as outlined in WAC 296-307-624 through 296-307-628, Respiratory hazards.

The term "respiratory hazards" will be used throughout this part to refer to oxygen deficient conditions and harmful airborne hazards.

~~((Definition:~~

~~Respirators are a type of personal protective equipment designed to protect the wearer from respiratory hazards.))~~

You ~~((can))~~ may use Table 1 for general guidance on which sections apply ~~((to you))~~.

Table 1
Sections that apply to your workplace

If employees...	Then the sections marked with an "X" apply...					
	596	598	600	602-618	620	622
Request and are permitted to voluntarily use filtering-face-piece respirators, and are not exposed to a respiratory hazard		X				X
Request and are permitted to voluntarily use respirators that are NOT filtering-facepiece respirators, and are not exposed to a respiratory hazard	X	X			X	X
Are required to use any respirator by WISHA or the employer	X		X	X	X	X
Would use an escape respirator in an emergency	X		X	X	X	X

Reference: See WAC 296-307-100, Personal protective equipment (PPE) to find requirements for other types of personal protective equipment (PPE), such as eye, hand, and head protection.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-59605 Designate a program administrator.

Exemption: You do not need to designate a program administrator if employees use only filtering-facepiece respirators and do so only as voluntary use.

~~((Definition:~~

~~Voluntary use is respirator use that is requested by the employee AND permitted by the employer when NO respiratory hazard exists.))~~

You must:

- Designate a program administrator who has overall responsibility for your program and has sufficient training or experience to:
 - Oversee program development and coordinate implementation
 - Conduct required evaluations of program effectiveness outlined in WAC 296-307-60005.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-59805 Make sure voluntary use of respirators is safe.

~~((Definition:~~

~~Voluntary use is respirator use that is requested by the employee AND permitted by the employer when NO respiratory hazard exists.))~~

IMPORTANT: ~~((If you choose to require respirator use, use is NOT voluntary and the required use sections of this part apply.))~~ Respirator use is not voluntary, and the required use sections of this chapter apply, if:

- An employer chooses to require respirator use;
- A respiratory hazard, such as exposure to a substance over the permissible exposure limit (PEL) or hazardous exposure to an airborne biological hazard, is present. To evaluate respiratory hazards in your workplace, see chapter 296-841 WAC, Airborne contaminants.
 - Some requirements in this section do not apply if only filtering-facepiece respirators are used voluntarily;
 - Some filtering-facepiece respirators are equipped with a sorbent layer for absorbing "nuisance" organic vapors. These can be used for voluntary use, but are not NIOSH cer-

tified for protection against hazardous concentrations of organic vapor.

You must:

(1) Make sure voluntary respirator use does NOT:

- Interfere with an employee's ability to work safely, such as restricting necessary vision or radio communication

OR

- Create health hazards.

Note: Examples of health hazards include:

- Skin irritation, dermatitis, or other health effects caused by using a dirty respirator
- Illness created by sharing contaminated respirators
- Health effects caused by use of an unsafe air supply, such as carbon monoxide poisoning.

You must:

(2) Provide all voluntary respirator users with the advisory information in Table 2 at no cost to them.

~~((Note: If you have provided employees with the advisory information required in the previous section, WAC 296-307-598, you do not need to provide the additional information in Table 2 to those employees.))~~

You must:

(3) Develop and maintain a written program that includes the following:

- Medical evaluation provisions as specified in WAC 296-307-604.
- Procedures to properly clean and disinfect respirators, according to WAC 296-307-62015, if they are reused.
- How to properly store respirators, according to WAC 296-307-61010, so that using them does not create hazards.
- Procedures to make sure there is a safe air supply, according to WAC 296-307-616, when using air-line respirators and SCBAs.
- Training according to WAC 296-307-608 when necessary to ensure respirator use does NOT create a hazard.

~~((Note: Pay for medical evaluations, training, travel related costs, and wages. You do NOT need to pay for respirators employees use only voluntarily. If you have both voluntary and required respirator users, you may choose to treat voluntary users as required users. Doing this exceeds the requirements in this section.))~~

Exemption: If employees use only filtering-facepiece respirators and do so only voluntarily, you do not need to develop and maintain a written program.

Use Table 2 to provide information to employees who voluntarily use any type of respirator.

Table 2

Advisory Information for Employees Who Voluntarily Use Respirators
<p>• Respirators protect against airborne hazards when properly selected and used. ((WISHA)) <u>Respirator usage that is required by DOSH or your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in this chapter.</u> DOSH recommends voluntary use of respirators when exposure to substances is below ((WISHA)) <u>DOSH</u> permissible exposure limits (PELs) because respirators can provide you an additional level of comfort and protection.</p> <p>• If you choose to voluntarily use a respirator (whether it is provided by you or your employer) be aware that respirators can create hazards for you, the user. You can avoid these hazards if you know how to use your respirator properly AND how to keep it clean. Take these steps:</p> <ul style="list-style-type: none"> – Read and follow all instructions provided by the manufacturer about use, maintenance (cleaning and care), and warnings regarding the respirator's limitations. – Choose respirators that have been certified for use to protect against the substance of concern. The National Institute for Occupational Safety and Health (NIOSH) certifies respirators. If a respirator is not certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use. <ul style="list-style-type: none"> ? A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides. – Keep track of your respirator so you do not mistakenly use someone else's. – DO NOT wear your respirator into: <ul style="list-style-type: none"> ? Atmospheres containing hazards that your respirator is not designed to protect against. <p style="margin-left: 40px;">For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke or oxygen deficiency.</p> ? Situations where respirator use is required.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-60205 Select and provide appropriate respirators.

Exemption: This section does NOT apply to respirator use that is voluntary. See WAC 296-842-11005 for voluntary use program requirements.

IMPORTANT:

See WAC 296-307-624, Respiratory hazards, for:

- Hazard evaluation requirements. Evaluation results are necessary for respirator selection.
- A list of substance-specific rules that may also apply to you. Those listed rules have additional respirator selection requirements.

You must:

A respirator shall be provided to each employee when such equipment is necessary to protect the health of the employee.

- Select and provide, at no cost to employees, appropriate respirators for routine use, infrequent use, and reasonably foreseeable emergencies (such as escape, emergency, and spill response situations) by completing the following process:

Respirator Selection Process

Step 1: If your only respirator use is for escape, skip to **Step 8** to select appropriate respirators.

Step 2: If the respiratory hazard is a biological aerosol, such as TB (tuberculosis), anthrax, psittacosis (parrot fever), or hanta virus, select a respirator appropriate for **nonemergency** activities recognized to present a health risk to workers AND skip to **Step 8**.

- If respirator use will occur during **emergencies**, skip to **Step 8** and document the analysis used to select the appropriate respirator.

- Use Centers for Disease Control (CDC) selection guidance for exposures to specific biological agents when this guidance exists. Visit <http://www.cdc.gov>.

Step 3: If the respiratory hazard is a pesticide, follow the respirator specification on the pesticide label AND skip to **Step 9**.

Step 4: Determine the expected exposure concentration for each respiratory hazard of concern. Use the results from the evaluation required by WAC 296-307-624, Respiratory hazards.

Step 5: Determine if the respiratory hazard is classified as IDLH; if it is NOT IDLH skip to **Step 7**.

- The respiratory hazard IS classified as IDLH if:
 - The atmosphere is oxygen deficient or oxygen enriched

OR

- You CANNOT measure or estimate your expected exposure concentration

OR

- Your measured or estimated expected exposure concentration is greater or equal to the IDLH value in the NIOSH *Pocket Guide to Chemical Hazards*

Note: • ((WISHA)) DOSH uses the IDLH values in the 1990 edition of the NIOSH *Pocket Guide to Hazardous Chemicals* to determine the existence of IDLH conditions. You may

use more recent editions of this guide. Visit www.cdc.gov/niosh for more information.

((If your measured or estimated expected exposure concentration is below NIOSH's IDLH values, proceed to **Step 7**))

Step 6: Select an appropriate respirator from one of the following respirators for IDLH conditions and skip to **Step 8**:
 • Full-facepiece, pressure demand, self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes;

OR

- Full-facepiece, pressure demand air-line respirator equipped with an auxiliary self-contained air supply.

Exception:

If the respiratory hazard is oxygen deficiency AND you can show oxygen concentrations can be controlled within the ranges listed in Table 4 under ALL foreseeable conditions, you are allowed to select ANY type of SCBA or air-line respirator.

Table 4

Concentration Ranges for Oxygen Deficiency

Altitude (as ft. above sea level)	Oxygen Concentration Range (as percent oxygen)
Below 3,001	16.0 - 19.5
3,001 - 4,000	16.4 - 19.5
4,001 - 5,000	17.1 - 19.5
5,001 - 6,000	17.8 - 19.5
6,001 - 8,000	19.3 - 19.5
Above 8,000 feet the exception does not apply.	

Step 7: Identify respirator types with assigned protection factors (APFs) from Table 5 that are appropriate to protect employees from the expected exposure concentration.

Note:

• Using assigned protection factors (APFs) for respirator selection, found at the end of this chapter, uses the hazard-ratio approach established by ANSI Z88.2-1992 to determine which respirator types can provide a sufficient level of protection.

• If no permissible exposure limit (PEL) is established for an airborne contaminant, use relevant available information and informed professional judgment to determine an acceptable exposure limit value to use for calculating hazard ratios. For example, you may use exposure limit values established by the American Conference of Governmental Industrial Hygienists (ACGIH).

Step 8: Consider hazards that could require selection of specific respirator types. For example, select full-facepiece respirators to prevent eye irritation or abrasive blasting helmets to provide particle rebound protection.

Step 9: Evaluate user and workplace factors that might compromise respirator performance, reliability or safety.

- If the respiratory hazard is a pesticide, follow the requirements on the pesticide label and skip to **Step 11**.

Examples:

- High humidity or temperature extremes in the workplace.
- Necessary voice communication.
- High traffic areas and moving machinery.
- Time or distance for escape.

Step 10: Follow Table 6 requirements to select an air-purifying respirator.

• If Table 6 requirements cannot be met, you must select an air-line respirator or an SCBA.

Step 11: Make sure respirators you select are certified by the National Institute for Occupational Safety and Health (NIOSH).

• To maintain certification, make sure the respirator is used according to cautions and limitations specified on the NIOSH approval label.

Note: While selecting respirators, you will need to select a sufficient number of types, models or sizes to provide for fit testing. You can also consider other respirator use issues, such as accommodating facial hair with a loose fitting respirator.

Use Table 5 to identify the assigned protection factor for different types of respirators.

**Table 5
Assigned Protection Factors (APF) for Respirator Types**

If the respirator is a(n) . . .	Then the APF is . . .
Air-purifying respirator with a: • Half-facepiece • Full-facepiece Note: Half-facepiece includes 1/4 masks, filtering facepieces, and elastomeric facepieces.	10 ((400)) <u>50</u>
Powered air-purifying respirator (PAPR) with a: • Loose-fitting facepiece • Half-facepiece • Full-facepiece, equipped with HEPA filters, chemical cartridges or canisters • Hood or helmet, equipped with HEPA filters, chemical cartridges or canisters Note: PAPRs with helmets/hoods may receive an APF of 1,000 only when you have evidence that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater. Such evidence must be provided by the respirator manufacturer. This level of performance can best be demonstrated by performing a workplace protection factor (WPF) or simulated workplace protection factor (SWPF) study or equivalent testing.	25 50 1000 ((4000)) <u>25/1000 (see note)</u>
Air-line respirator with a: • Half-facepiece and designed to operate in demand mode • Loose-fitting facepiece and designed to operate in continuous flow mode	10 25

If the respirator is a(n) . . .	Then the APF is . . .
• Half-facepiece and designed to operate in continuous-flow, or pressure-demand mode	50
• Full-facepiece and designed to operate in demand mode	((400)) <u>50</u>
• Full-facepiece and designed to operate in continuous-flow OR pressure-demand mode	1000
• Helmet or hood and designed to operate in continuous-flow mode	1000
Self-contained breathing apparatus (SCBA) with a tight fitting: • Half-facepiece and designed to operate in demand mode • Full-facepiece and designed to operate in demand mode • Full-facepiece and designed to operate in pressure-demand mode	10 100 10,000
Combination respirators: • Find the APF for each type of respirator in the combination. • Use the lower APF to represent the combination.	The lowest value

Use Table 6 to select air-purifying respirators for particle, vapor, or gas contaminants.

**Table 6
Requirements for Selecting Any Air-purifying Respirator**

If the contaminant is a . . .	Then . . .
• Gas OR vapor	• Provide a respirator with canisters or cartridges equipped with a NIOSH-certified, end-of-service-life indicator (ESLI) OR • If a canister or cartridge with an ESLI is NOT available, develop a cartridge change schedule to make sure the canisters or cartridges are replaced before they are no longer effective OR • Select an atmosphere-supplying respirator
• Particle, such as a dust, spray, mist, fog, fume, or aerosol	• Select respirators with filters certified to be at least 95% efficient by NIOSH

If the contaminant is a . . .	Then . . .
	<p>– For example, N95s, R99s, P100s, or High Efficiency Particulate Air filters (HEPA)</p> <p>((OR</p> <p>• You may select respirators NIOSH certified as "dust and mist," "dust, fume, or mist," OR "pesticides." You can only use these respirators if particles primarily have a mass median aerodynamic diameter of at least two micrometers.</p> <p>Note: These respirators are no longer sold for occupational use.)</p>

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-60405 Provide medical evaluations.

IMPORTANT:

If ~~((you have provided))~~ an employee has been provided with a medical evaluation addressing respirator use, as required by another chapter, that evaluation will meet the requirements of this section.

You must:

- Follow the medical evaluation process, Steps 1 through 7 in this section, to provide medical evaluations for employees at no cost to them.

Medical Evaluation Process

Step 1: Identify employees who need medical evaluations AND determine the frequency of evaluations from Table 7. Include employees who:

- Are required to use respirators;

OR

- Voluntarily use respirators that are **not** filtering-face-piece respirators.

Note: You may use a previous employer's medical evaluation for an employee if you can:

- Show the employee's previous work and use conditions were substantially similar to yours

AND

- Obtain a copy of the licensed healthcare professional's (LHCP's) written recommendation approving the employee's use of the respirator chosen by you.

Step 2: Identify a licensed healthcare professional (LHCP) to perform your medical evaluations.

Note: If you select a different LHCP, you do not need to have new medical evaluations done.

Step 3: Make sure your LHCP has the following information **before** the evaluation is completed:

- Information describing the respirators employees may use, including the weight and type.
- How the respirators will be used, including:

- How often the respirator will be used, for example, daily, or once a month;
 - The duration of respirator use, for example, a minimum of one hour, or up to twelve hours;
 - The employee's expected physical work effort;
 - Additional personal protective clothing and equipment to be worn;
 - Temperature and humidity extremes expected during use.
- A copy of your written respiratory protection program **and** this part.

- Note:**
- You may choose to send the questionnaire to the LHCP ahead of time, giving time to review it and add any necessary questions
 - The LHCP determines what questions to add to the questionnaire, if any; however, questions in Parts 1-3 may not be deleted or substantially altered.

Step 4: Administer the medical questionnaire in WAC 296-307-61605 to employees, OR provide them a medical exam that obtains the same information.

Note: You may use on-line questionnaires if the questions are the same and requirements of this section are met.

- Administer the examination or questionnaire at no cost to employees:

- During the employee's normal working hours;

OR

- At a time and place convenient to the employee.

• Maintain employee confidentiality during examination or questionnaire administration:

- Do **not** view employee's answers on the questionnaire;
- Do **not** act in a manner that may be considered a breach of confidentiality.

Note: Providing confidentiality is important for securing successful medical evaluations. It helps make sure the LHCP gets complete and dependable answers on the questionnaire.

- Make sure employees understand the content of the questionnaire.

• Provide the employee with an opportunity to discuss the questionnaire or exam results with the LHCP.

Step 5: Provide follow-up evaluation for employees when:

- The LHCP needs more information to make a final recommendation;

OR

• An employee gives any positive response to questions 1-8 in Part 2 OR to questions 1-6 in Part 3 of the ~~((WISHA))~~ DOSH medical evaluation questionnaire in WAC 296-307-61605.

Note: Follow-up may include:

- Employee consultation with the LHCP such as a telephone conversation to evaluate positive questionnaire responses
- Medical exams
- Medical tests or other diagnostic procedures.

Step 6: Obtain a written recommendation from the LHCP that contains only the following medical information:

- Whether or not the employee is medically able to use the respirator;
- Any limitations of respirator use for the employee;
- What future medical evaluations, if any, are needed;
- A statement that the employee has been provided a copy of the written recommendation.

Step 7: Provide a powered, air-purifying respirator (PAPR) when the LHCP determines the employee should not wear a negative-pressure air-purifying respirator AND is able to wear a PAPR.

Reference: See WAC 296-307-602 for requirements regarding selection of air-purifying respirators.

Note:

- You may discontinue medical evaluations for an employee when the employee no longer uses a respirator.
- If you have staff conducting your medical evaluations, they may keep completed questionnaires and findings as confidential medical records, if they are maintained separately from other records.

Use Table 7 to determine medical evaluation frequency.

Table 7
Evaluation Frequency

Type of Evaluation:	When required:
Initial medical evaluations	<ul style="list-style-type: none"> • Before respirators are fit-tested or used in the workplace.
Subsequent medical evaluations	<ul style="list-style-type: none"> • If any of these occur: <ul style="list-style-type: none"> – Your licensed healthcare professional (LHCP) recommends them; for example, periodic evaluations at specified intervals. – A respirator program administrator or supervisor informs you that an employee needs reevaluation. – Medical signs or symptoms (such as breathing difficulties) are: <ul style="list-style-type: none"> ■ Observed during fit-testing or program evaluation <li style="text-align: center;">OR ■ Reported by the employee – Changes in worksite conditions such as physical work effort, personal protective clothing, or temperature that could substantially increase the employee's physiological stress.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-606 Fit testing.

Your responsibility:

To make sure negative and positive-pressure tight-fitting respirators can provide an adequate fit and acceptable level of comfort to employees.

Exemption: This section does NOT apply to any respirators that are:

- Voluntarily used. See WAC 296-307-598 for voluntary use requirements.
- Mouthpiece respirators and other escape-only respirators.
- Loose-fitting respirators.

IMPORTANT:

- Fit testing is an activity where the seal of a respirator is tested to determine if it is adequate.
- This section covers general **requirements** for fit testing. Fit-testing **procedures** are covered in WAC 296-307-62010 of this part.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-60605 Conduct fit testing.

You must:

- Provide, at no cost to the employee, fit tests for ALL tight fitting respirators on the following schedule:
 - Before employees are assigned duties that may require the use of respirators;
 - At least every twelve months after initial testing;
 - Whenever any of the following occurs:

- A different respirator facepiece is chosen such as a different type, model, style, or size;

- You become aware of a physical change in an employee that could affect respirator fit. For example, you may observe, or be told about, facial scarring, dental changes, cosmetic surgery, or obvious weight changes;

- An employee notifies you, or your LHCP, that the respirator fit is unacceptable. During the retest, you must give an employee reasonable opportunity to select a different respirator facepiece (size, model, etc.).

Note: You may accept a fit test completed by a previous employer

IF:

- You obtain written documentation of the fit test

AND

- The results of the fit test are not more than twelve months old

AND

- The employee will use the same respirator (the same type, model, style, and size)

AND

- The fit test was conducted in a way that meets the requirements of WAC 296-307-606 and 296-307-62010.

You must:

- Select and use an appropriate fit-testing procedure from WAC 296-307-62010 of this ((~~part AND:~~)) chapter.

- Use quantitative fit-test methods when a negative pressure respirator will be used in concentrations requiring a protection factor greater than 10. This includes:

- Full facepiece air-purifying respirators
- SCBAs operated in demand (negative pressure) mode
- Air-line respirators operated in demand mode.

- Make sure tight-fitting PAPRs, SCBAs, or air-line respirators are fit tested in negative-pressure mode.

– Make sure tight-fitting PAPRs, SCBAs, or air-line respirators are fit-tested in negative-pressure mode. This must be done by either:

(a) Temporarily converting the respirator user's actual facepiece into a negative pressure respirator using the appropriate filters;

OR

(b) Using an identical negative pressure air-purifying respirator facepiece as a surrogate for the SCBA, air-line of PAPR. The surrogate facepiece must have the same sealing surfaces as the SCBA, air-line, or PAPR.

Remove any modifications made to the respirator facepiece for fit-testing and return the facepiece to the NIOSH approved configuration before the facepiece is used in the workplace.

• Make sure the person conducting fit testing is able to do ALL of the following:

- Prepare test solutions if required;
- Make sure equipment works properly;
- Perform tests properly;
- Recognize invalid tests;
- Calculate fit factors properly if required.

Note:

- No specific training program or certification is required for those who conduct fit tests.
- You should consider evaluating these individuals to determine their proficiency in the fit-testing method to be used.
- You can use an evaluation form such as the form included in the American National Standard for Respirator Fit Testing Methods, ANSI/AIHA Z88.10-2001 to determine if the individual meets these requirements. Visit www.ansi.org or www.aiha.org.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-608 Training.

Exemption: This section does not apply to respirators that are voluntarily used. See WAC 296-842-11005 for voluntary use requirements.

Your responsibility:

To make sure employees who are required to use respirators understand and can demonstrate proper respirator use and maintenance.

IMPORTANT:

This section applies to employees who voluntarily use respirators only when training is necessary to prevent the respirator from creating a hazard. See WAC 296-307-598 for voluntary use requirements.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-612 Safe use and removal of respirators.

Your responsibility:

To make sure respirator use and removal is safe.

Exemption: ((These sections do NOT apply to employees who voluntarily use any type of respirator.)) See WAC 296-307-598 for voluntary use requirements.

You must:

Prevent sealing problems with tight-fitting respirators
WAC 296-307-61205

Make sure employees leave the use area before removing respirators

WAC 296-307-61210.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-61405 Provide standby assistance in immediately dangerous to life or health (IDLH) conditions.

IMPORTANT:

((WISHA)) DOSH currently uses the IDLH values in the 1990 NIOSH *Pocket Guide to Chemical Hazards* to determine the existence of IDLH conditions. You may use more recent editions of this guide. Visit www.cdc.gov/niosh for more information.

You must:

• Provide at least two standby employees outside the IDLH area.

Note: You need only one standby employee if the IDLH condition is well characterized, will remain stable AND you can show one employee can adequately do ALL of the following:

- Monitor employees in the IDLH area;
- Implement communication; and
- Initiate rescue duties.

• Train and equip standby employees to provide effective emergency rescue. Equip them with:

– A pressure-demand SCBA or a pressure-demand air-line respirator with an auxiliary SCBA, for each standby employee;

– Appropriate retrieval equipment, when it would help with the effective rescue of the entrant, or an equivalent means of rescue;

• Make sure standby employees maintain visual, voice, or signal line communication with employees in the IDLH area

• Make sure that in the event of an emergency:

– Standby employees notify you or your designee before they enter the IDLH area to provide emergency rescue

– You provide necessary assistance when notified.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-62005 Use this medical questionnaire for medical evaluations.

You must:

• Use the medical questionnaire in Table 10 when conducting medical evaluations.

Note:

- You may use a physical exam instead of this questionnaire if the exam covers the same information as the questionnaire.

- You may use on-line questionnaires if the questions are the same and the requirements in WAC 296-307-604 of this part are met.

- You may choose to send the questionnaire to the LCHP ahead of time, giving time to review it and add any necessary questions.

- The LHCP determines what questions to add to the questionnaire, if any; however, questions in Parts 1-3 may not be deleted or substantially altered.

Table 10

((WISHA)) DOSH Medical Evaluation Questionnaire
Employer instructions:
<ul style="list-style-type: none"> • You may use on-line questionnaires if the requirements in WAC 296-307-60405 are met. • You must tell your employee how to deliver or send the completed questionnaire to the healthcare provider you have selected. • You must NOT review employees' questionnaires.
Healthcare provider's instructions:
<ul style="list-style-type: none"> • Review the information in this questionnaire and any additional information provided to you by the employer. • You may add questions to this questionnaire at your discretion; HOWEVER, questions in Parts 1-3 may not be deleted or substantially altered.

((WISHA)) DOSH Medical Evaluation Questionnaire
<ul style="list-style-type: none"> • Follow-up evaluation is required for any positive response to questions 1-8 in Part 2, or questions 1-6 in Part 3. This might include: Phone consultations to evaluate positive responses, medical tests, and diagnostic procedures. • When your evaluation is complete, send a copy of your written recommendation to the employer AND employee.
Employee information and instructions:
<ul style="list-style-type: none"> • Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that's convenient to you. • Your employer or supervisor must not look at or review your answers at any time.

Part 1 - Employee Background Information	
ALL employees must complete this part	
Please print	
1. Today's date: _____	
2. Your name: _____	
3. Your age (to nearest year): ____	
4. Sex (circle one): Male / Female	
5. Your height: ___ft. ___in.	
6. Your weight: ___lbs.	
7. Your job title: _____	
8. A phone number where you can be reached by the healthcare professional who reviews this questionnaire (include Area Code): _____	
9. The best time to call you at this number: _____	
10. Has your employer told you how to contact the healthcare professional who will review this questionnaire? Yes / No	
11. Check the type of respirator(s) you will be using:	
a. ___ N, R, or P filtering-facepiece respirator (for example, a dust mask, OR an N95 filtering-facepiece respirator).	
b. Check all that apply.	
<input type="checkbox"/> Half mask <input type="checkbox"/> Full facepiece mask <input type="checkbox"/> Helmet hood <input type="checkbox"/> Escape	
<input type="checkbox"/> Nonpowered cartridge or canister <input type="checkbox"/> Powered air-purifying cartridge respirator (PAPR)	
<input type="checkbox"/> Supplied-air or Air-line	
Self-contained breathing apparatus (SCBA): <input type="checkbox"/> Demand or <input type="checkbox"/> Pressure demand	
Other: _____	
12. Have you previously worn a respirator? Yes / No	
If "yes," describe what type(s): _____	

Part 2 - General Health Information**ALL employees must complete this part****Please circle "Yes" or "No"**

- | | | | |
|--|-----|---|----|
| 1. Do you <i>currently</i> smoke tobacco, or have you smoked tobacco in the last month? | Yes | / | No |
| 2. Have you <i>ever had</i> any of the following conditions? | | | |
| a. Seizures (fits): | Yes | / | No |
| b. Diabetes (sugar disease): | Yes | / | No |
| c. Allergic reactions that interfere with your breathing: | Yes | / | No |
| d. Claustrophobia (fear of closed-in places): | Yes | / | No |
| e. Trouble smelling odors: | Yes | / | No |
| 3. Have you <i>ever had</i> any of the following pulmonary or lung problems? | | | |
| a. Asbestosis: | Yes | / | No |
| b. Asthma: | Yes | / | No |
| c. Chronic bronchitis: | Yes | / | No |
| d. Emphysema: | Yes | / | No |
| e. Pneumonia: | Yes | / | No |
| f. Tuberculosis: | Yes | / | No |
| g. Silicosis: | Yes | / | No |
| h. Pneumothorax (collapsed lung): | Yes | / | No |
| i. Lung cancer: | Yes | / | No |
| j. Broken ribs: | Yes | / | No |
| k. Any chest injuries or surgeries: | Yes | / | No |
| l. Any other lung problem that you have been told about: | Yes | / | No |
| 4. Do you <i>currently</i> have any of the following symptoms of pulmonary or lung illness? | | | |
| a. Shortness of breath: | Yes | / | No |
| b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: | Yes | / | No |
| c. Shortness of breath when walking with other people at an ordinary pace on level ground: | Yes | / | No |
| d. Have to stop for breath when walking at your own pace on level ground: | Yes | / | No |
| e. Shortness of breath when washing or dressing yourself: | Yes | / | No |
| f. Shortness of breath that interferes with your job: | Yes | / | No |
| g. Coughing that produces phlegm (thick sputum): | Yes | / | No |
| h. Coughing that wakes you early in the morning: | Yes | / | No |
| i. Coughing that occurs mostly when you are lying down: | Yes | / | No |
| j. Coughing up blood in the last month: | Yes | / | No |
| k. Wheezing: | Yes | / | No |
| l. Wheezing that interferes with your job: | Yes | / | No |
| m. Chest pain when you breathe deeply: | Yes | / | No |
| n. Any other symptoms that you think may be related to lung problems: | Yes | / | No |
| 5. Have you <i>ever had</i> any of the following cardiovascular or heart problems? | Yes | / | No |
| a. Heart attack: | Yes | / | No |
| b. Stroke: | Yes | / | No |
| c. Angina: | Yes | / | No |
| d. Heart failure: | Yes | / | No |
| e. Swelling in your legs or feet (not caused by walking): | Yes | / | No |
| f. Heart arrhythmia (heart beating irregularly): | Yes | / | No |
| g. High blood pressure: | Yes | / | No |
| h. Any other heart problem that you have been told about: | Yes | / | No |
| 6. Have you <i>ever had</i> any of the following cardiovascular or heart symptoms? | | | |

a. Frequent pain or tightness in your chest:	Yes	/	No
b. Pain or tightness in your chest during physical activity:	Yes	/	No
c. Pain or tightness in your chest that interferes with your job:	Yes	/	No
d. In the past 2 years, have you noticed your heart skipping or missing a beat:	Yes	/	No
e. Heartburn or indigestion that's not related to eating:	Yes	/	No
f. Any other symptoms that you think may be related to heart or circulation problems:	Yes	/	No
7. Do you <i>currently</i> take medication for any of the following problems?	Yes	/	No
a. Breathing or lung problems:	Yes	/	No
b. Heart trouble:	Yes	/	No
c. Blood pressure:	Yes	/	No
d. Seizures (fits):	Yes	/	No
8. If you have used a respirator, have you <i>ever had</i> any of the following problems? (If you have never used a respirator, check the following space and go to question 9): ____			
a. Eye irritation:	Yes	/	No
b. Skin allergies or rashes:	Yes	/	No
c. Anxiety:	Yes	/	No
d. General weakness or fatigue:	Yes	/	No
e. Any other problem that interferes with your use of a respirator?	Yes	/	No
9. Would you like to talk to the healthcare professional who will review this questionnaire about your answers?	Yes	/	No
Part 3 - Additional Questions for Users of Full-Facepiece Respirators or SCBAs			
Please circle "Yes" or "No"			
1. Have you <i>ever lost</i> vision in either eye (temporarily or permanently)?	Yes	/	No
2. Do you <i>currently</i> have any of these vision problems?			
a. Need to wear contact lenses:	Yes	/	No
b. Need to wear glasses:	Yes	/	No
c. Color blindness:	Yes	/	No
d. Any other eye or vision problem:	Yes	/	No
3. Have you <i>ever had</i> an injury to your ears, including a broken ear drum?	Yes	/	No
4. Do you <i>currently</i> have any of these hearing problems?			
a. Difficulty hearing:	Yes	/	No
b. Need to wear a hearing aid:	Yes	/	No
c. Any other hearing or ear problem:	Yes	/	No
5. Have you <i>ever had</i> a back injury?	Yes	/	No
6. Do you <i>currently</i> have any of the following musculoskeletal problems?			
a. Weakness in any of your arms, hands, legs, or feet:	Yes	/	No
b. Back pain:	Yes	/	No
c. Difficulty fully moving your arms and legs:	Yes	/	No
d. Pain or stiffness when you lean forward or backward at the waist:	Yes	/	No
e. Difficulty fully moving your head up or down:	Yes	/	No
f. Difficulty fully moving your head side to side:	Yes	/	No
g. Difficulty bending at your knees:	Yes	/	No
h. Difficulty squatting to the ground:	Yes	/	No
i. Climbing a flight of stairs or a ladder carrying more than 25 lbs:	Yes	/	No
j. Any other muscle or skeletal problem that interferes with using a respirator:	Yes	/	No

Part 4 - Discretionary Questions

Complete questions in this part ONLY IF your employer's healthcare provider says they are necessary

- 1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen? Yes / No
- If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you are working under these conditions? Yes / No
- 2. Have you ever been exposed (at work or home) to hazardous solvents, hazardous airborne chemicals (such as gases, fumes, or dust), OR have you come into skin contact with hazardous chemicals? Yes / No
- If "yes," name the chemicals, if you know them: _____
- 3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

 - a. Asbestos? Yes / No
 - b. Silica (for example, in sandblasting)? Yes / No
 - c. Tungsten/cobalt (for example, grinding or welding this material)? Yes / No
 - d. Beryllium? Yes / No
 - e. Aluminum? Yes / No
 - f. Coal (for example, mining)? Yes / No
 - g. Iron? Yes / No
 - h. Tin? Yes / No
 - i. Dusty environments? Yes / No
 - j. Any other hazardous exposures? Yes / No

- If "yes," describe these exposures: _____
- 4. List any second jobs or side businesses you have: _____
- 5. List your previous occupations: _____
- 6. List your current and previous hobbies: _____
- 7. Have you been in the military services? Yes / No
- If "yes," were you exposed to biological or chemical agents (either in training or combat)? Yes / No
- 8. Have you ever worked on a HAZMAT team? Yes / No
- 9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)? Yes / No
- If "yes," name the medications if you know them: _____
- 10. Will you be using any of the following items with your respirator(s)?

 - a. HEPA filters: Yes / No
 - b. Canisters (for example, gas masks): Yes / No
 - c. Cartridges: Yes / No

- 11. How often are you expected to use the respirator(s)?

 - a. Escape-only (no rescue): Yes / No
 - b. Emergency rescue only: Yes / No
 - c. Less than 5 hours *per week*: Yes / No
 - d. Less than 2 hours *per day*: Yes / No
 - e. 2 to 4 hours per day: Yes / No
 - f. Over 4 hours per day:

- 12. During the period you are using the respirator(s), is your work effort:

 - a. *Light* (less than 200 kcal per hour): Yes / No

- If "yes," how long does this period last during the average shift: ____hrs. ____mins.
- Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

 - b. *Moderate* (200 to 350 kcal per hour): Yes / No

If "yes," how long does this period last during the average shift: ____hrs. ____mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. *Heavy* (above 350 kcal per hour): Yes / No

If "yes," how long does this period last during the average shift: ____hrs. ____mins.

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you are using your respirator? Yes / No

If "yes," describe this protective clothing and/or equipment: _____

14. Will you be working under hot conditions (temperature exceeding 77°F): Yes / No

15. Will you be working under humid conditions: Yes / No

16. Describe the work you will be doing while using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you are using your respirator(s) (for example, confined spaces, life-threatening gases): _____

18. Provide the following information, if you know it, for each toxic substance that you will be exposed to when you are using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you will be exposed to while using your respirator: _____

19. Describe any special responsibilities you will have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security). _____

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-62010 Follow these fit-testing procedures for tight-fitting respirators.

IMPORTANT:

- This section contains procedural requirements that apply during actual fit testing.
- See WAC 296-307-606 of this part for fit-testing requirements that apply to your overall program.

Exemptions: This section does NOT apply to employees who:

- Voluntarily use respirators

OR

- Are required to use mouthpiece respirators.

You must:

- Conduct fit testing according to all of the following:
 - Follow the procedure in Table 11 to choose a respirator for fit testing:

- Prior to conducting fit tests;
- AND**
- Any time your employee must select a different respirator such as when a previously selected respirator fails a test,
 - Select and follow at least one of the following fit test procedures:
- Qualitative fit-test procedures:
 - ◆ Isoamyl acetate vapor (IAA, banana oil) in Table 12;
 - ◆ Saccharine aerosol in Table 13;
 - ◆ Bitrex™ aerosol in Table 14;
 - ◆ Irritant smoke in Table 15;
- Quantitative fit-test procedures:
 - ◆ Ambient aerosol condensation nuclei counter such as the Portacount™, in Table 16
 - ◆ Controlled negative pressure (CNP) such as the Fit-Tester 3000™, in Table 17
 - ◆ Generated aerosol in Table 18

– Make sure employees perform the appropriate fit-test exercises listed in Table 19.

– Clean and maintain equipment according to the manufacturer's instructions.

– Make sure during fit testing employees wear any safety equipment that could:

- Interfere with respirator fit

AND

■ Be worn in the workplace. For example, chemical splash goggles.

– Check, prior to fit testing, for conditions that may interfere with the respirator seal or valve functions. If you find such conditions, do **NOT** conduct fit testing for that individual.

Note: Examples of conditions that may interfere with the respirator seal or valve functions include:

- Moustache, stubble, sideburns, bangs, hairline, and other types of facial hair in areas where the respirator facepiece seals or that interfere with valve function
- Temple bars of corrective eyewear or headgear that extend through the face seal area.
- Follow the appropriate fit test exercises in Table 19 as indicated.

Table 11

Procedure for Choosing a Respirator for Fit Testing
<p>1. Inform the employee:</p> <ul style="list-style-type: none"> • To choose the most comfortable respirator that provides an adequate fit • That each respirator sample represents a different size and, if more than one model is supplied, a different shape • That if fitted and used properly, the respirator chosen will provide adequate protection <p>2. Provide a mirror and show the employee how to:</p> <ul style="list-style-type: none"> • Put on the respirator • Position the respirator on the face • Set strap tension. <p>Note: This instruction does NOT take the place of the employee's formal training since it is only a review.</p> <p>3. Review with the employee how to check for a comfortable fit around the nose, cheeks and other areas on the face.</p> <ul style="list-style-type: none"> • Tell the employee the respirator should be comfortable while talking or wearing eye protection. <p>4. Have the employee hold each facepiece against the face, taking enough time to compare the fit of each. The employee can then either:</p> <ul style="list-style-type: none"> • Reject any facepiece that clearly does not feel comfortable or fit adequately <p>OR</p> <ul style="list-style-type: none"> • Choose which facepiece is most acceptable and which is less acceptable, if any.

Procedure for Choosing a Respirator for Fit Testing
<p>Note:</p> <ul style="list-style-type: none"> • Supply as many respirator models and sizes as needed to make sure the employee finds a respirator that's acceptable and fits correctly • To save time later, during this step note the more acceptable facepieces in case the one chosen fails the fit test or proves unacceptable later. <p>5. Have the employee wear the most acceptable respirator for AT LEAST 5 minutes to evaluate comfort and fit. Do ALL of the following during this time:</p> <ul style="list-style-type: none"> • Ask the employee to observe and comment about the comfort and fit: <ul style="list-style-type: none"> – Around the nose, cheeks, and other areas on the face – When talking or wearing eye protection • Have the employee put on the respirator and adjust the straps until they show proficiency • Evaluate the respirator's general fit by checking: <ul style="list-style-type: none"> – Proper chin placement – Properly tightened straps (do NOT over tighten) – Acceptable fit across the nose bridge – Respirator size; it must span the distance from nose to chin – To see if the respirator stays in position • Have the employee complete a successful seal check as specified in WAC 296-307-62020 of this chapter <ul style="list-style-type: none"> – Prior to the seal check they must settle the respirator on their face by taking a few slow deep breaths WHILE SLOWLY: <ul style="list-style-type: none"> ■ Moving their head from side-to-side <p>AND</p> <ul style="list-style-type: none"> ■ Up and down. <p>6. If the employee finds the respirator unacceptable, allow the employee to select another one and return to Step 5. Otherwise, proceed to Step 7.</p> <p>7. Before starting the fit test, you must:</p> <ul style="list-style-type: none"> • Describe the fit test including screening procedures, employee responsibilities, and test exercises <p>AND</p> <ul style="list-style-type: none"> • Make sure the employee wears the respirator AT LEAST five minutes.

Table 12

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • The success of this test depends on preserving the employee's odor sensitivity to isoamyl acetate (IAA) vapor

<p>Isoamyl Acetate (Banana Oil) Vapor Test Procedure</p> <ul style="list-style-type: none"> – Vapor accumulations in ambient air can decrease odor sensitivity. To prevent this: <ul style="list-style-type: none"> ■ Prepare ALL solutions in a location separate from screening and test areas ■ Conduct screening and tests in separate well-ventilated rooms. For example, use an exhaust fan or laboratory hood to prevent IAA vapor from accumulating in the room air – Always use odor-free water, for example, distilled or spring water that's 25°C (77°F). • Isoamyl acetate is also known as isopentyl acetate.
<p style="text-align: center;">Screening Preparations</p>
<p>Important:</p> <p>Odor threshold screening determines if the employee can detect weak concentrations of IAA vapor.</p> <ol style="list-style-type: none"> 1. Choose an appropriate location to conduct screening. <ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. 2. Prepare a stock solution AT LEAST weekly as follows: <ul style="list-style-type: none"> • Add one milliliter (ml) of pure IAA to 800 ml of odor-free water in a one-liter glass jar with a metal lid using a measuring dropper or pipette • Seal the jar with the lid and shake it for 30 seconds • Clean the dropper or pipette. 3. Prepare the odor test solution daily as follows: <ul style="list-style-type: none"> • Add 0.4 ml from the stock solution to 500 ml of water in a one liter glass jar with a metal lid using a clean pipette or dropper • Seal the jar with the lid and shake it for 30 seconds • Let this solution stand for 2-3 minutes so the IAA concentration above the liquid reaches equilibrium • Label this jar so you know the contents but the employee cannot know its contents, for example, "1." <p>Note:</p> <p>To maintain the integrity of the test, use labels that peel off easily AND periodically switch the labels.</p> <ol style="list-style-type: none"> 4. Prepare a "test blank" solution as follows: <ul style="list-style-type: none"> • Add 500 ml of odor-free water to a one liter glass jar with a metal lid • Seal the jar • Label the jar so you know the contents but the employee cannot know its contents. 5. Type or neatly print the following instructions on a card and place it on the table in front of the two test jars: <p style="margin-left: 20px;"><i>"The purpose of this test is to find out if you can smell banana oil at a low concentration. While both jars contain water, one ALSO contains a small amount of banana oil.</i></p>

<p>Isoamyl Acetate (Banana Oil) Vapor Test Procedure</p> <p><i>Make sure the lid is secure then pick up a jar and shake it for two seconds. Open the jar and sniff at the opening. Repeat this for the second jar.</i></p> <p><i>Tell the individual conducting the fit test which jar contains banana oil."</i></p>
<p style="text-align: center;">Test Preparations</p>
<ol style="list-style-type: none"> 6. Choose an appropriate location to conduct fit testing. <ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. 7. Assemble the fit test enclosure in the room. <ul style="list-style-type: none"> • Invert a clear 55-gallon drum liner over a circular 2-foot diameter frame made of plywood or other light-weight rigid material OR construct a similar enclosure using plastic sheeting • Hang the frame with the plastic covering so the top of the enclosure is about six inches above the employee's head • Attach a small hook inside top center of the enclosure • Tape a copy of the test exercises (see Table 28) to the inside of the test enclosure where the employee can read it. 8. Have organic vapor cartridges or equivalent on hand for each employee's chosen respirator. 9. Have ready a 6 x 5-inch piece of paper towel or other porous absorbent single-ply material AND 0.75 ml of pure IAA. Do NOT apply IAA yet. <p>Note:</p> <p>As an alternative to using the paper towel, you may use an IAA test swab OR ampoule if it has been demonstrated to generate an equivalent test concentration.</p>
<p style="text-align: center;">Screening</p>
<ol style="list-style-type: none"> 10. Have the employee, while NOT wearing a respirator, follow the instructions on the card provided. <ul style="list-style-type: none"> • If the employee correctly identifies the jar containing IAA, proceed to conduct testing (Step 11) • If the employee is NOT able to correctly identify the jar containing IAA, you must STOP and use a different fit test protocol.
<p style="text-align: center;">Test</p>
<ol style="list-style-type: none"> 11. BEFORE entering the fit test room, have the employee attach cartridges, put on, properly adjust, and seal check the respirator. Have the employee enter the test enclosure. 12. Wet the paper towel with 0.75 ml of pure IAA AND fold it in half. 13. Pass the paper towel to the employee inside the enclosure AND instruct the employee to hang it on the hook at the top of the enclosure. 14. Wait two minutes for the IAA vapor to fill the enclosure.

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<ul style="list-style-type: none"> • While waiting, explain the fit test, including the purpose of the test exercises, the importance of cooperation, and that you must be informed if a banana-like odor is detected during the test • You may also demonstrate the test exercises. <p>15. Have the employee perform the appropriate fit-test exercises in Table 19.</p> <ul style="list-style-type: none"> • If the employee does NOT detect IAA while performing test exercises, the fit test has been PASSED. Proceed as follows: <ul style="list-style-type: none"> – BEFORE leaving the enclosure, have the employee break the respirator seal and inhale. If they detect IAA, the test is valid – When exiting the employee must remove the paper towel and give it to the individual conducting the fit test. This prevents IAA vapor from building up in the enclosure during subsequent tests – The individual conducting the fit test must keep used paper towels in a self-sealing plastic bag to prevent area contamination • If the employee detects IAA during any test exercise, the fit test has FAILED. STOP and have the employee do the following: <ul style="list-style-type: none"> – Quickly return to the selection room to remove the respirator. This avoids decreasing the employee's odor sensitivity – Select another respirator – Repeat screening and testing <ul style="list-style-type: none"> ■ At this stage, if the employee fails the screening part of this procedure, the employee can repeat it AFTER waiting at least five minutes for odor sensitivity to return.

Table 13

Saccharin Aerosol Test Procedure
Screening Preparations
<p>Important:</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Taste threshold screening determines whether the employee being tested can detect the taste of saccharin <ul style="list-style-type: none"> – The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test. Sweet foods or drink consumed before the test may make the employee unable to detect saccharin during screening – Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> ■ Each morning and afternoon <p style="text-align: center;">OR</p>

Saccharin Aerosol Test Procedure
<ul style="list-style-type: none"> ■ At least every four hours. <ul style="list-style-type: none"> • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure (hood) that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside to allow free movement of the head when a respirator is worn • A 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. <p>Note:</p> <ul style="list-style-type: none"> • An enclosure similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, meets these specifications • This enclosure can also be used for testing. <p>2. Obtain and assemble two clean DeVilbiss Model 40 Inhalation Medication Nebulizers OR equivalent.</p> <p>3. Prepare the screening solution as follows:</p> <ul style="list-style-type: none"> • Dissolve 83.0 milligrams of sodium saccharin USP in 100 ml of warm distilled water <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • IF you have already prepared the fit-test solution, you can make the screening solution by adding 1 ml of this solution to 100 ml of distilled water. <p>4. Add about 1 ml of the screening solution to one of the nebulizers.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one to be used for fit testing.
Test Preparations
<p>5. Prepare the fit-test solution as follows:</p> <ul style="list-style-type: none"> • Add 83.0 grams of sodium saccharin to 100 ml of warm water. <p>6. Add about 1 ml of the test solution to the second nebulizer.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one used for screening <p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p>
Screening
<p>8. Have the employee, while NOT wearing a respirator, put on the test enclosure.</p> <p>9. Instruct the employee to:</p> <ul style="list-style-type: none"> • Breath through a slightly open mouth with tongue extended during screening AND testing • Immediately report when a sweet taste is detected. <p>10. Insert the nebulizer into the front hole of the test enclosure AND administer saccharin as follows:</p> <ul style="list-style-type: none"> • Direct the nozzle away from the employee's nose and mouth

Saccharin Aerosol Test Procedure
<ul style="list-style-type: none"> • Complete 10 squeezes in rapid succession • Each time firmly squeeze the bulb so it collapses completely, then release and allow it to fully expand. <p>11. Ask the employee if a sweet taste is detected.</p> <ul style="list-style-type: none"> • If YES, screening is completed. Proceed to conduct testing, Step 14, AFTER you: <ul style="list-style-type: none"> – Ask the employee to remember the taste for reference during the fit test – Note the employee's taste threshold as "10" regardless of the number of squeezes actually completed • If NO, screening must continue. Proceed to Step 12. <p>12. Repeat with 10 more squeezes. Then follow Step 11 again; EXCEPT this time note the employee's taste threshold as "20" IF a sweet taste is reported.</p> <ul style="list-style-type: none"> • If a sweet taste is still NOT detected, repeat with 10 more squeezes and follow Step 11 one last time; EXCEPT this time note "30" for the taste threshold IF a sweet taste is reported. <p>13. If NO sweet taste is reported after 30 squeezes, you must STOP and choose a different fit-test protocol for the employee.</p>
Test
<p>Important!</p> <ul style="list-style-type: none"> • Periodically check nebulizers to make sure they do not clog during use. A test is NOT valid if the nebulizer is clogged at the end of the test. <p>14. Have the employee attach particulate filters, put on, properly adjust, and seal check the respirator. Have the employee put on the test enclosure (hood).</p> <p>15. Instruct the employee to immediately report if a sweet taste is detected.</p> <p>16. Insert the nebulizer into the front hole of the test enclosure AND administer the same number of squeezes, either 10, 20, or 30, as noted during screening.</p> <p>17. Have the employee perform the appropriate fit-test exercises as described in Table 19. During this step:</p> <ul style="list-style-type: none"> • Replenish the aerosol in the hood EVERY 30 seconds using 1/2 the number of squeezes used in Step 16, either 5, 10, or 15 • The employee must report if a sweet taste is detected: <ul style="list-style-type: none"> – If NO saccharin is tasted, the test has been PASSED ? If saccharin is tasted the test has FAILED, have the employee select another respirator AND ? Repeat screening and testing.

Table 14

Bitrex™ Aerosol Test Procedure
<p>Important!</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Bitrex™ (denatonium benzoate) is routinely used as a taste aversion agent in household liquids that children shouldn't drink and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers • The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test.
Screening Preparations
<p>Important!</p> <ul style="list-style-type: none"> • Taste threshold screening determines whether the employee being tested can detect the taste of Bitrex™ • Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> – Each morning and afternoon <li style="text-align: center;">OR – At least every four hours. • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside the front to allow free movement of the head when a respirator is worn • 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. <p>Note:</p> <ul style="list-style-type: none"> • An enclosure similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, meets these specifications • This enclosure can also be used for testing. <p>2. Obtain and assemble two clean DeVilbiss Model 40 Inhalation Medication Nebulizers OR equivalent:</p> <p>3. Prepare the screening solution as follows:</p> <ul style="list-style-type: none"> • Make up a 5% salt solution by dissolving 5.0 grams of salt (sodium chloride) into 100 ml of distilled water • Dissolve 13.5 milligrams of Bitrex™ in the solution. <p>4. Add about 1 ml of the screening solution to one of the nebulizers.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one to be used for fit testing.
Test Preparations
<p>5. Prepare the fit test solution.</p>

Bitrex™ Aerosol Test Procedure
<ul style="list-style-type: none"> • Dissolve 10.0 grams of salt (sodium chloride) into 200 ml of distilled water • Add 337.5 milligrams of Bitrex™ to the warmed salt solution. <p>6. Add about 1 ml of the test solution to the second nebulizer.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one used for screening. <p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p>
Screening
<p>Important: The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the screening and test</p> <p>8. Have the employee, while NOT wearing a respirator, put on the test enclosure.</p> <p>9. Instruct the employee to:</p> <ul style="list-style-type: none"> • Breathe through a slightly opened mouth with tongue extended during screening AND testing • Immediately report when a bitter taste is detected. <p>10. Insert the nebulizer into the front hole of the test enclosure AND administer Bitrex™ as follows:</p> <ul style="list-style-type: none"> • Direct the nozzle away from the employee's nose and mouth • Complete 10 squeezes in rapid succession • Each time firmly squeeze the bulb so it collapses completely, then release and allow it to fully expand. <p>11. Ask the employee whether a bitter taste is detected.</p> <ul style="list-style-type: none"> • If YES, screening is completed. Proceed to conduct testing, Step 14, AFTER you: <ul style="list-style-type: none"> – Ask the employee to remember the taste for reference during the fit test – Note the employee's taste threshold as "10," regardless of the number of squeezes actually completed • If NO, screening must continue. Proceed to Step 12. <p>12. Repeat with 10 more squeezes. Then follow Step 11 again; EXCEPT this time note the employee's taste threshold as "20" IF a bitter taste is reported.</p> <ul style="list-style-type: none"> • If a bitter taste is still NOT detected repeat with 10 more squeezes and follow Step 11 one last time; EXCEPT this time note "30" for the taste threshold IF a bitter taste is reported. <p>13. If NO bitter taste is reported after 30 squeezes, you must STOP and choose a different fit-test protocol for the employee.</p>
Test

Bitrex™ Aerosol Test Procedure
<p>14. Have the employee attach particulate filters, put on, properly adjust, and seal check the respirator. Have the employee put on the test enclosure.</p> <p>15. Instruct the employee to:</p> <ul style="list-style-type: none"> • Breathe through a slightly opened mouth with tongue extended during screening AND testing • Immediately report when a bitter taste is detected. <p>16. Insert the nebulizer into the front hole of the test enclosure AND administer the same number of squeezes, either 10, 20, or 30, as noted during screening.</p> <p>17. Have the employee perform the appropriate fit-test exercises as described in Table 19. During this step:</p> <ul style="list-style-type: none"> • Replenish the aerosol in the hood EVERY 30 seconds using 1/2 the number of squeezes used in Step 16, either 5, 10, or 15 • The employee must report if a bitter taste is detected: <ul style="list-style-type: none"> – If NO Bitrex™ is tasted, the test has been PASSED – If Bitrex™ is tasted the test has FAILED. Have the employee: <ul style="list-style-type: none"> ■ Select another respirator <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> ■ Repeat all screening and testing steps.

Table 15

Irritant Smoke (Stannic Chloride) Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • DO NOT USE A TEST ENCLOSURE OR HOOD FOR THIS FIT TEST! • This is a qualitative fit-test (QLFT) procedure • During this test an employee is exposed to irritating smoke containing hydrochloric acid produced by a stannic chloride ventilation smoke tube to detect leakage. The smoke will irritate eyes, lungs, and nasal passages • Employee sensitivity varies, and certain employees may respond more intensely than others exposed to irritant smoke. The individual conducting the fit test must take precautions to minimize the employees' exposure to irritant smoke • Conduct fit testing in an area with adequate ventilation to prevent exposure of the individual conducting the fit test and build-up of irritant smoke in the ambient air.
Screening AND Test Preparations
<p>Important: Sensitivity screening is necessary to determine whether the employee can detect a weak concentration of irritant smoke AND whether any gross facepiece leakage is detected.</p>

Irritant Smoke (Stannic Chloride) Test Procedure
<p>1. Obtain only stannic chloride (ventilation) smoke tubes, AND an aspirator squeeze bulb OR use a low-flow air pump set to deliver 200 milliliters of air flow per minute.</p> <p>2. Equip the employee's chosen respirator with P100 series filters if a negative pressure air-purifying respirator will be tested. If a powered air-purifying respirator (PAPR) will be tested equip the respirator with high-efficiency particulate air (HEPA) filters.</p>
Screening
<p>Important! When performing sensitivity screening checks use only the MINIMUM amount of smoke necessary to elicit a response from the employee.</p> <p>3. Advise the employee that the smoke can be irritating to eyes, lungs, and nasal passages AND instruct the employee to keep eyes closed while exposed.</p> <p>4. Break both ends of the ventilation smoke tube AND fit a short piece of plastic tubing, for example, two-to-six inches of tygon tubing, over one end to prevent exposure to the sharp end of the tube. Connect the other end to an aspirator bulb or a low-flow air pump set to deliver a flow of 200 ml per minute.</p> <p>5. While the employee is NOT wearing a respirator, have the employee smell a weak concentration of irritant smoke to become familiar with its irritating properties.</p> <ul style="list-style-type: none"> • Carefully direct a small amount of irritant smoke toward the employee.
Test
<p>Test 6. Have the employee attach respirator filters, put on, adjust, and seal check the respirator without assistance. The employee must be proficient at these tasks.</p> <p>7. Remind the employee to keep eyes closed during testing.</p> <p>8. Direct a stream of irritant smoke toward the respirator's face seal area as follows:</p> <ul style="list-style-type: none"> • Begin at least 12 inches from the facepiece AND move the smoke around the whole perimeter of the mask • Gradually make two more passes around the perimeter of the facepiece, moving to within 6 inches of the respirator • STOP at any time the employee detects smoke in the facepiece. If this occurs a different respirator will need to be chosen and tested, beginning with sensitivity screening. <p>9. Have the employee perform appropriate fit-test exercises in Table 19 IF the employee has NOT had an involuntary response such as evidence of coughing, flinching, or other response, OR detected smoke in the facepiece.</p> <ul style="list-style-type: none"> • Continue to direct smoke from a distance of 6 inches around the facepiece perimeter

Irritant Smoke (Stannic Chloride) Test Procedure
<ul style="list-style-type: none"> – If smoke is detected at any time the test has FAILED. A different respirator must be chosen and tested, starting with sensitivity screening – If NO smoke is detected proceed to Step 10. <p>10. Have the employee remove the respirator AND perform another sensitivity screening check as follows:</p> <ul style="list-style-type: none"> • Continue to use the smoke tube used for fit testing • Carefully direct a SMALL amount of irritant smoke toward the employee – The test has been PASSED IF the employee responds to the smoke – The fit test is VOIDED IF the employee does NOT respond to the smoke.

Table 16

Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • This is a quantitative (QNFT) fit-test procedure • This method uses a particle counting instrument that measures and compares the particle concentration both inside and outside the respirator facepiece while the employee performs a series of test exercises • Particles in the ambient air are used as the test aerosol.
Test Preparations
<p>1. Obtain a test instrument such as a Portacount™.</p> <p>2. Have probed respirators available for each respirator model and size the employer uses, OR have a sampling adapter available if the employee's actual or chosen respirator will be tested.</p> <p>Note:</p> <ul style="list-style-type: none"> • A probed respirator has a special fitting installed on the facepiece designed to connect with the end of the test instrument's plastic sampling tube so that air samples can be taken inside the facepiece. Probed respirators can be obtained from the respirator manufacturer, or distributor, AND can only be used for fit-testing purposes • Contact TSI Inc., OR the respirator's manufacturer to obtain probed respirators or facepiece sampling adapters. <p>3. Follow the test instrument manufacturer's instructions for test preparation, including particle, zero, and system checks. Make sure the instrument's pass OR fail criterion is programmed to the following MINIMUM performance levels:</p> <ul style="list-style-type: none"> • For half-facepiece respirators, an overall minimum fit factor of 100 as a passing level • For full-facepiece respirators, an overall minimum fit factor of 500 as a passing level

Ambient Aerosol Condensation Nuclei Counter (Porta-count™) Test Procedure
<p>4. Have high-efficiency particulate air (HEPA) filters, OR other respirator filters available that are capable of preventing significant penetration by particles generated by the test instrument such as, P100 or N95 series filters.</p> <ul style="list-style-type: none"> • If you'll use a sampling adapter instead of probed respirators be sure to have the correct type for the respirators chosen.
Test
<p>5. Properly attach the sampling line to the facepiece probe or sampling adapter.</p> <p>6. Have the employee attach respirator filters, put on, properly adjust, and wear the respirator five minutes BEFORE the fit test. During this time you and the employee must evaluate the respirator's general fit by checking:</p> <ul style="list-style-type: none"> • Proper chin placement • Properly tightened straps (do NOT over tighten) • Acceptable fit across the nose bridge • Respirator size. It must span the distance from nose to chin • To see if the respirator stays in position. <p>Note: Wearing the respirator for five minutes permits the employee to make certain the respirator is comfortable AND allows for purging of ambient particles trapped inside the facepiece.</p> <p>7. Have the employee perform a seal check. Make sure the sampling line is crimped to avoid leakage during the seal check. If NO leakage is detected, proceed to Step 8. If leakage is detected:</p> <ul style="list-style-type: none"> • Determine the cause <p>AND</p> <ul style="list-style-type: none"> • If leakage is due to a poorly fitting facepiece, have the employee: <ul style="list-style-type: none"> – Choose another respirator size or model <p>AND</p> <ul style="list-style-type: none"> – Start again at Step 6. <p>8. Start the fit test cycle.</p> <ul style="list-style-type: none"> • Follow the manufacturer's instructions for operating the test instrument • Have the employee perform the appropriate fit-test exercises in Table 19 <ul style="list-style-type: none"> – The test instrument will automatically stop and calculate the overall fit factor. Use this result to determine whether or not the test is passed <ul style="list-style-type: none"> ■ The test has been PASSED if the overall fit factor is at least 100 for a half facepiece, OR 500 for a full facepiece

Ambient Aerosol Condensation Nuclei Counter (Porta-count™) Test Procedure
<ul style="list-style-type: none"> ■ The test has FAILED if the overall fit factor is below 100 for a half facepiece or 500 for a full facepiece. <p>Note: If the test has failed, have the employee select another respirator model or size following Table 11 AND repeat this procedure.</p>

Table 17

Controlled Negative Pressure (CNP) Test Procedure
<p>Important!</p> <ul style="list-style-type: none"> • This is a quantitative fit-test (QNFT) procedure • This method determines respirator fit by measuring how much the facepiece leaks when it is subject to a slight negative pressure AFTER various premeasurement activities • Measurements occur while employees remain still AND hold their breath for 10 seconds • No test aerosols are used. Respirator cartridges aren't needed for this test.
Test Preparations
<p>1. Make sure the individual conducting the fit test is thoroughly trained to perform this test.</p> <p>2. Obtain a CNP test instrument such as a FitTester 3000™. Make sure:</p> <ul style="list-style-type: none"> • Defaults are set at: <ul style="list-style-type: none"> – -15mm (-0.58 inches) of water test pressure AND – A modeled inspiratory flow rate of 53.8 liters per minute • It has an effective audio warning device <u>or visual screen tracing</u> that signals when employees fail to hold their breath. <p>Note:</p> <ul style="list-style-type: none"> • You are not required to obtain test recording and printing equipment such as computers OR printers. Hand recording results is acceptable • To see default settings, check the instrument's "REDON protocol." <p>3. Obtain facepiece adapters appropriate for each test respirator.</p> <p>Note:</p> <ul style="list-style-type: none"> • Adapters are either a one-piece (for SCBA facepieces), OR two-piece (for dual cartridge facepieces) device providing a manifold and breathing valve system. For positive pressure respirators, you will need to obtain an additional fitting, available from the respirator manufacturer, to convert the facepiece to negative pressure

Controlled Negative Pressure (CNP) Test Procedure
<ul style="list-style-type: none"> To obtain adapters, contact the CNP instrument's distributor, Occupational Health Dynamics, OR the respirator manufacturer.
Test
<p>Important! ((After the test, you must ask the employee about the comfort of the respirator AND if the respirator has become unacceptable, another size or model must be chosen and tested.)) <u>The respirator must not be adjusted once the fit test exercises begin. Any adjustment voids the test and the test must be repeated.</u></p> <p>4. Explain the test procedure to the employee.</p> <p>5. Train the employee on how to hold a breath for at least 20 seconds.</p> <p>6. Prepare the respirator for the fit test as follows:</p> <ul style="list-style-type: none"> Remove or prop open the inhalation valves. If a breathing tube is present, disconnect it Replace cartridges, if present, with the manifold and breathing valve adapter <ul style="list-style-type: none"> For positive pressure facepieces, mount the manufacturer's additional fitting followed by the manifold-breathing valve adapter Connect the respirator to the CNP device according to the CNP instrument manufacturer's directions. <p>7. Have the employee put on, adjust, and seal check the respirator.</p> <p>8. Turn on the instrument AND have the employee stand and perform the fit-test exercises in Table 19. <u>Once exercises begin, any adjustments will void the test and you must begin again.</u></p> <p>9. ((Interpret the test results:)) <u>Once test exercises are completed, ask the employee about facepiece comfort. If the employee states the respirator is unacceptable, repeat the fit test using another size or model.</u></p> <p>10. Determine the overall fit factor for each employee by calculating the harmonic mean of the fit-testing exercises as follows:</p> <p style="margin-left: 40px;"><u>Overall fit factor =</u></p> $\frac{n}{\frac{1}{\text{ffE1}} + \frac{1}{\text{ffE2}} + \frac{1}{\text{ffE3}} \dots + \frac{1}{\text{ffEn}}}$ <p><u>Where:</u></p> <p><u>n = The number of exercises;</u></p> <p><u>ffE1 = The fit factor for the first exercise;</u></p> <p><u>ffE2 = The fit factor for the second exercise;</u></p> <p><u>ffE3 = The fit factor for the third exercise; and</u></p> <p><u>ffEn = The fit factor for the nth exercise.</u></p> <ul style="list-style-type: none"> The test is PASSED IF the overall fit factor obtained is at least 100 for a half facepiece, or at least 500 for a full facepiece.

Controlled Negative Pressure (CNP) Test Procedure
<ul style="list-style-type: none"> The test has FAILED IF the fit factor is less than 100 for a half facepiece; 500 for a full facepiece <ul style="list-style-type: none"> If the test has FAILED you must have the employee select another respirator model or size following the steps in Table 11 AND repeat this procedure, starting at Step 6.

Table 18

Generated Aerosol Test Procedure	
Important:	<ul style="list-style-type: none"> • This is a quantitative (QNFT) fit-test procedure • In this method, a test aerosol is used to challenge the facepiece seal while aerosol concentrations inside and outside the facepiece are measured during test exercises • Special equipment is needed to generate, disperse, detect, and measure test aerosols.
Test Preparations	
1. Test aerosol.	<ul style="list-style-type: none"> • Use a particulate, for example, corn oil, polyethylene glycol 400, di-2-ethyl hexyl sebacate, or sodium chloride.
2. Instrumentation.	<ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Obtain and use aerosol generation, dilution, and measurement systems appropriate for particulates – Use an aerosol-generating instrument that will maintain test concentrations within a 10% variation – Select a sampling instrument that allows for a computer record or strip chart record to be created <ul style="list-style-type: none"> ? The record must show the rise and fall of test agent concentration during each inhalation and exhalation at fit factors of at least 2000. Note: Integrators, or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise, may be used if a record of the readings is made. – Minimize the time interval between the activity and the recording of the activity so you can clearly connect what you see to what is being recorded. For example, use a small diameter and length of sampling line.
3. Test enclosure.	<ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Make sure the enclosure is equipped and constructed to effectively: <ul style="list-style-type: none"> ■ Maintain a uniform concentration of the test agent inside the enclosure. For example, the enclosure must be large enough to allow ALL employees freedom of movement during testing WITHOUT disturbing the test concentration or measurement instrument ■ Keep the test agent from contaminating the air outside the enclosure. For example, use a HEPA filter to purify exhausted air ■ Allow the individual conducting the fit test to view the employee during the test – Make sure the tubing used to collect samples from the enclosure AND respirator is the same material, diameter, AND length. This makes the effect of aerosol loss caused by deposition in each sample line equal – If sodium chloride is used, relative humidity inside the enclosure must be kept below 50%.
4. Prepare test respirators.	<ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Inspect test respirators regularly for missing parts AND damage – Keep test respirators in proper working order – Make sure in-mask sampling probes are: <ul style="list-style-type: none"> ■ Designed and installed so the air sample will be drawn from the employee's breathing zone; midway between the nose and mouth AND <ul style="list-style-type: none"> ■ The probe extends inside the facepiece at least 1/4 inch – Make sure sampling ports such as probes, or adapters on respirators are constructed and installed so they do NOT: <ul style="list-style-type: none"> ■ Block air flow into the sampling line ■ Leak ■ Interfere with the respirator's fit or performance • Have high efficiency particulate air (HEPA) filters OR P100 series filter available <ul style="list-style-type: none"> – Replace filters when increased breathing resistance is detected OR when the test agent has altered the filter material's integrity.

Generated Aerosol Test Procedure

Test

Important!

- Throughout the test, maintain the employee's exposure to any test agent below the established exposure limit. Exposures allowed must be based on exposure time and exposure limit duration
- If a single peak penetration exceeds 5% for half facepieces OR 1% for full facepieces:

- STOP the test

AND

- Have the employee select another respirator for testing.

5. Have the employee attach filters, put on, adjust, and seal check the respirator.

- Be sure to crimp the sampling line to avoid pressure leaks during the seal check

AND

- Have the employee adjust the respirator straps, without assistance, so the fit is comfortable. Do NOT over tighten.

6. **OPTIONAL Step.** To save time conduct a screening test to quickly identify poorly fitting respirators.

Note:

You may use a qualitative screening test **OR** an ambient aerosol condensation nuclei counter instrument in the count mode.

7. Make sure test aerosol concentration is reasonably stable.

- If a canopy or shower curtain enclosure is used, determine stability of the test aerosol concentration **AFTER** the employee enters the enclosure.

8. Have the employee enter the test enclosure and connect the respirator to the sample lines.

9. Immediately after entering the enclosure measure test aerosol concentration inside the respirator.

- Make sure the peak penetration does **NOT** exceed 5% for half facepieces, **OR** 1% for full facepieces.

10. Have employee perform the appropriate fit-test exercises in Table 19.

- Do **NOT** adjust the respirator once exercises begin.

11. Calculate the overall fit factor as specified in Steps 12-13. The fit test is:

- **PASSED IF** the minimum fit factor of 100 for half facepieces **OR** 500 for full facepieces is obtained

OR

- If a passing fit factor is **NOT** obtained, the test has **FAILED** and you must have the employee select and test another respirator.

Calculations

Important!

- Do **NOT** count the grimace exercise measurements during these calculations
- Take into account the limitations of instrument detection when determining fit factors.

12. Calculate individual fit factors for **EACH** exercise by applying the following:

Exercise fit factor (ffE) = $\frac{\text{Average test enclosure concentration}}{\text{Test aerosol concentration inside the respirator}}$

Test aerosol concentration inside the respirator

- To determine the average test enclosure concentration use one of the following methods:
 - Arithmetic average of the concentration before and after each **test** (an average of two values per entire test)
 - Arithmetic average of concentration before and after each **exercise** (an average of two values per exercise)
 - True average measured continuously during the respirator sample
- Determine the test aerosol concentration inside the respirator in one of the following ways:
 - Average peak penetration values. Determine aerosol penetration for each exercise by:
 - Using integrators or computers that calculate the actual test agent penetration
 - OR**
 - Average the peak heights shown on the strip chart recording, graph, or by computer integration
 - Maximum peak penetration. Use strip chart recordings to determine the highest peak penetration for each exercise and use this value

Generated Aerosol Test Procedure

– Area under the peaks. Use computerized integration or other appropriate calculations to integrate the area under individual peaks for each exercise.

13. Using individual exercise fit factors (ffE) calculate the **overall fit factor** by doing **ALL** of the following:

- Convert each exercise fit factor to a penetration value
- Determine the average penetration value
- Convert the average penetration value back to a fit factor

OR

- Use this equation to calculate the **overall fit factor**:

Overall fit factor =
$$\frac{n}{1/ffE1 + 1/ffE2 + 1/ffE3 \dots + 1/ffEn}$$

Where:
n = The number of exercises;
ffE1 = The fit factor for the first exercise;
ffE2 = The fit factor for the second exercise;
ffE3 = The fit factor for the third exercise; and
ffEn = The fit factor for the nth exercise.

Table 19

Fit-Test Exercises			
Important:			
<ul style="list-style-type: none"> • This list applies when you use any fit test • Employees tested must perform ALL exercises marked with an "X" as described for the fit-test procedure used <ul style="list-style-type: none"> – Once exercises begin, any adjustments made void the test AND you must begin again – After test exercises are completed, you must ask the employee about the comfort of the respirator. If it has become unacceptable, have the employee choose another one for testing • When the controlled negative pressure procedure is used, STOP and repeat the test if the employee adjusts the respirator OR takes a breath and fails to hold it for 10 seconds • Controlled negative pressure tests conducted according to the method published in 29 CFR 1910.134, Appendix A are an acceptable alternative to the method outlined below. 			
	Fit-Test Procedures		
Description of Required Fit-Test Exercises	Qualitative Procedures	Quantitative Procedures; EXCEPT the CNPP	Controlled Negative Pressure Procedure (CNPP)
<ul style="list-style-type: none"> • Normal breathing <ul style="list-style-type: none"> – Breathe normally, while standing for one minute 	X	X	
<ul style="list-style-type: none"> • Deep breathing <ul style="list-style-type: none"> – Breathe slowly and deeply while standing for one minute – Take caution to avoid hyperventilating 	X	X	
<ul style="list-style-type: none"> • Head side to side <ul style="list-style-type: none"> – Slowly turn head from side to side while standing for one minute, pausing at each extreme position to inhale – Be careful to NOT bump the respirator 	X	X	
<ul style="list-style-type: none"> • Head up and down 			

Fit-Test Exercises			
<ul style="list-style-type: none"> – Slowly move head up and down while standing for one minute, inhaling in the up position – Be careful to NOT bump the respirator 	X	X	
<ul style="list-style-type: none"> • Talking <ul style="list-style-type: none"> – Talk slowly and loud enough to be heard clearly by the individual conducting fit testing for one minute. Choose ONE of the following: <ul style="list-style-type: none"> ■ Read from a prepared text such as the Rainbow Passage¹ ■ Count backward from 100 ■ Recite a memorized poem or song. 	X	X	
<ul style="list-style-type: none"> • Grimace <ul style="list-style-type: none"> – Smile or frown for fifteen seconds. 		X	
<ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Bend over to touch toes while standing. Repeat at a comfortable pace for one minute OR – Jog in place for one minute if the test enclosure, such as a hood, does not permit bending over 	X	X	
<ul style="list-style-type: none"> • Normal breathing <ul style="list-style-type: none"> – Breathe normally while standing for one minute 	X	X	
<ul style="list-style-type: none"> • Face forward <ul style="list-style-type: none"> – Premeasurement activity: Stand and breath normally, without talking – Measurement position: Face forward while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Premeasurement activity: While standing, bend over to touch toes – Measurement position: Hold the bending position with face parallel to the floor while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Head shaking <ul style="list-style-type: none"> – Premeasurement activity: Vigorously shake head from side to side for 3 seconds while shouting ((or making the sound of "BRRRR" loudly)) – Measurement position: Face forward, while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Redon-1 <ul style="list-style-type: none"> – Premeasurement activity: <u>Loosen all facepiece straps and remove the respirator completely ((and))</u>, then put it back on – Measurement position: Face forward while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Redon-2 <ul style="list-style-type: none"> – Repeat the premeasurement activity and measurement position described in Redon-1 			X

¹The Rainbow Passage:

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-62020 Follow procedures established for seal checking respirators.

You must:

• Make sure employees perform a user seal check as outlined in Table 21, EACH TIME the respirator is worn, to make sure the seal is adequate.

IMPORTANT:

• User seal checks are **NOT** a substitute for fit tests. See WAC 296-307-62010 for fit test procedures.

• You may use a seal check procedure recommended by the respirator manufacturer **INSTEAD** of the procedure outlined in Table 21 if you can demonstrate the procedure is based on a scientific study that, for example, demonstrates the procedure effectively identifies respirators that fit poorly when put on or adjusted.

~~**(You must:**~~

~~• Make sure employees perform a user seal check as outlined in Table 21, EACH TIME the respirator is worn, to make sure the seal is adequate.)~~

Table 21

User Seal Check Procedure
<p>Important information for employees:</p> <ul style="list-style-type: none"> • You need to conduct a seal check each time you put your respirator on BEFORE you enter the respirator use area. The purpose of a seal check is to make sure your respirator (which has been previously fit tested by your employer) is properly positioned on your face to prevent leakage during use and to detect functional problems • The procedure below has two parts; a positive pressure check and a negative pressure check. You must complete both parts each time. It should only take a few seconds to perform, once you learn it <ul style="list-style-type: none"> – If you cannot pass both parts, your respirator is NOT functioning properly, see your supervisor for further instruction.
<p>Positive pressure check:</p> <ol style="list-style-type: none"> 1. Remove exhalation valve cover, if removable. 2. Cover the exhalation valve completely with the palm of your hand WHILE exhaling gently to inflate the facepiece slightly.

User Seal Check Procedure
<p>3. The respirator facepiece should remain inflated (indicating a build-up of positive pressure and NO outward leakage).</p> <ul style="list-style-type: none"> • If you detect NO leakage, replace the exhalation valve cover (if removed), and proceed to conduct the negative pressure check • If you detect evidence of leakage, reposition the respirator (after removing and inspecting it), and try the positive pressure check again.
<p>Negative pressure check:</p> <p>4. Completely cover the inhalation opening(s) on the cartridges or canister with the palm(s) of your hands WHILE inhaling gently to collapse the facepiece slightly.</p> <ul style="list-style-type: none"> • If you cannot use the palm(s) of your hands to effectively cover the inhalation openings on cartridges or canisters, you may use: <ul style="list-style-type: none"> – Filter seal(s) (if available) <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> – Thin rubber gloves. <p>5. Once the facepiece is collapsed, hold your breath for 10 seconds WHILE keeping the inhalation openings covered.</p> <p>6. The facepiece should remain slightly collapsed (indicating negative pressure and NO inward leakage).</p> <ul style="list-style-type: none"> • If you detect NO evidence of leakage, the tightness of the facepiece is considered adequate, the procedure is completed, and you may now use the respirator • If you detect leakage, reposition the respirator (after removing and inspecting it) and repeat BOTH the positive and negative fit checks.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-622 Definitions.

Air-purifying respirator (APR)

A respirator equipped with an air-purifying element such as a filter, cartridge, or canister, **OR** having a filtering facepiece, for example, a dust mask.

The element or filtering facepiece is designed to remove specific contaminants, such as particles, vapors, or gases, from air that passes through it.

Air-line respirator

An atmosphere-supplying respirator for which breathing air is drawn from a source separate from and not worn by the user, such as:

- A cylinder or a tank
- A compressor
- An uncontaminated environment.

Air supplied respirator (see air-line respirator)

Assigned protection factor (APF)

Indicates the expected level of workplace respiratory protection **WHEN** the respirator is:

- Functioning properly

AND

- Fitted to the user

AND

- Worn by trained individuals

AND

- Used with the limitations specified on the NIOSH approval label.

Atmosphere-supplying respirator

A respirator that supplies the user with breathing air from sources, such as:

- A cylinder or a tank
- A compressor
- An uncontaminated environment.

Breathing air

Air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-307-616.

Canister or cartridge (air-purifying)

Part of an air-purifying respirator that consists of a container holding materials such as fiber, treated charcoal, or a combination of the two, that removes contaminants from the air passing through the cartridge or canister.

Cartridge respirator (see also air-purifying respirator)

An air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

Demand respirator

An atmosphere-supplying respirator that sends breathing air to the facepiece only when suction (negative pressure) is created inside the facepiece by inhalation. Demand respirators are "negative pressure" respirators.

Dust mask

A name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

Emergency respirator

Respirators suitable for rescue, escape, or other activities during emergency situations.

Emergency situation

Any occurrence that could OR does result in a significant uncontrolled release of an airborne contaminant. Causes of emergency situations include, but are not limited to, equipment failure, rupture of containers, or failure of control equipment.

End-of-service-life indicator (ESLI)

A system that warns the air-purifying respirator user that cartridges or canisters must be changed. An example of an ESLI is a dot on the respirator cartridge that changes color.

Escape-only respirator

A respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

Exposed, or exposure

The contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

Filter

Fibrous material that removes dust, spray, mist, fume, fog, smoke particles, OR other aerosols from the air.

Filtering-facepiece respirator

A tight-fitting, half-facepiece, negative-pressure, particulate air-purifying respirator with the facepiece MAINLY composed of filter material. These respirators do not use cartridges or canisters and may have sealing surfaces composed of rubber, silicone or other plastic-like materials. They are sometimes referred to as "dust masks."

Fit factor

A number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

Fit test (see also qualitative fit test and quantitative fit test)

Fit testing is an activity where the facepiece seal of a respirator is challenged, using a WISHA accepted procedure, to determine if the respirator provides an adequate seal.

Full-facepiece respirator

A tight-fitting respirator that covers the wearer's nose, mouth, and eyes.

Gas mask

An air-purifying respirator equipped with one or more canisters. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

Half-facepiece respirator

A tight-fitting respirator that only covers the wearer's nose and mouth.

Helmet

The rigid part of a respirator that covers the wearer's head AND also provides head protection against impact or penetration.

High-efficiency particulate air filter (HEPA)

A powered air purifying respirator (PAPR) filter that removes at least 99.97% of monodisperse dioctyl phthalate (DOP) particles with a mean particle diameter of 0.3 micrometer from contaminated air.

Note: Filters designated, under 42 CFR Part 84, as an "N100," "R100," or "P100" provide the same filter efficiency (99.97%) as HEPA filters.

Hood

The part of a respirator that completely covers the wearer's head and neck AND may also cover some or all of the shoulders and torso.

Immediately dangerous to life or health (IDLH)

An atmospheric condition that would:

- Cause an immediate threat to life

OR

- Cause permanent or delayed adverse health effects

OR

- Interfere with an employee's ability to escape.

Licensed healthcare professional (LHCP)

An individual whose legally permitted scope of medical practice allows him or her to provide SOME OR ALL of the healthcare services required for respirator users' medical evaluations.

Loose-fitting facepiece

A respiratory inlet covering that is designed to form a partial seal with the face.

Negative-pressure respirator

Any tight-fitting respirator in which the air pressure inside the facepiece is less than the air pressure outside the respirator during inhalation.

NIOSH

The National Institute for Occupational Safety and Health. NIOSH is the federal agency that certifies respirators for occupational use.

Oxygen deficient

An atmosphere with an oxygen content below 19.5% by volume.

Permissible exposure limit (PEL)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable ((~~WISHA chapters~~) DOSH rules).

Positive-pressure respirator

A respirator in which the air pressure inside the respiratory-inlet covering is greater than the air pressure outside the respirator.

Powered air-purifying respirators (PAPRs)

An air-purifying respirator equipped with a blower that draws ambient air through cartridges or canisters. These respirators, as a group, are NOT classified as positive pressure respirators and must not be used as such.

Pressure-demand respirator

A positive-pressure atmosphere-supplying respirator that sends breathing air to the respiratory inlet covering when the positive pressure is reduced inside the facepiece by inhalation or leakage.

Qualitative fit test (QLFT)

A test that determines the adequacy of respirator fit for an individual. The test relies on the employee's ability to detect a test substance. Test results are either "pass" or "fail."

Quantitative fit test (QNFT)

A test that determines the adequacy of respirator fit for an individual. The test relies on specialized equipment that performs numeric measurements of leakage into the respiratory inlet covering. Test results are used to calculate a "fit factor."

Respiratory hazard

Harmful airborne hazards and oxygen deficiency that are addressed in WAC 296-307-624, Identifying and controlling airborne hazards and oxygen deficiency.

Required use

Respirator use:

- That is necessary to protect employees from respiratory hazards

OR

- That the employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits

- The employer for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits, OR the employer is required to follow a medical recommendation.

Respirator

A type of personal protective equipment designed to protect the wearer from harmful airborne hazards, oxygen deficiency, or both.

Respiratory inlet covering

The part of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source or both. The respiratory inlet covering may be a facepiece, helmet, hood, suit, or mouthpiece respirator with nose clamp.

Seal check

Actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.

Self-contained breathing apparatus (SCBA)

An atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

Service-life

The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. For example, the period of time that sorbent cartridge is effective for removing a harmful substance from the air.

Sorbent

Rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

Supplied-air respirator (see air-line respirator)**Tight-fitting facepiece**

A respiratory inlet covering forming a complete seal with the face OR neck. Mouthpiece respirators aren't tight-fitting facepieces.

Voluntary use

Respirator use that is requested by the employee AND permitted by the employer when NO respiratory hazard exists.

AMENDATORY SECTION (Amending WSR 05-01-166, filed 12/21/04, effective 4/2/05)

WAC 296-307-622 Definitions.**Air-purifying respirator (APR)**

A respirator equipped with an air-purifying element such as a filter, cartridge, or canister, OR having a filtering facepiece, for example, a dust mask.

The element or filtering facepiece is designed to remove specific contaminants, such as particles, vapors, or gases, from air that passes through it.

Air-line respirator

An atmosphere-supplying respirator for which breathing air is drawn from a source separate from and not worn by the user, such as:

- A cylinder or a tank
- A compressor
- An uncontaminated environment.

Air supplied respirator (see air-line respirator)**Assigned protection factor (APF)**

Indicates the expected level of workplace respiratory protection WHEN the respirator is:

- Functioning properly
- AND
- Fitted to the user
- AND
- Worn by trained individuals
- AND

- Used with the limitations specified on the NIOSH approval label.

Atmosphere-supplying respirator

A respirator that supplies the user with breathing air from sources, such as:

- A cylinder or a tank
- A compressor
- An uncontaminated environment.

Breathing air

Air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-307-616.

Canister or cartridge (air-purifying)

Part of an air-purifying respirator that consists of a container holding materials such as fiber, treated charcoal, or a combination of the two, that removes contaminants from the air passing through the cartridge or canister.

Cartridge respirator (see also air-purifying respirator)

An air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

Demand respirator

An atmosphere-supplying respirator that sends breathing air to the facepiece only when suction (negative pressure) is created inside the facepiece by inhalation. Demand respirators are "negative pressure" respirators.

Dust mask

A name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

Emergency respirator

Respirators suitable for rescue, escape, or other activities during emergency situations.

Emergency situation

Any occurrence that could OR does result in a significant uncontrolled release of an airborne contaminant. Causes of emergency situations include, but are not limited to, equipment failure, rupture of containers, or failure of control equipment.

End-of-service-life indicator (ESLI)

A system that warns the air-purifying respirator user that cartridges or canisters must be changed. An example of an ESLI is a dot on the respirator cartridge that changes color.

Escape-only respirator

A respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

Exposed, or exposure

The contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

Filter

Fibrous material that removes dust, spray, mist, fume, fog, smoke particles, OR other aerosols from the air.

Filtering-facepiece respirator

A tight-fitting, half-facepiece, negative-pressure, particulate air-purifying respirator with the facepiece MAINLY composed of filter material. These respirators do not use cartridges or canisters and may have sealing surfaces composed

of rubber, silicone or other plastic-like materials. They are sometimes referred to as "dust masks."

Fit factor

A number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

Fit test (see also qualitative fit test and quantitative fit test)

Fit testing is an activity where the facepiece seal of a respirator is challenged, using a WISHA accepted procedure, to determine if the respirator provides an adequate seal.

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Note: Filters designated, under 42 CFR Part 84, as an "N100," "R100," or "P100" provide the same filter efficiency (99.97%) as HEPA filters.

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Respiratory hazard

Harmful airborne hazards and oxygen deficiency that are addressed in WAC 296-307-624, Identifying and controlling airborne hazards and oxygen deficiency.

Required use

Respirator use:

- That is necessary to protect employees from respiratory hazards

OR

- That the employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits

- The employer for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits, **OR** the employer is required to follow a medical recommendation.

Respirator

A type of personal protective equipment designed to protect the wearer from harmful airborne hazards, oxygen deficiency, or both.

Respiratory inlet covering

The part of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source or both. The respiratory inlet covering may be a facepiece, helmet, hood, suit, or mouthpiece respirator with nose clamp.

Seal check

Actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.

Self-contained breathing apparatus (SCBA)

An atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

Service-life

The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. For example, the period of time that sorbent cartridge is effective for removing a harmful substance from the air.

Sorbent

Rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

Supplied-air respirator (see air-line respirator)**Tight-fitting facepiece**

A respiratory inlet covering forming a complete seal with the face OR neck. Mouthpiece respirators aren't tight-fitting facepieces.

Voluntary use

Respirator use that is requested by the employee **AND** permitted by the employer when **NO** respiratory hazard exists.

WSR 10-18-082**EXPEDITED RULES****DEPARTMENT OF****LABOR AND INDUSTRIES**

[Filed August 31, 2010, 3:20 p.m.]

Title of Rule and Other Identifying Information: WAC 296-800-370 Definitions and 296-800-15030 Make sure emergency washing facilities are functional and readily accessible.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Naomi Goodman, Department of Labor and Industries, P.O. Box 44001, Olympia, WA 98504-4001, AND RECEIVED BY November 2, 2010.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: This rule making will change the definition of "corrosive" in chapter 296-800 WAC, Safety and health core rules, so that it is identical to the definition of "corrosive" in Table 5 of chapter 296-839 WAC, Content and distribution of material safety data sheets (MSDSs) and label information. A reference also needs updating to reflect the most current American National Stan-

dards Institute (ANSI) emergency eyewash and shower equipment standard.

Reasons Supporting Proposal: This rule making will make the definition of "corrosive" consistent throughout the division of occupational safety and health (DOSH) rules and update the ANSI eyewash and shower equipment reference to reflect the most current 2009 version.

Statutory Authority for Adoption: RCW 49.17.050.

Statute Being Implemented: Chapter 49.17 RCW.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Department of labor and industries, governmental.

Name of Agency Personnel Responsible for Drafting: Tracy Spencer, Tumwater, (360) 902-5530; Implementation and Enforcement: Michael Silverstein, Tumwater, (360) 902-4805.

August 31, 2010

Judy Schurke

Director

AMENDATORY SECTION (Amending WSR 02-16-047, filed 8/1/02, effective 10/1/02)

WAC 296-800-15030 Make sure emergency washing facilities are functional and readily accessible. You must:

- Provide an emergency shower:
 - When there is potential for major portions of an employee's body to contact corrosives, strong irritants, or toxic chemicals.
 - That delivers water to cascade over the user's entire body at a minimum rate of 20 gallons (75 liters) per minute for fifteen minutes or more.
- Provide an emergency eyewash:
 - When there is potential for an employee's eyes to be exposed to corrosives, strong irritants, or toxic chemicals.
 - That irrigates and flushes both eyes simultaneously while the user holds their eyes open.
 - With an on-off valve that activates in one second or less and remains on without user assistance until intentionally turned off.
 - That delivers at least 0.4 gallons (1.5 liters) of water per minute for fifteen minutes or more.

Note: Chemicals that require emergency washing facilities:

- You can determine whether chemicals in your workplace require emergency washing facilities by looking at the material safety data sheet (MSDS) or similar documents. The MSDS contains information about first-aid requirements and emergency flushing of skin or eyes.
- For chemicals developed in the workplace, the following resources provide information about first-aid requirements:
 - NIOSH Pocket Guide to Chemical Hazards
 - *DHHS (NIOSH) Publication No. 97-140
 - *<http://www.cdc.gov/niosh/npg/ggdstart.html>
 - Threshold Limit Values for Chemical Substances and Physical Agents American Conference of Governmental Industrial Hygienists (ACGIH)

You must:

- Make sure emergency washing facilities:
 - Are located so that it takes no more than ten seconds to reach.
 - Are kept free of obstacles blocking their use.

- Function correctly.
- Provide the quality and quantity of water that is satisfactory for emergency washing purposes.

Note:

- If water in emergency washing facilities is allowed to freeze, they will not function correctly. Precautions need to be taken to prevent this from happening.
- The travel distance to an emergency washing facility should be no more than fifty feet (15.25 meters).
- For further information on the design, installation, and maintenance of emergency washing facilities, see American National Standards Institute (ANSI) publication Z358.1 - ((+1998)) 2009, *Emergency Eyewash and Shower Equipment*. Emergency washing facilities that are designed to meet ANSI Z358.1 - ((+1998)) 2009 also meet the requirements of this standard. The ANSI standard can be obtained from the American National Standards Institute, 1430 Broadway, New York, New York 10018.

Reference:

- Training in the location and use of your emergency washing facilities is required under the employer chemical hazard communication rule, WAC 296-800-170, and the accident prevention program rule, WAC 296-800-140.
- All emergency washing facilities using "not fit for drinking" (nonpotable) water must have signs stating the water is "not fit for drinking." See WAC 296-800-23010.

AMENDATORY SECTION (Amending WSR 09-01-158, filed 12/23/08, effective 3/1/09)

WAC 296-800-370 Definitions.

Abatement action plans

Refers to your written plans for correcting a WISHA violation.

Abatement date

The date on the citation when you must comply with specific safety and health standards listed on the citation and notice of assessment or the corrective notice of redetermination.

Acceptable

As used in **Electrical, WAC 296-800-280** means an installation or equipment is acceptable to the director of labor and industries, and approved:

- If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory; or
- With respect to an installation or equipment of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another federal agency, or by a state, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code, and found in compliance with the provisions of the National Electrical Code as applied in this section;

OR

- With respect to custom-made equipment or related installations which are designed, fabricated for, and intended for use by a particular customer, if it is determined to be safe for its intended use by its manufacturer on the basis of test data which the employer keeps and makes available for inspection to the director and his/her authorized representatives. Refer to federal regulation 29 CFR 1910.7 for definition of nationally recognized testing laboratory.

Accepted

As used in **Electrical, WAC 296-800-280** means an installation is accepted if it has been inspected and found by

a nationally recognized testing laboratory to conform to specified plans or to procedures of applicable codes.

Access

As used in material safety data sheets (MSDSs) as Exposure Records, WAC 296-800-180 means the right and opportunity to examine and copy exposure records.

Affected employees

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means employees exposed to hazards identified as violations in a citation.

Analysis using exposure or medical records

• An analysis using exposure records or medical records can be any collection of data or a statistical study. It can be based on either:

- Partial or complete information from individual employee exposure or medical records or
- Information collected from health insurance claim records

• The analysis is not final until it has been:

- Reported to the employer or
- Completed by the person responsible for the analysis

ANSI

This is an acronym for the American National Standards Institute.

Approved means:

• Approved by the director of the department of labor and industries or their authorized representative, or by an organization that is specifically named in a rule, such as Underwriters' Laboratories (UL), Mine Safety and Health Administration (MSHA), or the National Institute for Occupational Safety and Health (NIOSH).

• As used in Electrical, WAC 296-800-280 means acceptable to the authority enforcing this section. The authority enforcing this section is the director of labor and industries. The definition of acceptable indicates what is acceptable to the director and therefore approved.

Assistant director

The assistant director for the WISHA services division at the department of labor and industries or his/her designated representative.

ASTM

This is an acronym for American Society for Testing and Materials.

Attachment plug or plug

As used in the basic electrical rules, WAC 296-800-280 means the attachment at the end of a flexible cord or cable that is part of a piece of electrical equipment. When it is inserted into an outlet or receptacle, it connects the conductors supplying electrical power from the outlet to the flexible cable.

Bare conductor

A conductor that does not have any covering or insulation.

Bathroom

A room maintained within or on the premises of any place of employment, containing toilets that flush for use by employees.

Biological agents

Organisms or their by-products.

Board

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means the board of industrial insurance appeals.

Ceiling

An exposure limit that must not be exceeded during any part of the employee's workday. The ceiling must be determined over the shortest time period feasible and should not exceed fifteen minutes.

Certification

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means refers to an employer's written statement describing when and how a citation violation was corrected.

CFR

This is an acronym for Code of Federal Regulations.

Chemical

Any element, chemical compound, or mixture of elements and/or compounds.

Chemical agents (airborne or contact)

A chemical agent is any of the following:

• Airborne chemical agent which is any of the following:

- Dust - solid particles suspended in air, that are created by actions such as:

- Handling.
- Drilling.
- Crushing.
- Grinding.
- Rapid impact.
- Detonation.
- Decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

– Fume - solid particles suspended in air, that are created by condensation from the gaseous state.

– Gas - a normally formless fluid, such as air, which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

– Mist - liquid droplets suspended in air. Mist is created by:

- Condensation from the gaseous to the liquid state;

OR

• Converting a liquid into a dispersed state with actions such as splashing, foaming, spraying or atomizing.

– Vapor - the gaseous form of a substance that is normally in the solid or liquid state.

• Contact chemical agent which is any of the following:

– Corrosive - a substance that ~~(- upon contact, causes destruction of living tissue by chemical action, including acids with a pH of 2.5 or below or caustics with a pH of 11.0 or above))~~ causes visible destruction of, or irreversible alterations in, living tissue (not inanimate surfaces) by chemical action at the site of contact.

– Irritant - a substance that will induce a local inflammatory reaction upon immediate, prolonged, or repeated contact with normal living tissue.

– Toxicant - a substance that has the inherent capacity to produce personal injury or illness to individuals by absorption through any body surface.

Chemical manufacturer

An employer with a workplace where one or more chemicals are produced for use or distribution.

Chemical name

The scientific designation of a chemical in accordance with one of the following:

- The nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC)
- The Chemical Abstracts Service (CAS) rules of nomenclature
- A name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

Circuit breaker

Is a device used to manually open or close a circuit. This device will also open the circuit automatically and without damage to the breaker when a predetermined overcurrent is applied. (600 volts nominal or less)

Is a switching device capable of making, carrying, and breaking currents under normal circuit conditions, and also making, carrying for a specified time, and breaking currents under specified abnormal circuit conditions, such as those of short circuit. (Over 600 volts nominal)

Citation

Refers to the citation and notice issued to an employer for any violation of WISHA safety and health rules. A citation and notice may be referred to as a citation and notice of assessment but is more commonly referred to as a citation.

Combustible liquid

A combustible liquid has a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). Mixtures with at least 99% of their components having flashpoints of 200°F (93.3°C) or higher are not considered combustible liquids.

Commercial account

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means an arrangement in which a retail distributor sells hazardous chemical(s) to an employer, generally in large quantities over time, and/or at costs that are below the regular retail price.

Common name

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any designation or identification such as:

- Code name
- Code number
- Trade name
- Brand name
- Generic name used to identify a chemical other than by its chemical name.

Compressed gas

A gas or mixture of gases that, when in a container, has an absolute pressure exceeding:

- 40 psi at 70°F (21.1°C)

OR

- 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C)

Compressed gas can also mean a liquid with a vapor pressure that exceeds 40 psi at 100°F (37.8°C)

Conductor

A wire that transfers electric power.

Container

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any container, except for pipes or piping systems, that contains a hazardous chemical. It can be any of the following:

- Bag
- Barrel
- Bottle
- Box
- Can
- Cylinder
- Drum
- Reaction vessel
- Storage tank

Correction date

The date by which a violation must be corrected. Final orders or extensions that give additional time to make corrections establish correction dates. A correction date established by an order of the board of industrial insurance appeals remains in effect during any court appeal unless the court suspends the date.

Corrective notice

Refers to a notice changing a citation and is issued by the department after a citation has been appealed.

Corrosive

A substance that ~~(, upon contact, causes destruction of living tissue by chemical action, including acids with a pH of 2.5 or below or caustics with a pH of 11.0 or above))~~ causes visible destruction of, or irreversible alterations in, living tissue (not inanimate surfaces) by chemical action at the site of contact.

Covered conductor

A conductor that is covered by something else besides electrical insulation.

Damp location

As used in basic electrical rules, WAC 296-800-280 means partially protected areas that are exposed to moderate moisture. Outdoor examples include roofed open porches and marquees. Interior examples include basements and barns.

Department

Those portions of the department of labor and industries responsible for enforcing the Washington Industrial Safety Act (WISHA).

Designated representative

- Any individual or organization to which an employee gives written authorization.
 - A recognized or certified collective bargaining agent without regard to written authorization.
 - The legal representative of a deceased or legally incapacitated employee.

Director

The director means the director of the department of labor and industries or their designee.

Distributor

A business, other than a chemical manufacturer or importer, that supplies hazardous chemicals to other distributors or to employers.

Documentation

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means material that you sub-

mit to prove that a correction is completed. Documentation includes, but is not limited to, photographs, receipts for materials and/or labor.

Dry location

As used in basic electrical rules, WAC 296-800-280 means areas not normally subjected to damp or wet conditions. Dry locations may become temporarily damp or wet, such as when constructing a building.

Dust

Solid particles suspended in air that are created by actions such as:

- Handling.
- Drilling.
- Crushing.
- Grinding.
- Rapid impact.
- Detonation.
- Decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

Electrical outlets

Places on an electric circuit where power is supplied to equipment through receptacles, sockets, and outlets for attachment plugs.

Emergency washing facilities

Emergency washing facilities are emergency showers, eyewashes, eye/face washes, hand-held drench hoses, or other similar units.

~~(**Electrical outlets**~~

~~Places on an electric circuit where power is supplied to equipment through receptacles, sockets, and outlets for attachment plugs.)~~

Employee

Based on chapter 49.17 RCW, the term employee and other terms of like meaning, unless the context of the provision containing such term indicates otherwise, means an employee of an employer who is employed in the business of his or her employer whether by way of manual labor or otherwise and every person in this state who is engaged in the employment of or who is working under an independent contract the essence of which is personal labor for an employer under this standard whether by way of manual labor or otherwise.

Employee exposure record

As used in material safety data sheets (MSDSs) as exposure records, WAC 296-800-180 means a record containing any of the following kinds of information:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;
- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;
- Material safety data sheets indicating that the material may pose a hazard to human health;

OR

• In the absence of the above, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common or trade name) of a toxic substance or harmful physical agent.

Employer

Based on chapter 49.17 RCW, an employer is any person, firm, corporation, partnership, business trust, legal representative, or other business entity which engages in any business, industry, profession, or activity in this state and employs one or more employees or who contracts with one or more persons, the essence of which is the personal labor of such person or persons and includes the state, counties, cities, and all municipal corporations, public corporations, political subdivisions of the state, and charitable organizations: Provided, That any persons, partnership, or business entity not having employees, and who is covered by the Industrial Insurance Act must be considered both an employer and an employee.

Exit

Provides a way of travel out of the workplace.

Exit route

A continuous and unobstructed path of exit travel from any point within a workplace to safety outside.

Explosive

A chemical that causes a sudden, almost instant release of pressure, gas, and heat when exposed to a sudden shock, pressure, or high temperature.

Exposed live parts

Electrical parts that are:

- Not suitably guarded, isolated, or insulated

AND

• Capable of being accidentally touched or approached closer than a safe distance.

Exposed wiring methods

Involve working with electrical wires that are attached to surfaces or behind panels designed to allow access to the wires.

Exposure or exposed

As used in employer chemical hazard communication, WAC 296-800-170 and material safety data sheets (MSDSs) as exposure records, WAC 296-800-180. An employee has been, or may have possibly been, subjected to a hazardous chemical, toxic substance or harmful physical agent while working. An employee could have been exposed to hazardous chemicals, toxic substances, or harmful physical agents in any of the following ways:

- Inhalation
- Ingestion
- Skin contact
- Absorption
- Related means.

The terms exposure and exposed only cover workplace exposure involving a toxic substance or harmful physical agent in the workplace different from typical nonoccupational situations in the way it is:

- Used
- Handled
- Stored
- Generated

- Present

Exposure record

See definition for employee exposure record.

Extension ladder

A portable ladder with 2 or more sections and is not self-supporting. The 2 or more sections travel in guides or brackets that let you change the length. The size of a portable ladder is determined by adding together the length of each section.

Failure-to-abate

Any violation(s) resulting from not complying with an abatement date.

Final order

Any of the following (unless an employer or other party files a timely appeal):

- Citation and notice;
- Corrective notice;
- Decision and order from the board of industrial insurance appeals;
- Denial of petition for review from the board of industrial insurance appeals; or
- Decision from a Washington State superior court, court of appeals, or the state supreme court.

Final order date

The date a final order is issued.

First aid

The extent of treatment you would expect from a person trained in basic first aid, using supplies from a first-aid kit.

Tests, such as X rays, must not be confused with treatment.

Flammable

A chemical covered by one of the following categories:

- Aerosol flammable means an aerosol that, when tested by the method described in 16 CFR 1500.45 yields either a flame projection more than 18 inches at full valve opening or a flashback (a flame extending back to the valve) at any degree of valve opening;

- Gas, flammable means:

- A gas that, at temperature and pressure of the surrounding area, forms a flammable mixture with air at a concentration of 13% by volume or less or

- A gas that, at temperature and pressure of the surrounding area, forms a range of flammable mixtures with air wider than 12% by volume, regardless of the lower limit.

- Liquid, flammable means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99% or more of the total volume of the mixture.

- Solid, flammable means a solid, other than a blasting agent or explosive as defined in 29 CFR 1910.109(a), that is likely to cause fire through friction, moisture absorption, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily. Solid, inflammable also means that when the substance is ignited, it burns so powerfully and persistently that it creates a serious hazard. A chemical must be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame

at a rate greater than one-tenth of an inch per second along its major axis.

Flashpoint

- The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested by any of the following measurement methods:

- Tagliabue closed tester: (See American National Standard Method of Test for Flash Point by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)) for liquids with a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not have a tendency to form a surface film under test; or

- Pensky-Martens closed tester: (See American National Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)) for liquids with a viscosity equal to or greater than 45 SUS at 100°F (37.8°C), or that contain suspended solids, or that have a tendency to form a surface film under test; or

- Setaflash closed tester: (See American National Standard Method of Test for Flash Point by Setaflash Closed Tester (ASTM D 3278-78).)

Note: Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flashpoint measurement methods specified above.

Flexible cords and cables

Typically used to connect electrical equipment to an outlet or receptacle. These cords can have an attachment plug to connect to a power source or can be permanently wired into the power source. Flexible cords, extension cords, cables and electrical cords are all examples of flexible cord.

Floor hole

An opening in any floor, platform, pavement, or yard that measures at least one inch but less than 12 inches at its smallest dimension and through which materials and tools (but not people) can fall.

Examples of floor holes are:

- Belt holes
- Pipe openings
- Slot openings

Floor opening

An opening in any floor, platform, pavement, or yard that measures at least 12 inches in its smallest dimension and through which a person can fall.

Examples of floor openings are:

- Hatchways
- Stair or ladder openings
- Pits
- Large manholes

The following are NOT considered floor openings:

- Openings occupied by elevators
- Dumbwaiters
- Conveyors
- Machinery
- Containers

Foreseeable emergency

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any potential event that could result in an uncontrolled release of a hazardous chemical into the workplace. Examples of foreseeable emergencies include

equipment failure, rupture of containers, or failure of control equipment.

Fume

Solid particles suspended in air that are created by condensation from the gaseous state.

Gas

A normally formless fluid, such as air, which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

Ground

As used in Electrical, WAC 296-800-280, a connection between an electrical circuit or equipment and the earth or other conducting body besides the earth. This connection can be intentional or accidental.

Grounded

A connection has been made between an electrical circuit or equipment and the earth or another conducting body besides the earth.

Grounded conductor

A system or circuit conductor that is intentionally grounded.

Ground-fault circuit-interrupter

A device whose function is to interrupt the electric circuit to the load when a fault current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

Grounding conductor

Is used to connect equipment or the grounded circuit of a wiring system to a grounding electrode or electrodes.

Grounding conductor, equipment

A conductor used to connect noncurrent-carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor and/or the grounding electrode conductor at the service equipment or at the source of a separately derived system.

Guarded

Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats, or platforms to remove the likelihood of being accidentally touched or approached closer than a safe distance.

Hand-held drench hoses

Hand-held drench hoses are single-headed emergency washing devices connected to a flexible hose that can be used to irrigate and flush the face or other body parts.

Handrail

A single bar or pipe supported on brackets from a wall or partition to provide a continuous handhold for persons using a stair.

Harmful physical agent

Any physical stress such as noise, vibration, repetitive motion, heat, cold, ionizing and nonionizing radiation, and hypo- or hyperbaric pressure which:

- Is listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS); or

- Has shown positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer;

OR

- Is the subject of a material safety data sheet kept by or known to the employer showing that the material may pose a hazard to human health.

Hazard

Any condition, potential or inherent, which can cause injury, death, or occupational disease.

Hazard warning

As used in Employer Chemical Hazard Communication, WAC 296-800-170 can be a combination of words, pictures, symbols, or combination appearing on a label or other appropriate form of warning which shows the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

Note: See definition for physical hazard and health hazard to determine which hazards must be covered.

Hazardous chemical

Any chemical that is a physical or health hazard.

Health hazard

A chemical, mixture, biological agent, or physical agent that may cause health effects in short- or long-term exposed employees. Based on statistically significant evidence from at least one study conducted using established scientific principles. Health hazards include:

- Carcinogens
- Toxic or highly toxic agents
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Hepatotoxins (liver toxins)
- Nephrotoxins (kidney toxins)
- Neurotoxins (nervous system toxins)
- Substances that act on the hematopoietic system (blood or blood-forming system)
 - Substances that can damage the lungs, skin, eyes, or mucous membranes
 - Hot or cold conditions.

Hospitalization

To be admitted to a hospital or an equivalent medical facility on an emergent in-patient basis requiring an overnight stay.

Identity

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any chemical or common name listed on the material safety data sheet (MSDS) for the specific chemical. Each identity used must allow cross-references among the:

- Required list of hazardous chemicals
- Chemical label
- MSDSs

Imminent danger violation

Any violation(s) resulting from conditions or practices in any place of employment, which are such that a danger exists which could reasonably be expected to cause death or serious physical harm, immediately or before such danger can be eliminated through the enforcement procedures otherwise provided by the Washington Industrial Safety and Health Act.

Importer

The first business within the Customs Territory of the USA that:

- Receives hazardous chemicals produced in other countries

AND

- Supplies them to distributors or employers within the USA

Insulated

A conductor has been completely covered by a material that is recognized as electrical insulation and is thick enough based on:

- The amount of voltage involved

AND

- The type of covering material

Interim waiver

An order granted by the department allowing an employer to vary from WISHA requirements until the department decides to grant a permanent or temporary waiver.

Irritant

A substance that will induce a local inflammatory reaction upon immediate, prolonged, or repeated contact with normal living tissue.

Ladder

Consists of 2 side rails joined at regular intervals by crosspieces called steps, rungs, or cleats. These steps are used to climb up or down.

Listed

Equipment is listed if it:

- Is listed in a publication by a nationally recognized laboratory (such as UL, underwriters laboratory) that inspects the production of that type of equipment,

AND

- States the equipment meets nationally recognized standards or has been tested and found safe to use in a specific manner.

Material safety data sheet (MSDS)

Written, printed, or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors, employers or employees about a hazardous chemical, its hazards, and protective measures as required by material safety data sheet and label preparation, chapter 296-839 WAC.

Medical treatment

Treatment provided by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first-aid treatment even if provided by a physician or registered professional personnel.

Mist

Liquid droplets suspended in air. Mist is created by:

- Condensation from the gaseous to the liquid state;

OR

- Converting a liquid into a dispersed state with actions such as splashing, foaming, spraying or atomizing.

Mixture

As used in Employer Chemical Hazard Communication, WAC 296-800-170, any combination of 2 or more chemicals (if that combination did not result from a chemical reaction).

Movable equipment

As used in WAC 296-800-35052, a hand-held or non-hand-held machine or device;

- That is powered or nonpowered;

AND

- Can be moved within or between worksites

Must

Must means mandatory.

NEMA

These initials stand for National Electrical Manufacturing Association.

NFPA

This is an acronym for National Fire Protection Association.

Nose

The portion of the stair tread that projects over the face of the riser below it.

Occupational Safety and Health Administration (OSHA)

Created in 1970 when the U.S. Congress passed the Occupational Safety and Health Act, the Occupational Safety and Health Administration (OSHA) provides safety on the job for workers. OSHA oversees state plans (such as WISHA in Washington) that have elected to administer the safety and health program for their state. OSHA requires WISHA rules to be at least as effective as OSHA rules.

Office work environment

An indoor or enclosed occupied space where clerical work, administration, or business is carried out.

In addition, it includes:

- Other workplace spaces controlled by the employer and used by office workers, such as cafeterias, meeting rooms, and washrooms.
- Office areas of manufacturing and production facilities, not including process areas.
- Office areas of businesses such as food and beverage establishments, agricultural operations, construction, commercial trade, services, etc.

Open riser

A stair step with an air space between treads has an open riser.

Organic peroxide

This is an organic compound containing the bivalent-O-O-structure. It may be considered a structural derivative of hydrogen peroxide if one or both of the hydrogen atoms has been replaced by an organic radical.

Outlet

See definition for electrical outlets.

Oxidizer

A chemical other than a blasting agent or explosive as defined in WAC 296-52-60130 or CFR 1910.109(a), that starts or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Permissible exposure limits (PELs)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are specified in applicable WISHA rules.

Person

Based on chapter 49.17 RCW, one or more individuals, partnerships, associations, corporations, business trusts, legal representatives, or any organized group of persons.

Personal eyewash units

Personal eyewash units are portable, supplementary units that support plumbed units or self-contained units, or both, by delivering immediate flushing for less than fifteen minutes.

Personal service room

Used for activities not directly connected with a business' production or service function such as:

- First aid
- Medical services
- Dressing
- Showering
- Bathrooms
- Washing
- Eating

Personnel

See the definition for employees.

Physical hazard

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means a chemical that has scientifically valid evidence to show it is one of the following:

- Combustible liquid
- Compressed gas
- Explosive
- Flammable
- Organic peroxide
- Oxidizer
- Pyrophoric
- Unstable (reactive)
- Water reactive

Platform

Platform means an extended step or landing that breaks a continuous run of stairs.

Plug

See definition for attachment plug.

Potable water

Water that you can safely drink. It meets specific safety standards prescribed by the United States Environmental Protection Agency's National Interim Primary Drinking Water Regulations, published in 40 CFR Part 141, and 40 CFR 147.2400.

Predictable and regular basis

Employee functions such as, but not limited to, inspection, service, repair and maintenance which are performed

- at least once every 2 weeks

OR

• 4 man-hours or more during any sequential 4-week period (to calculate man-hours multiply the number of employees by the number of hours during a 4-week period).

Produce

As used in Employer Chemical Hazard Communication, WAC 296-800-170, any one of the following:

- Manufacture
- Process
- Formulate
- Blend

- Extract
- Generate
- Emit
- Repackage

Purchaser

As used in Employer Chemical Hazard Communication, WAC 296-800-170, an employer who buys one or more hazardous chemicals to use in their workplace.

Pyrophoric

A chemical is pyrophoric if it will ignite spontaneously in the air when the temperature is 130°F (54.4°C) or below.

Qualified person

A person who has successfully demonstrated the ability to solve problems relating to the subject matter, work, or project, either by:

- Possession of a recognized degree, certificate, or professional standing;

OR

- Extensive knowledge, training and experience.

Railing or standard railing

A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

Reassume jurisdiction

The department has decided to take back its control over a citation and notice being appealed.

Receptacle or receptacle outlet

As used in basic electrical rules, WAC 296-800-280 means outlets that accept a plug to supply electric power to equipment through a cord or cable.

Record

A record is any item, collection, or grouping of information. Examples include:

- Paper document
- Microfiche
- Microfilm
- X-ray film
- Computer record

Repeat violation

A violation is a repeat violation if the employer has been cited one or more times previously for a substantially similar hazard.

~~Refuge area~~

~~• A protected space along an exit route that is separated from other spaces inside the building by a barrier with at least a one-hour fire resistance rating;~~

~~OR~~

~~• A floor in a building with an automatic sprinkler system that has at least two spaces that are separated by smoke-resistant partitions. See WAC 296-24-607 for requirements for automatic sprinkler systems.))~~

Refuge area

• A protected space along an exit route that is separated from other spaces inside the building by a barrier with at least a one-hour fire resistance rating;

OR

• A floor in a building with an automatic sprinkler system that has at least two spaces that are separated by smoke-resistant partitions. See WAC 296-24-607 for requirements for automatic sprinkler systems.

Responsible party

As used in employer chemical hazard communication, WAC 296-800-170. Someone who can provide appropriate information about the hazardous chemical and emergency procedures.

Rise

The vertical distance from the top of a tread to the top of the next higher tread.

Riser

The vertical part of the step at the back of a tread that rises to the front of the tread above.

Rungs

Rungs are the cross pieces on ladders that are used to climb up and down the ladder.

Runway

An elevated walkway above the surrounding floor or ground level. Examples of runways are footwalks along shafting or walkways between buildings.

Safety factor

The term safety factor means the ratio of when something will break versus the actual working stress or safe load when it is used.

Self-lighting or self-luminous

A light source that:

• Is illuminated by a self-contained power source other than batteries;

AND

• Operates independently from external power sources.

Serious violation

Serious violation must be deemed to exist in a workplace if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use in such workplace, unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation.

~~((Self-lighting or self-luminous~~

~~A light source that:~~

~~• Is illuminated by a self-contained power source other than batteries;~~

~~AND~~

~~• Operates independently from external power sources.))~~

Short-term exposure limit (STEL)

An exposure limit, averaged over a short time period (usually measured for 15 minutes) that must not be exceeded during any part of an employee's workday.

Should

Should means recommended.

Single ladder

A type of portable ladder with one section.

It is distinguished by all of the following:

- It has one section
- It cannot support itself
- Its length cannot be adjusted

Smoking

A person is smoking if they are:

- Lighting up
- Inhaling

- Exhaling

- Carrying a pipe, cigar or cigarette of any kind that is burning

Specific chemical identity

This term applies to chemical substances. It can mean the:

- Chemical name
- Chemical Abstracts Service (CAS) registry number
- Any other information that reveals the precise chemical designation of the substance.

Stair railing

A vertical barrier attached to a stairway with an open side to prevent falls. The top surface of the stair railing is used as a handrail

Stairs or stairway

A series of steps and landings:

- leading from one level or floor to another,
- leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment
- Used more or less continuously or routinely by employees, or only occasionally by specific individuals.
- With three or more risers

Standard safeguard

Safety devices that prevent hazards by their attachment to:

- Machinery
- Appliances
- Tools
- Buildings
- Equipment

These safeguards must be constructed of:

- Metal
- Wood
- Other suitable materials

The department makes the final determination about whether a safeguard is sufficient for its use.

Step ladder

A portable ladder with:

- Flat steps
- A hinge at the top allowing the ladder to fold out and support itself
- Its length that cannot be adjusted.

Time weighted average (TWA₈)

An exposure limit, averaged over 8 hours, that must not be exceeded during an employee's work shift.

Toeboard

A barrier at floor level along exposed edges of a floor opening, wall opening, platform, runway, or ramp, to prevent falls of materials.

Toxic chemical

As used in first aid, WAC 296-800-150, is a chemical that produces serious injury or illness when absorbed through any body surface.

Toxic substance

Any chemical substance or biological agent, such as bacteria, virus, and fungus, which is any of the following:

- Listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS)

- Shows positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer
- The subject of a material safety data sheet kept by or known to the employer showing the material may pose a hazard to human health.

Toxicant

A substance that has the inherent capacity to produce personal injury or illness to individuals by absorption through any body surface.

Trade secret

Any confidential:

- Formula
- Pattern
- Process
- Device
- Information
- Collection of information

The trade secret is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it.

See WAC 296-62-053 for requirements dealing with trade secrets.

Tread

As used in stairs and stair railings, WAC 296-800-250 means the horizontal part of the stair step.

Tread run

As used in stairs and stair railings, WAC 296-800-250 means the distance from the front of one stair tread to the front of an adjacent tread.

Tread width

The distance from front to rear of the same tread including the nose, if used.

UL (Underwriters' Laboratories, Inc.)

You will find these initials on electrical cords and equipment. The initials mean the cord or equipment meets the standards set by the Underwriters' Laboratories, Inc.

Unstable (reactive)

As used in employer chemical hazard communication, WAC 296-800-170. An unstable or reactive chemical is one that in its pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

Use

As used in employer chemical hazard communication, WAC 296-800-170, means to:

- Package
- Handle
- React
- Emit
- Extract
- Generate as a by-product
- Transfer.

Vapor

The gaseous form of a substance that is normally in the solid or liquid state.

Voltage of a circuit

The greatest effective potential difference between any two conductors or between a conductor and ground.

Voltage to ground

The voltage between a conductor and the point or conductor of the grounded circuit. For undergrounded circuits, it is the greatest voltage between the conductor and any other conductor of the circuit.

Voltage, nominal

Nominal voltage is a value assigned to a circuit or system to designate its voltage class (120/240, 480Y/277, 600, etc.). The actual circuit voltage can vary from the value if it is within a range that permits the equipment to continue operating in a satisfactory manner.

WAC

This is an acronym for **Washington Administrative Code**, which are rules developed to address state law.

Water-reactive

As used in Employer Chemical Hazard Communication, WAC 296-800-170, a water-reactive chemical reacts with water to release a gas that is either flammable or presents a health hazard.

Watertight

Constructed so that moisture will not enter the enclosure or container.

Weatherproof

Constructed or protected so that exposure to the weather will not interfere with successful operation. Rainproof, rain-tight, or watertight equipment can fulfill the requirements for weatherproof where varying weather conditions other than wetness, such as snow, ice, dust, or temperature extremes, are not a factor.

Wet location

As used in basic electrical rules, WAC 296-800-280 means:

- Underground installations or in concrete slabs or masonry that are in direct contact with the earth
- Locations that can be saturated by water or other liquids
- Unprotected locations exposed to the weather (like vehicle washing areas)

WISHA

This is an acronym for the Washington Industrial Safety and Health Act.

Work area

As used in employer chemical hazard communication, WAC 296-800-170, a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Working days

Means a calendar day, except Saturdays, Sundays, and legal holidays. Legal holidays include:

- New Year's Day - January 1
- Martin Luther King, Jr. Day
- Presidents' Day
- Memorial Day
- Independence Day - July 4
- Labor Day
- Veterans' Day - November 11
- Thanksgiving Day
- The day after Thanksgiving Day; and
- Christmas Day - December 25

The number of working days must be calculated by not counting the first working day and counting the last working day.

Worker

See the definition for employee.

Workplace

• The term workplace means:

– Any plant, yard, premises, room, or other place where an employee or employees are employed for the performance of labor or service over which the employer has the right of access or control, and includes, but is not limited to, all workplaces covered by industrial insurance under Title 51 RCW, as now or hereafter amended.

– As used in Employer Chemical Hazard Communication, WAC 296-800-170 means an establishment, job site, or project, at one geographical location containing one or more work areas.

You

See definition of employer.

Your representative

Your representative is the person selected to act in your behalf.