

## Chapter 296-839 WAC

# CONTENT AND DISTRIBUTION OF MATERIAL SAFETY DATA SHEETS (MSDSs) AND LABEL INFORMATION

### WAC

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**WAC 296-839-100 Scope.** This chapter sets minimum requirements for content and distribution of material safety data sheets (MSDSs) and labels for hazardous chemicals.

• This chapter applies when you do **one or more** of the following:

- Import, produce, or repackage chemicals, including manufactured items (such as bricks, welding rods, and sheet metal) that are not exempt as articles
- Sell or distribute hazardous chemicals to manufacturers, distributors or employers
- Choose to develop material safety data sheets (MSDSs) for a product you do not import or manufacture.

### Reference:

See WAC 296-800-170, the Employer chemical hazard communication rule, for MSDSs, label, and other requirements that apply when hazardous chemicals are used in your workplace.

**Note:**

- Use Table 2 to determine which sections in this chapter apply to your workplace.
- Chapter 296-839 WAC, Content and Distribution of Material Safety Data Sheets (MSDSs) and Label Information, has been updated to WAC 296-901-140, Hazard communication. During the transition of the implementation dates below, employers can comply with this chapter or WAC 296-901-140, Hazard communication, until completion of the each effective date.

Effective Completion Date	Requirement(s)	Who
June 1, 2014	Train employees on the new label elements and safety data sheet (SDS) format.	Employers
June 1, 2015	Compliance with all modified provisions of this final rule, except:	Chemical manufacturers, importers, distributors and employers
December 1, 2015	The distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label.	

Effective Completion Date	Requirement(s)	Who
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition period to the effective completion dates noted above.	May comply with the applicable requirements in the following rules: WAC 296-800-170, Employer chemical hazard communication. Chapter 296-839 WAC, Content and distribution of material safety data sheets (MSDSs) and label information. WAC 296-901-140, Hazard communication.	Chemical manufacturers, importers, distributors, and employers

### Exemptions:

• All of the following are **always** exempt from this chapter:

- Ionizing and nonionizing radiation
- Biological hazards
- Tobacco and tobacco products

• The chemicals and items listed in Table 1 are exempt from this chapter **under the conditions specified**.

**Table 1**  
**Conditional Exemptions from this Chapter**

This chapter does NOT apply to	When
<ul style="list-style-type: none"> <li>• Alcoholic beverages</li> <li>OR</li> <li>• Foods</li> </ul>	<ul style="list-style-type: none"> <li>• Sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, bar, or tavern)</li> </ul>
<ul style="list-style-type: none"> <li>• An article (manufactured item)</li> </ul>	<ul style="list-style-type: none"> <li>• It is not a fluid or particle</li> <li>AND</li> <li>• It is formed to a specific shape or design during manufacture for a particular end use function<sup>1</sup></li> <li>AND</li> <li>• It releases only trace amounts of a hazardous chemical during normal use AND does not pose a physical or health risk to employees</li> </ul>

<b>This chapter does NOT apply to</b>	<b>When</b>
<ul style="list-style-type: none"> <li>Consumer products               <ul style="list-style-type: none"> <li>Produced or distributed for sale meeting the definition of "consumer products" in the Consumer Product Safety Act (see U.S. Code, Title 15, Chapter 47, section 2052<sup>2</sup>)</li> </ul> </li> <li><b>OR</b></li> <li>Hazardous household products               <ul style="list-style-type: none"> <li>Meeting the definition of "hazardous substances" in the Federal Hazardous Substance Act (see U.S. Code, Title 15, Chapter 30, section 1261<sup>2</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Both criteria apply:               <ul style="list-style-type: none"> <li>They are used in the workplace for the same purpose as intended by the manufacturer or importer</li> </ul> </li> <li>The duration and frequency of an employee's exposure is no more than the range of exposures that consumers might reasonably experience</li> </ul>
<ul style="list-style-type: none"> <li>Cosmetics</li> </ul>	<ul style="list-style-type: none"> <li>Packaged and sold in retail establishments</li> </ul>
<ul style="list-style-type: none"> <li>Drugs               <ul style="list-style-type: none"> <li>Meeting the definition for "drugs" in the Federal Food, Drug, and Cosmetic Act (see U.S. Code, Title 21, Chapter 9, Subchapter II, section 321<sup>2</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>In solid, final form (for example, tablets, or pills) for direct administration to the patient</li> <li><b>OR</b></li> <li>Packaged and sold in retail establishments (for example, over-the-counter drugs)</li> <li><b>OR</b></li> <li>Intended for employee consumption while in the workplace (for example, first-aid supplies)</li> </ul>
<ul style="list-style-type: none"> <li>Hazardous solid wastes               <ul style="list-style-type: none"> <li>Meeting the definition of "hazardous wastes" in the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (see U.S. Code, Title 42, Chapter 82, Subchapter I, section 6903<sup>2</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Subject to the United States Environmental Protection Agency (EPA) regulations<sup>3</sup></li> </ul>

<b>This chapter does NOT apply to</b>	<b>When</b>
<ul style="list-style-type: none"> <li>Hazardous substances               <ul style="list-style-type: none"> <li>Released into the environment, meeting the definition of "hazardous substances" in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see U.S. Code, Title 42, Chapter 103, Subchapter I, section 9601<sup>2</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>They are the focus of remedial or removal action being conducted under CERCLA in accordance with EPA regulations (Title 40 of the Code of Federal Regulations (C.F.R.)<sup>3</sup>)</li> </ul>
<ul style="list-style-type: none"> <li>Hazardous wastes               <ul style="list-style-type: none"> <li>Meeting the definition of "dangerous wastes" in the Hazardous Waste Management Act (see chapter 70.105 RCW<sup>4</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Subject to department of ecology regulations, chapter 173-303 WAC<sup>5</sup>, that address the accumulation, handling and management of hazardous waste, and describe all of the following:               <ul style="list-style-type: none"> <li>Safety</li> <li>Labeling</li> <li>Personnel training</li> <li>And other related requirements</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Solid wood</li> <li><b>OR</b></li> <li>Wood products (for example, lumber, and paper)</li> </ul>	<ul style="list-style-type: none"> <li>All of the following apply               <ul style="list-style-type: none"> <li>The material is not treated with hazardous chemicals</li> <li>The only hazard is potential flammability or combustibility</li> <li>The product is not expected to be processed (for example, by sanding or sawing)</li> </ul> </li> </ul>

<sup>1</sup> End use is dependent in whole, or in part, upon maintaining the item's original shape or design. If the item will be significantly altered from its original form, it can no longer be considered a manufactured item

<sup>2</sup> This federal act is included in the United States Code. See <http://www.access.gpo.gov/uscode/uscmmain.html>

<sup>3</sup> EPA regulations are included in the Code of Federal Regulations (C.F.R.). See <http://www.epa.gov>

<sup>4</sup> This state act is included in the Revised Code of Washington (RCW). The RCW compiles all permanent laws of the state. See <http://www.leg.wa.gov/wsladm/default.htm>

<sup>5</sup> See <http://www.ecy.wa.gov>

Use Table 2 to find out which sections of this chapter apply to you. For example, if you import AND sell hazardous chemicals ALL sections apply. WAC 296-839-500 applies to all employers covered by the scope of this chapter.

**Table 2**  
**Section Application**

If you	Then the sections marked with an "X" apply			
	20005 - 20010	30005	30010 - 30015	40005
• Import or produce chemicals	X	X		
• Sell or distribute hazardous chemicals to - Manufacturers <b>OR</b> - Distributors <b>OR</b> - Employers (includes retail or wholesale transactions)			X	X
• Choose to develop MSDSs for a product you do not import or manufacture	X	X		

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 15-13-097, § 296-839-100, filed 6/16/15, effective 8/3/15. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-01-096, § 296-839-100, filed 12/17/02, effective 6/1/03.]

### **WAC 296-839-200 Hazard evaluation.**

#### **Your responsibility:**

To make sure the hazardous chemicals are identified.

#### **You must:**

Conduct complete hazard evaluations

WAC 296-839-20005

Provide access to hazard evaluation procedures

WAC 296-839-20010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-01-096, § 296-839-200, filed 12/17/02, effective 6/1/03.]

### **WAC 296-839-20005 Conduct complete hazard evaluations.**

#### **Important:**

- Hazard evaluation is a process where hazards of chemicals are identified by reviewing available research or testing information. You are not required to perform your own laboratory research or testing to meet the requirements of this section

- Information from hazard evaluations is used to complete material safety data sheets (MSDSs) and labels

- MSDSs from your suppliers may be used to complete the hazard evaluation for chemicals you produce

- MSDSs and labels are **NOT** required for chemicals that are determined to be nonhazardous

- Importers and manufacturers are required to develop MSDSs. If you choose to develop MSDSs for a product you

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do not import or manufacture, then this chapter also applies to you.

#### **You must:**

(1) Describe in writing your procedures for conducting hazard evaluations.

(2) Conduct a complete hazard evaluation for **ALL** chemicals you produce or import to determine if they are hazardous chemicals.

- Identify and consider available scientific evidence of health and physical hazards

- Evidence that meets the criteria in Table 3 must be used to establish a hazard

- Chemicals identified in a Table 4 source must be regarded as hazardous

- The scope of health hazards considered must include the categories in Tables 5 and 6

- If the chemical is a mixture, follow the additional criteria in Table 7.

If you find evidence that meets the criteria in Table 3, use it in your hazard evaluation.

Table 3 Criteria for Hazard Evidence	
Hazard	Criteria
• Health hazard	<ul style="list-style-type: none"> <li>• Where available, use human case reports of health effects</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>• One or more studies that               <ul style="list-style-type: none"> <li>- Are based on human populations, if available, and animal populations<sup>1,2</sup></li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Report statistically significant conclusions of a hazardous effect or health hazard (as defined in this rule)</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Have been conducted following established scientific principles</li> </ul>
• Physical hazard	<ul style="list-style-type: none"> <li>• Valid evidence that shows a chemical is any one of the following<sup>3</sup>:               <ul style="list-style-type: none"> <li>- A combustible liquid</li> <li>- A compressed gas</li> <li>- Explosive</li> <li>- Flammable</li> <li>- An organic peroxide</li> <li>- An oxidizer</li> <li>- Pyrophoric</li> <li>- Unstable (reactive)</li> <li>- Water-reactive</li> </ul> </li> </ul>

<sup>1</sup> If human data is not available, use results of tests done on animals and other available studies to predict health effects on employees (for example, effects resulting from short and long-term exposures to chemicals).

<sup>2</sup> In vitro studies alone do not generally form the basis of a finding of hazard.

<sup>3</sup> These terms are defined in WAC 296-839-500.

Chemicals identified in the sources listed in Table 4 must be assumed to be hazardous (including carcinogens and potential carcinogens).

<b>Table 4</b> <b>Information Sources Identifying Hazardous Chemicals</b>	
<ul style="list-style-type: none"> <li>Sources that address a broad range of hazard categories:               <ul style="list-style-type: none"> <li>Chapter 296-62 WAC, General Occupational Health Standards, WISHA</li> <li>29 C.F.R. Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA)</li> <li><i>Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment</i>, American Conference of Governmental Industrial Hygienists (ACGIH) (latest edition).</li> </ul> </li> <li>Sources that identify carcinogens or potential carcinogens:               <ul style="list-style-type: none"> <li>Chapter 296-62 WAC, General Occupational Health Standards, WISHA</li> <li>29 C.F.R. Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA)</li> <li>National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition)</li> <li>International Agency for Research on Cancer (IARC) Monographs (latest editions).</li> </ul> </li> </ul> <p><b>Note:</b> The <i>Registry of Toxic Effects of Chemical Substances</i> is published by the National Institute for Occupational Safety and Health (NIOSH) and identifies chemicals found to be potential carcinogens by the NTP and IARC.</p>	

Chemicals meeting Table 5 definitions, along with the criteria for established evidence in Table 3, must be regarded as hazardous.

**Table 5 is NOT intended to present all hazard categories or test methods.** Available scientific data involving other test methods and animal species must also be evaluated to determine a chemical's hazards.

<b>Table 5</b> <b>Standard Health Hazard Categories</b>	
A chemical is considered to be	If
• A carcinogen	<ul style="list-style-type: none"> <li>The International Agency for Research on Cancer (IARC) considers it to be a carcinogen or potential carcinogen</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>The National Toxicity Program (NTP) (latest edition) lists it as a carcinogen or potential carcinogen</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>It is regulated by WISHA or OSHA as a carcinogen</li> </ul>

<b>Table 5</b> <b>Standard Health Hazard Categories</b>	
A chemical is considered to be	If
• Corrosive	<ul style="list-style-type: none"> <li>It causes visible destruction of, or irreversible alterations in, living tissue (not inanimate surfaces) by chemical action at the site of contact</li> </ul> <p>Example:</p> <ul style="list-style-type: none"> <li>A chemical is corrosive if tested on the intact skin of albino rabbits by a method described by the U.S. Department of Transportation (in Appendix A to 49 C.F.R. Part 173) and it destroys or changes (irreversibly) the structure of the tissue at the contact site after a four-hour exposure period</li> </ul>
• Toxic	<ul style="list-style-type: none"> <li>It has a median lethal dose (LD50) greater than 50 milligrams per kilogram, but no more than 500 milligrams per kilogram of body weight, when administered orally to albino rats weighing between 200 - 300 grams each.</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>It has a median lethal dose (LD50) greater than 200 milligrams per kilogram, but not more than 1,000 milligrams per kilogram, of body weight when administered by continuous contact for twenty-four hours (or less if death occurs within twenty-four hours) with the bare skin of albino rabbits weighing between 2 - 3 kilograms each</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>It has a median lethal concentration (LC50), in air:               <ul style="list-style-type: none"> <li>Greater than 200 parts per million, but not more than 2,000 parts per million (by volume of gas or vapor)</li> </ul> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>Greater than 2 milligrams per liter, but not more than 20 milligrams per liter, of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats, weighing between 200 - 300 grams each</li> </ul>

<b>Table 5</b> <b>Standard Health Hazard Categories</b>	
<b>A chemical is considered to be</b>	<b>If</b>
<ul style="list-style-type: none"> <li>• Highly toxic</li> </ul>	<ul style="list-style-type: none"> <li>• It has a median lethal dose (LD50) of 50 milligrams, or less, per kilogram of body weight when administered orally to albino rats weighing between 200 - 300 grams each</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• It has a median lethal dose (LD50) of 200 milligrams, or less, per kilogram of body weight when administered by continuous contact for twenty-four hours (or less if death occurs within twenty-four hours) with the bare skin of albino rabbits weighing between 2 - 3 kilograms each</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• It has a median lethal concentration of (LC50), in air, of:             <ul style="list-style-type: none"> <li>- 200 parts per million (by volume), or less, of gas or vapor</li> </ul> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>- 2 milligrams per liter, or less, of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 - 300 grams each</li> </ul>
<ul style="list-style-type: none"> <li>• An irritant</li> </ul>	<ul style="list-style-type: none"> <li>• It is <b>NOT</b> corrosive, but causes a reversible inflammatory effect on living tissue by chemical action at the contact site</li> </ul> <p>Examples:</p> <ul style="list-style-type: none"> <li>- The chemical is a skin irritant when tested on the intact skin of albino rabbits (by the methods of 16 C.F.R. 1500.41) for four hours exposure, (or by other appropriate techniques) and the exposure results in an empirical score of five or more</li> <li>- A chemical is an eye irritant if so determined under the procedure listed in 16 C.F.R. 1500.42 or other appropriate techniques</li> </ul>
<ul style="list-style-type: none"> <li>• A sensitizer</li> </ul>	<ul style="list-style-type: none"> <li>• It causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure</li> </ul>

Categories provided in Table 6 illustrate the broad range of target organ effects that must be considered when conducting hazard evaluations. Chemicals meeting Table 6 definitions, along with the criteria for established evidence in Table 3, must be regarded as hazardous.

Examples provided in Table 6 are **NOT** intended to be a complete list.

<b>Table 6</b> <b>Examples of Target Organ Effect Categories Category</b>			
<b>Category</b>	<b>Definition</b>	<b>Examples of Signs and Symptoms</b>	<b>Examples of Chemicals</b>
Hepatotoxins	Cause liver damage	<ul style="list-style-type: none"> <li>• Jaundice</li> <li>• Liver enlargement</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon tetrachloride</li> <li>• Nitrosamines</li> </ul>
Nephrotoxins	Cause kidney damage	<ul style="list-style-type: none"> <li>• Edema</li> <li>• Proteinuria</li> </ul>	<ul style="list-style-type: none"> <li>• Halogenated hydrocarbons</li> <li>• Cadmium</li> </ul>
Neurotoxins	Cause primary toxic effects on the nervous system	<ul style="list-style-type: none"> <li>• Narcosis</li> <li>• Behavioral changes</li> <li>• Decrease in motor functions</li> </ul>	<ul style="list-style-type: none"> <li>• Mercury</li> <li>• Carbon disulfide</li> <li>• Lead</li> </ul>
Chemicals that act on the • Blood <b>OR</b> • Hematopoietic (blood forming) system	<ul style="list-style-type: none"> <li>• Decrease hemoglobin function</li> <li><b>OR</b></li> <li>• Deprive the body tissues of oxygen</li> </ul>	<ul style="list-style-type: none"> <li>• Cyanosis</li> <li>• Loss of consciousness</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon monoxide</li> <li>• Cyanides</li> <li>• Benzene</li> </ul>
Chemicals that damage the lungs	<ul style="list-style-type: none"> <li>• Irritate lungs</li> <li><b>OR</b></li> <li>• Damage pulmonary tissue</li> </ul>	<ul style="list-style-type: none"> <li>• Cough</li> <li>• Tightness in chest</li> <li>• Shortness of breath</li> </ul>	<ul style="list-style-type: none"> <li>• Silica</li> <li>• Asbestos</li> </ul>
Reproductive toxins	Affect reproductive capabilities, including: • Chromosomal damage (mutation) • Effects on fetuses (teratogenesis)	<ul style="list-style-type: none"> <li>• Birth defects</li> <li>• Sterility</li> </ul>	<ul style="list-style-type: none"> <li>• Lead</li> <li>• 1,2-Dibromo-3-chloropropane (DBCP)</li> <li>• Nitrous Oxide</li> </ul>
Cutaneous (skin) hazards	Affect the dermal layer of the body	<ul style="list-style-type: none"> <li>• Defatting of the skin</li> <li>• Rashes</li> <li>• Irritation</li> </ul>	<ul style="list-style-type: none"> <li>• Ketones</li> <li>• Chlorinated compounds</li> </ul>
Eye hazards	Affect the eye or ability to see	<ul style="list-style-type: none"> <li>• Conjunctivitis</li> <li>• Corneal damage</li> </ul>	<ul style="list-style-type: none"> <li>• Organic solvents</li> <li>• Acids</li> </ul>

<b>Table 7</b> <b>Criteria for Evaluating Chemical Mixtures</b>	
<b>If a mixture</b>	<b>Then</b>
• Has been thoroughly tested as a whole for a physical or health hazard	• You must use those results
• Has <b>NOT</b> been tested as a whole for a health hazard	• You must: <ul style="list-style-type: none"> <li>- Evaluate <b>EACH</b> ingredient in the mixture to determine the hazards</li> <li>- Consider the mixture to have the same hazard as each ingredient determined to be hazardous</li> </ul>
• Has <b>NOT</b> been tested as a whole for physical hazards	• You must: <ul style="list-style-type: none"> <li>• Use any scientifically valid data available to evaluate the potential physical hazards of the mixture</li> </ul>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-01-096, § 296-839-20005, filed 12/17/02, effective 6/1/03.]

**WAC 296-839-20010 Provide access to hazard evaluation procedures.**

**You must:**

• Provide access to your written hazard evaluation procedures when requested by any of the following:

- Employees
- Designated representatives of employees
- Representatives of the department of labor and industries
- Representatives of the National Institute for Occupational Safety and Health (NIOSH).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-01-096, § 296-839-20010, filed 12/17/02, effective 6/1/03.]

**WAC 296-839-300 Material safety data sheets.**

**Your responsibility:**

To provide complete and accurate material safety data sheets (MSDSs).

**You must:**

Develop or obtain MSDSs

WAC 296-839-30005

Provide MSDSs

WAC 296-839-30010

Follow-up if an MSDS is not provided

WAC 296-839-30015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-01-096, § 296-839-300, filed 12/17/02, effective 6/1/03.]

### WAC 296-839-30005 Develop or obtain material safety data sheets (MSDSs).

#### You must:

- Develop or obtain a complete and accurate material safety data sheet (MSDS) for each hazardous chemical or mixture according to **ALL** of the following:

- ALL** information in Table 8 must be completed. If there is no relevant information for a required item, this must be noted. Blank spaces are not permitted.

**Note:**

- No specific format is required for MSDSs; however, an example format (OSHA form 174) can be found online at: <http://www.osha.gov>
- One MSDS can be developed for a group of complex mixtures (for example, jet fuels or crude oil) **IF** the health and physical hazards of the mixtures are similar (the amounts of chemicals in the mixture may vary).

- Content of MSDSs must accurately represent the available scientific evidence.

**Note:** You may report results of scientifically valid studies that tend to refute findings of hazards.

- MSDSs must be in English.

**Note:** You may develop copies of MSDSs in other languages.

#### You must:

- Revise an MSDS when you become aware of new and significant information regarding the hazards of a chemical, or how to protect against the hazards

- Within three months after you first become aware of the information

#### OR

- Before the chemical is reintroduced into the workplace if the chemical is no longer being used, produced or imported.

**Table 8**  
**Information Required on MSDSs**

• The chemical's identity as it appears on the label
• The date the MSDS was prepared or updated
• A contact for additional information about the hazardous chemical and appropriate emergency procedures Include all of the following: <ul style="list-style-type: none"> <li>Name</li> <li>Address</li> <li>Telephone number of the responsible party preparing or distributing the MSDS</li> </ul>
• The chemical's hazardous ingredients <sup>1</sup> as determined by your hazard evaluation <ul style="list-style-type: none"> <li>For a <b>single substance chemical</b>, include the chemical and common name(s) of the substance</li> <li>For <b>mixtures</b> tested as a whole <ul style="list-style-type: none"> <li>Include the common name(s) of the mixture</li> </ul> </li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>List the chemical and common name(s) of ingredients that contribute to the known hazards</li> </ul>

**Table 8**  
**Information Required on MSDSs**

<ul style="list-style-type: none"> <li>For <b>mixtures</b> NOT tested as a whole, list the chemical and common name(s) of hazardous ingredients <ul style="list-style-type: none"> <li>That make up 1% or more of the mixture, by weight or volume, including carcinogens (if 0.1% concentration or more, by weight or volume)</li> </ul> </li> <li>If ingredients are less than the above concentrations but may present a health risk to employees (for example, allergic reaction or exposure could exceed the permissible exposure limits, or PEL) they must be listed here</li> </ul>
<ul style="list-style-type: none"> <li>Exposure limits for airborne concentrations. Include <b>ALL</b> of the following, when they exist: <ul style="list-style-type: none"> <li>WISHA or OSHA PELs<sup>2</sup> <ul style="list-style-type: none"> <li>The 8-hour time weighted average (TWA)</li> <li>The short-term exposure limit (STEL), if available</li> <li>Ceiling values, if available</li> </ul> </li> <li>Threshold limit values (TLVs) including 8-hour TWAs, STELs, and ceiling values</li> <li>Other exposure limits used or recommended by the employer preparing the MSDS</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Physical and chemical characteristics <ul style="list-style-type: none"> <li>For example, boiling point, vapor pressure, and odor</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Fire, explosion data, and related information <ul style="list-style-type: none"> <li>For example, flashpoint, flammable and explosion limits, extinguishing media, and unusual fire or explosion hazards</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Physical hazards of the chemical including reactivity information <ul style="list-style-type: none"> <li>For example, incompatibilities, decomposition products, by-products, and conditions to avoid</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Health hazard information including <b>ALL</b> of the following: <ul style="list-style-type: none"> <li>Primary routes of exposure <ul style="list-style-type: none"> <li>For example, inhalation, ingestion, and skin absorption or other contact<sup>3</sup></li> </ul> </li> <li>Health effects (or hazards) associated with: <ul style="list-style-type: none"> <li>Short-term exposure<sup>4</sup></li> </ul> </li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Long-term exposure<sup>4</sup></li> <li>Whether the chemical is listed or described as a carcinogen or potential carcinogen in the latest editions of each of the following: <ul style="list-style-type: none"> <li>The National Toxicology Program (NTP) Annual Report on Carcinogens</li> </ul> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>The International Agency for Research on Cancer (IARC) Monographs as a potential carcinogen</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>WISHA or OSHA rules</li> <li>Signs and symptoms of exposure<sup>5</sup></li> <li>Medical conditions generally recognized as being aggravated by exposure</li> </ul> </li> </ul>
• Emergency and first-aid procedures

**Table 8**  
**Information Required on MSDSs**

- Generally applicable precautions for safe handling and use known to the employer preparing the MSDS
  - For example, appropriate procedures for clean-up of spills and leaks, waste disposal method, precautions during handling and storing
- Generally applicable and appropriate control measures known to the employer preparing the MSDS, including ALL of the following:
  - Engineering controls (for example, general or local exhaust ventilation)
  - Work practices
  - Personal protective equipment (PPE)
  - Personal hygiene practices
  - Protective measures during repair and maintenance of contaminated equipment

<sup>1</sup>The identities of some chemicals may be protected as trade secret information (see chapter 296-62 WAC, Part B-1, Trade secrets).

<sup>2</sup>WISHA PEL categories are defined, and values are provided, in chapter 296-841 WAC, Airborne contaminants.

<sup>3</sup>A "skin notation" listed with either an ACGIH TLV or WISHA/OSHA PEL indicates that skin absorption is a primary route of exposure.

<sup>4</sup>Examples of:

- Short-term health effects (or hazards) include eye irritation, skin damage caused by contact with corrosives, narcosis, sensitization, and lethal dose.
- Long-term health effects (or hazards) include cancer, liver degeneration, and silicosis.

<sup>5</sup>Signs and symptoms of exposure to hazardous substances include those that:

- Can be measured such as decreased pulmonary function
- AND
- Are subjective such as feeling short of breath.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, WSR 07-05-062, § 296-839-30005, filed 2/20/07, effective 4/1/07; WSR 05-03-093, § 296-839-30005, filed 1/18/05, effective 3/1/05; WSR 03-01-096, § 296-839-30005, filed 12/17/02, effective 6/1/03.]

#### **WAC 296-839-30010 Provide MSDSs for products shipped, transferred or sold over-the-counter.**

##### **You must:**

- Provide the correct MSDS to manufacturers, distributors and employers:
    - With the initial shipment or transfer of the product
- AND
- With the first shipment or transfer after an MSDS is updated
- AND
- Whenever one is requested.

**Note:** • MSDSs may be provided separately from containers as long as they are provided before or at the same time as the containers. For example, you may fax, or email the MSDS.

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- You are NOT required to provide MSDSs to retailers who inform you they
  - Do not sell the product to commercial accounts
- AND
- Do not open the sealed product containers for use in their workplace.

##### **You must:**

- Follow the requirements in Table 9 for chemicals sold over-the-counter.

**Table 9**  
**Requirements for Chemicals Sold Over-the-Counter (NOT Shipped)**

<b>If you are a</b>	<b>Then</b>
• Retail distributor <b>WITH</b> commercial accounts	• Provide an MSDS to employers with commercial accounts when requested AND • Post a sign, or otherwise inform employers, that MSDSs are available
• Retail distributor <b>WITH-OUT</b> commercial accounts	• Provide the employer, when requested, with ALL of the following: <ul style="list-style-type: none"> <li>- Name</li> <li>- Address</li> <li>- Telephone number of the chemical manufacturer, importer, or distributor who can provide an MSDS</li> </ul>
• Wholesale distributor selling products over-the-counter to employers	• Provide an MSDS to employers with commercial accounts when requested AND • Post a sign, or otherwise inform employers, that MSDSs are available

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, WSR 03-01-096, § 296-839-30010, filed 12/17/02, effective 6/1/03.]

#### **WAC 296-839-30015 Follow-up if an MSDS is not provided.**

##### **You must:**

- Obtain an MSDS from the chemical manufacturer, distributor or importer as soon as possible, if an MSDS is not provided for a shipment labeled as a hazardous chemical.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, WSR 03-01-096, § 296-839-30015, filed 12/17/02, effective 6/1/03.]

#### **WAC 296-839-400 Labeling.**

##### **Your responsibility:**

To provide employers with containers of hazardous chemicals that are properly labeled.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, WSR 03-01-096, § 296-839-400, filed 12/17/02, effective 6/1/03.]

(6/16/15)



**WAC 296-839-40005 Label containers of hazardous chemicals.****Exemption:**

Containers are exempt from this section if **ALL** hazardous contents are listed in Table 11.

**You must:**

• Make sure every container of hazardous chemicals leaving the workplace is properly labeled. This includes **ALL** of the following:

- The identity of the hazardous chemical (the chemical or common name) that matches the identity used on the MSDS
- An appropriate hazard warning
- The name and address of the chemical manufacturer, importer, or other responsible party
- Make sure labeling does not conflict with the requirements of:

■ The Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.)

**AND**

■ Regulations issued under the act by the U.S. Department of Transportation (Title 49 of the Code of Federal Regulations, Parts 171 through 180). See <http://www.dot.gov>

- Revise labels within three months of becoming aware of new and significant information about chemical hazards

- Provide revised labels on containers beginning with the first shipment after a revision, to manufacturers, distributors or employers

- Revise the label when a chemical is not currently used, produced or imported, before:

■ You resume shipping (or transferring) the chemical

**OR**

■ The chemical is reintroduced in the workplace

- Label information

■ Clearly written in English

**AND**

■ Prominently displayed on the container

**Note:** When the conditions specified in Table 10 are met for the solid material products listed you are not required to provide labels for every shipment.

<b>Table 10 Labeling for Solid Materials</b>	
<b>You need only send labels with the first shipment, IF the product is</b>	<b>And</b>
<b>Whole grain</b>	<ul style="list-style-type: none"> <li>• It is shipped to the same customer</li> <li><b>AND</b></li> <li>• No hazardous chemicals are part of or known to be present with the product which could expose employees during handling               <ul style="list-style-type: none"> <li>- For example, cutting fluids on solid metal, and pesticides with grain</li> </ul> </li> </ul>
<b>Solid untreated wood</b>	
<b>Solid metal</b> For example: Steel beams, metal castings	
<b>Plastic items</b>	

**Exemptions:**

The chemicals (and items) listed in Table 11 are **EXEMPT** from **THIS SECTION** under the conditions specified. Requirements in other sections still apply.

<b>Table 11 Conditional Label Exemptions</b>	
<b>This section does not apply to</b>	<b>When the product is</b>
<ul style="list-style-type: none"> <li>• Pesticides               <ul style="list-style-type: none"> <li>- Meeting the definition of "pesticides" in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (see Title 7, U.S.C. Chapter 6, Subchapter II, section 136<sup>1</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Subject to               <ul style="list-style-type: none"> <li>- Labeling requirements of FIFRA<sup>1</sup></li> </ul> </li> <li><b>AND</b></li> <li>- Labeling regulations issued under FIFRA by the United States Environmental Protection Agency (EPA) (see Title 40 of the Code of Federal Regulations<sup>2</sup>)</li> </ul>
<ul style="list-style-type: none"> <li>• A chemical substance or mixture               <ul style="list-style-type: none"> <li>- Meeting the definition of "chemical substance" or "mixture" in the Toxic Substance Control Act (TSCA) (see Title 15 U.S.C. Chapter 53, Subchapter II, Section 2602<sup>1</sup>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Subject to               <ul style="list-style-type: none"> <li>- Labeling requirements of TSCA<sup>1</sup></li> </ul> </li> <li><b>AND</b></li> <li>- Labeling requirements issued under TSCA by the EPA (see Title 40 of the Code of Federal Regulations<sup>2</sup>)</li> </ul>
<ul style="list-style-type: none"> <li>• Each of the following:               <ul style="list-style-type: none"> <li>- Food</li> <li>- Food additives</li> <li>- Color additives</li> <li>- Drugs</li> <li>- Cosmetics</li> <li>- Medical devices or products</li> <li>- Veterinary devices or products</li> <li>- Materials intended for use in these products (for example: Flavors, and fragrances)</li> </ul> </li> <li>• As defined in               <ul style="list-style-type: none"> <li>- The Federal Food, Drug, and Cosmetic Act (see Title 21 U.S.C. Chapter 9, Subchapter II, Section 321<sup>1</sup>)</li> </ul> </li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>- Or the Virus-Serum Toxin Act of 1913 (see Title 21 U.S.C. Chapter 5, Section 151 et seq.<sup>1</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>• Subject to:               <ul style="list-style-type: none"> <li>- Labeling requirements in Federal Food, Drug, and Cosmetic Act, Virus-Serum Toxin Act of 1913, and issued regulations enforced by the United States</li> </ul> </li> <li>■ Food and Drug Administration (see Title 21 Parts 101-180 in the Code of Federal Regulations<sup>3</sup>)</li> <li><b>OR</b></li> <li>■ Department of Agriculture (see Title 9, in the Code of Federal Regulations<sup>3</sup>)</li> </ul>

<b>Table 11</b> <b>Conditional Label Exemptions</b>	
<b>This section does not apply to</b>	<b>When the product is</b>
<b>OR</b> - Regulations issued under these acts (see Title 21 Part 101 in the Code of Federal Regulations, and Title 9, in the Code of Federal Regulations <sup>3</sup> )	
<ul style="list-style-type: none"> <li>• Each of the following:               <ul style="list-style-type: none"> <li>- Distilled spirits (beverage alcohols)</li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Wine</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Malt beverage</li> </ul> <ul style="list-style-type: none"> <li>• As defined in               <ul style="list-style-type: none"> <li>- The Federal Alcohol Administration Act (see Title 27 U.S.C. Section 201<sup>1</sup>)</li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Regulations issued under this act (see Title 27 in the Code of Federal Regulations<sup>3</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>• Subject to:               <ul style="list-style-type: none"> <li>- Labeling requirements of Federal Alcohol Administration Act<sup>1</sup></li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Labeling regulations issued under Federal Alcohol Administration Act by the Bureau of Alcohol, Tobacco, and Firearms (see Title 27 in the Code of Federal Regulations<sup>3</sup>)</li> </ul>
<ul style="list-style-type: none"> <li>• Consumer products</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>• Hazardous substances               <ul style="list-style-type: none"> <li>- As defined in                   <ul style="list-style-type: none"> <li>■ The Consumer Product Safety Act (see 15 U.S.C. 2051 et seq.<sup>1</sup>)</li> </ul> </li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>■ The Federal Hazardous Substances Act (see 15 U.S.C. 1261 et seq.<sup>1</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>• Subject to:               <ul style="list-style-type: none"> <li>- A consumer product safety or labeling requirement of the Consumer Product Safety Act or Federal Hazardous Substances Act<sup>1</sup></li> </ul> </li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>- Regulations issued under these acts by the Consumer Product Safety Commission (see Title 16 in the Code of Federal Regulations<sup>3</sup>)</li> </ul>
<ul style="list-style-type: none"> <li>• Agricultural seed</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>• Vegetable seed treated with pesticides</li> </ul>	<ul style="list-style-type: none"> <li>• Labeled as required by               <ul style="list-style-type: none"> <li>- The Federal Seed Act (see Title 7 U.S.C. Chapter 37 Section 1551 et seq.<sup>1</sup>)</li> </ul> </li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>- Labeling requirements issued under Federal Seed Act by the United States Department of Agriculture<sup>1</sup></li> </ul>

<sup>1</sup>This federal act is included in the United States Code. See <http://www.access.gpo.gov/uscode/uscmmain.html>

<sup>2</sup>See <http://www.epa.gov>

<sup>3</sup>See <http://www.access.gpo.gov/nara/cfr/index.html>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 06-08-087, § 296-839-40005, filed 4/4/06, effective 9/1/06; WSR 03-01-096, § 296-839-40005, filed 12/17/02, effective 6/1/03.]

**WAC 296-839-500 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 C.F.R. 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 C.F.R. 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 C.F.R. 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 flashpoint 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 chapter) 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 or 29 C.F.R. 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 chapter 296-841 WAC, 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."

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 05-03-093, § 296-839-500, filed 1/18/05, effective 3/1/05; WSR 03-01-096, § 296-839-500, filed 12/17/02, effective 6/1/03.]