

WAC 296-307-52011 What requirements determine which trucks to use in specific hazardous environments? Following are the minimum truck types required in specific hazardous environments. You may choose to use industrial trucks having greater safeguards. Tables W-1 and W-2 give specific vehicle usage information by Group and Class.

TABLE W-1
SUMMARY TABLE ON USE OF INDUSTRIAL TRUCKS IN VARIOUS LOCATIONS

CLASSES (Description of classes)	GROUPS (Examples of locations or atmosphere in classes and groups)				DIVISIONS (Nature of hazardous conditions)	
UNCLASSIFIED	No group designations in Unclassified				No divisions in Unclassified	
Locations not possessing atmospheres as described in other columns.	Piers and wharves inside and outside general storage, general industrial or commercial properties					
CLASS I LOCATIONS	A	B	C	D	1	2
Locations in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures.	Acetylene	Hydrogen	Ethyl ether	Gasoline Naphtha Alcohols Acetone Lacquer solvent Benzene	Conditions exists continuously, intermittently, or periodically under normal operating conditions.	Condition may occur due to accidentally, for example, due to a puncture of a storage drum.
CLASS II LOCATIONS	E		F		G	
Locations which are hazardous because of the presence of combustible dust.	Metal dust		Carbon black Coal dust Coke dust		Grain dust Flour dust Starch dust Organic dust	
					Explosive mixture may be present under normal operating conditions, or where failure of equipment may cause the condition to exist simultaneously with arcing or sparking of electrical equipment, or where dusts of an electrically conducting nature may be present.	Explosive mixture not normally present, but where deposits of dust may cause heat rise in electrical equipment, or where such deposits may be ignited by arcs or sparks from electrical equipment.
CLASS III LOCATIONS	Class III has no groups				1	2
Locations where easily ignitable fibers or flyings are present but not likely to be in suspension in quantities sufficient to produce ignitable mixtures.	Baled waste, cocoa fiber, cotton, excelsior, hemp, istle, jute, kapok, oakum, sisal, Spanish moss, synthetic fibers, tow.				Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	Locations in which easily ignitable fibers are stored or handled (except in the process of manufacture).

TABLE W-2
AUTHORIZED USES OF TRUCKS BY TYPES IN GROUPS OF CLASSES AND DIVISIONS

Groups in classes	UNCLASSIFIED	CLASS I								CLASS II						CLASS III	
	None	DIV I				DIV II				DIV I			DIV II			None	None
		A	B	C	D	A	B	C	D	E	F	G	E	F	G		
Type of truck authorized:																	
<i>Diesel:</i>																	
Type D.....	D**...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Type DS.....	.....	...	...	...	...	...	...	...	DS...	...	...	...	...	...	DS...	...	DS
Type DY.....	.....	...	...	...	...	...	...	...	DY...	...	...	...	...	...	DY...	...	DY
<i>Electric:</i>																	
Type E.....	E**...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E
Type ES.....	.....	...	...	...	...	...	...	...	ES...	...	...	...	...	...	ES...	...	ES
Type EE.....	.....	...	...	...	...	...	...	...	EE...	...	...	...	...	...	EE...	...	EE
Type EX.....	.....	...	...	...	EX...	...	...	...	EX...	EX...	EX...	...	...	EX...	EX...	EX...	EX
<i>Gasoline:</i>																	
Type G.....	G**...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Type GS.....	.....	...	...	...	...	...	...	...	GS...	...	...	...	...	...	GS...	...	GS
<i>LP-Gas:</i>																	
Type LP.....	LP**...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Type LPS.....	.....	...	...	...	...	...	...	...	LPS...	...	...	...	...	...	LPS...	...	LPS

** Trucks conforming to these types may also be used.

(1) Powered industrial trucks are prohibited in atmospheres with a hazardous concentration of:

- Acetaldehyde,

- Acetylene,
- Butadiene,
- Cyclopropane,
- Diethyl ether,
- Ethylene,
- Ethylene oxide,
- Hydrogen (or gases or vapors equivalent in hazard to hydrogen, such as manufactured gas),
- Isoprene,
- Propylene oxide, or
- Unsymmetrical dimethyl hydrazine (UDMH).

(a) Only approved EX trucks, or other trucks approved by the manufacturer, may be used in atmospheres containing hazardous concentrations of metal dust, including:

- Aluminum, magnesium, and their commercial alloys;
- Other dusts of similarly hazardous characteristics; or
- In atmospheres containing:
 - Carbon black,
 - Coal, or
 - Coke dust.

(b) In atmospheres where dust of magnesium, aluminum or aluminum bronze may be present, fuses, switches, motor controllers, and circuit breakers of trucks must have enclosures specifically approved for such locations.

(2) Only approved EX trucks, or other trucks approved by the manufacturer, may be used in atmospheres containing

- Acetone,
- Acrylonitrile,
- Alcohol,
- Ammonia,
- Benzine,
- Benzol,
- Butane,
- Ethylene dichloride,
- Gasoline,
- Hexane,
- Lacquer solvent vapors,
- Naphtha,
- Natural gas,
- Propane,
- Propylene,
- Styrene,
- Vinyl acetate,
- Vinyl chloride, or
- Xylenes

in quantities sufficient to produce explosive or ignitable mixtures.

(3) Only approved DY, EE, or EX trucks, or other trucks approved by the manufacturer, may be used in locations where volatile flammable liquids or flammable gases are handled, processed or used, if the hazardous liquids, vapors or gases are normally confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown, or in case of abnormal equipment operation.

Only approved DY, EE, or EX trucks, or other trucks approved by the manufacturer, may also be used in locations in which hazardous concentrations of gases or vapors are normally prevented by mechanical

ventilation but that might become hazardous through failure or abnormal operation of the ventilating equipment.

(4) Only approved DS, ES, GS, or LPS trucks, or other trucks approved by the manufacturer, may be used in locations used for the storage of hazardous liquids in sealed containers or liquefied or compressed gases in containers. This classification includes locations where volatile flammable liquids or flammable gases or vapors are used but are hazardous only in case of an accident or an unusual operation condition.

The quantity of hazardous material that might escape in case of accident, the adequacy of ventilating equipment, the total area involved, and the business's history of explosions or fires are all factors that should be considered in determining which truck has sufficient safeguards for the location.

(a) Only approved EX trucks, or other trucks approved by the manufacturer, may be used in atmospheres in which combustible dust is or may be suspended in quantities sufficient to produce explosive or ignitable mixtures, or where mechanical failure or abnormal operation of machinery or equipment might cause such mixtures to be produced.

(b) The EX classification, or other trucks approved by the manufacturer as having equal or greater safeguards, usually includes the working areas of:

- Grain handling and storage plants,
- Rooms containing grinders or pulverizers,
- Cleaners,
- Graders,
- Scalpers,
- Open conveyors or spouts,
- Open bins or hoppers,
- Mixers or blenders,
- Automatic or hopper scales,
- Packing machinery,
- Elevator heads and boots,
- Stock distributors,
- Dust and stock collectors (except all-metal collectors vented to the outside),

and all similar dust producing machinery and equipment in:

- Grain processing plants,
- Starch plants,
- Sugar pulverizing plants,
- Malting plants,
- Hay grinding plants, and other similar locations; and,
- Areas where combustible dust may, under normal operating conditions, be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

(5) Only approved DY, EE, or EX trucks, or other trucks approved by the manufacturer, may be used in atmospheres in which deposits or accumulations of combustible dust may be ignited by arcs or sparks from the truck, if combustible dust will not normally be suspended or thrown into suspension by the normal operation of equipment or apparatus in quantities sufficient to produce explosive or ignitable mixtures.

(6) Only approved DY, EE, or EX trucks, or other trucks approved by the manufacturer, may be used in locations with easily ignitable fibers or flyings if the fibers or flyings are not likely to be suspended in quantities sufficient to produce ignitable mixtures.

(7) Only approved DS, DY, ES, EE, EX, GS, or LPS trucks, or other trucks approved by the manufacturer, may be used in locations, including outside storage, where easily ignitable fibers are stored or handled, but are not processed or manufactured. E trucks that have been previously used in these locations may continue to be used.

(8) If storage warehouses and outside storage locations are hazardous, the specified approved truck, or other truck approved by the manufacturer, must be used. If not classified as hazardous, any approved D, E, G, or LP truck, or other truck approved by the manufacturer, may be used, or trucks meeting the requirements for these types may be used.

[Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050. WSR 00-01-176, § 296-307-52011, filed 12/21/99, effective 3/1/00. Statutory Authority: RCW 49.17.040. WSR 98-24-096, § 296-307-52011, filed 12/1/98, effective 3/1/99. WSR 97-09-013, recodified as § 296-307-52011, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. WSR 96-22-048, § 296-306A-52011, filed 10/31/96, effective 12/1/96.]