# Safety Data Sheet (SDS)



Weyerhaeuser Oriented Strand Board (OSB) Products including: Sheathing, Edge™, Edge Gold™, RBS™ (Radiant Barrier Sheathing), Rim Board, SturdiStep™

### 1. Identification

TRADE NAME(S): Weyerhaeuser Oriented Strand Board (OSB) products including:

Sheathing, Edge, Edge Gold™, RBS™ (Radiant Barrier

Sheathing), Rim Board, SturdiStep™

SYNONYMS and/or GRADES: Radiant Barrier Sheathing (RBS™), Rim Board, Web stock,

Sheathing, Roof Sheathing

PRODUCT USES: Building Materials

CHEMICAL NAME/CLASS: Wood Products

MANUFACTURER'S NAME: Weverhaeuser

ADDRESS: 220 Occidental Ave S., Seattle, WA 98104

EMERGENCY PHONE (DOT): (844) 523-4081 (3E Company)

BUSINESS PHONE: (206) 539-3910
INTERNET ACCESS: See section 16
REVISED DATE: August 27, 2018

### 2. Hazard(s) Identification

## Signal Word: DANGER

**NOTE**: These products are not hazardous in the form in which they are shipped by the manufacturer but may become hazardous as the result of downstream activities (e.g. cutting, sanding) which creates small particles resulting in the potential hazards as described below.

Classification	Hazard Statement(s)	Pictogram(s)
HEALTH Carcinogen- Category 1A (H350) *	Wood dust may cause nasopharyngeal cancer and/or cancer of the nasal cavities and paranasal sinuses by inhalation	

# 2. Hazard(s) Identification (cont'd.)

Skin Irritation Category 2 (H315)	Causes skin irritation	
Specific Target Organ Toxicity- Single Exposure (STOT) Category 3 (H335)	May cause respiratory irritation	
Eye Irritation Category 2B (H320)	Causes eye irritation	None
Combustible Dust (OSHA Defined Hazard)	If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air	None

<sup>\*</sup>Hazard codes (GHS)

HMIS Rating (Scale 0-4):	Health =	2*	Fire =	1	Physical Hazard =	0
NFPA Rating (Scale 0-4):	Health =	1	Fire =	1	Reactivity =	0

### **Precautionary Statement(s):**

# Prevention Statements:

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from sparks, flame or other heat sources.

P243: Take precautionary measures against static discharge.

P261+284: Avoid breathing dust. In case of inadequate ventilation wear an approved respirator suitable for conditions of use.

P271: Use outdoors or in a well-ventilated area.

P280: Wear appropriate protective equipment for eye and skin exposure.

## Response Statements:

P304+P340+P313: If inhaled and breathing becomes difficult, remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a doctor or other qualified medical professional.

P333+P313: If skin irritation or rash occurs get medical advice/attention.

P352+P264: If on skin wash with plenty of soap and water.

P362+P364: Take off contaminated clothing and wash before reuse.

P305+P351+P338: If in eyes, rinse cautiously for several minutes. Remove contact lenses if present and easy to do so.

### Disposal:

P501: Dispose of contents in accordance with federal, state and local regulations.

Ingredients of Unknown Acute Toxicity (>1%): NAP

## 3. Composition/Information on Ingredients

Ingredients	CAS#	Wt.%
Wood (wood dust, softwood or hardwood)	None	70-96
Resin Solids: Polymeric Phenol-Formaldehyde <sup>1</sup> (reacted)	9003-35-4	1-14
Polymeric Diphenylmethane Diisocyanate <sup>2</sup> [C <sub>6</sub> H <sub>3</sub> (NCO)CH <sub>2</sub> ]n (reacted)	9016-87-9	1-14
Paraffin or Emulsified Wax <sup>3</sup>	8002-74-2	1-2
Polyethylene Coated and/or Laminated Paper Aluminum Foil (RBS Roof Sheathing only)	None	1-2

Common names: <sup>1</sup>Phenol-formaldehyde (PF) resin; <sup>2</sup> Polymeric MDI (pMDI); <sup>3</sup> Hydrocarbon waxes.

#### 4. First Aid Measures

**Inhalation:** Remove to fresh air if respiratory symptoms are experienced. Seek medical help if persistent irritation, severe coughing, breathing difficulty or other serious symptoms occur.

**Eye Contact:** Treat dust in eye as a foreign object. Flush with water to remove dust particles. Remove contact lenses if present and easy to do so. Avoid touching or rubbing eyes to avoid further irritation or injury. Seek medical help if irritation persists.

**Skin Contact:** Wood dust may elicit contact dermatitis. Seek medical help if rash, irritation or dermatitis persists.

Skin Absorption: Not known to be absorbed through the skin.

**Ingestion:** Not applicable under normal use.

Symptoms or Effects:

Acute Symptoms/Effects – Dust may cause mechanical irritation of the eyes and respiratory system. Dust can cause physical obstructions in the nasal passages, resulting in dryness of nose, dry cough, and sneezing.

Delayed Symptoms/Effects – Unique delayed effects are not anticipated after exposure. See Section 11 for additional information on chronic effects.

### 5. Fire-fighting Measures

**Extinguishing Media and Restrictions:** Water, carbon dioxide and sand.

**Specific Hazards, Anticipated Combustion Products:** Thermal decomposition (i.e. smoldering, burning) products include carbon monoxide, oxides of nitrogen, hydrogen cyanide, carbon dioxide, aliphatic aldehydes, resin acids, terpenes, polycyclic aromatic hydrocarbons and aluminum oxides (RBS Roof Sheathing only).

**Autoignition Temperature:** Variable [typically 400°-500°F (204°-260°C)]

**Special Firefighting Equipment/Procedures:** No special equipment anticipated. Beware of potential combustible dust explosion hazard.

## 5. Fire-fighting Measures (cont'd.)

Unusual Fire and Explosion Hazards: Depending on moisture content, particle diameter and concentration, wood and resin dust may pose a flash fire or deflagration hazard. If suspended in air in an enclosure or container and ignited, an explosion may occur due to the development of internal pressure causing rupture. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the Minimum Explosible Concentration (MEC) for wood dusts. Conduct regular housekeeping inspections and cleaning to prevent excessive dust accumulations. Design and maintain control equipment to minimize fugitive combustible dust emissions. Ensure that ventilation systems are operating properly to capture, transport and contain combustible dust while controlling ignition sources. Reference NFPA 652 "Standard on the Fundamentals of Combustible Dust".

# 6. Accidental Release Measures

Steps to be taken in case Material Is Released or Spilled: Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Maintain good housekeeping to avoid accumulation of wood and resin dust on exposed surfaces. Use approved filtering face piece respirator ("dust mask") or higher levels of respiratory protection as indicated and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort.

## 7. Handling and Storage

**Precautions to be taken in Handling and Storage:** Product dust may pose a combustible dust hazard. Keep away from ignition sources. Avoid eye contact. Avoid prolonged or repeated contact with skin. Avoid prolonged or repeated breathing of dusts. Store in well-ventilated, cool, dry place away from open flame.

# 8. Exposure Control Measures/Personal Protection

**Exposure Limits/Guidelines:** 

Ingredient(s)	Agency	Exposure Limit(s)	Comments
Wood (wood dust, softwood and hardwood)	OSHA	PEL-TWA 15 mg/m <sup>3</sup> (see footnote <sup>A</sup> below)	Total dust (PNOR)
	OSHA	PEL-TWA 5 mg/m <sup>3</sup> (see footnote <sup>A</sup> below)	Respirable dust fraction (PNOR)
	ACGIH	TLV-TWA 1 mg/m <sup>3</sup>	Inhalable fraction
Resin Solids: Polymeric phenol-	OSHA	PEL-TWA 0.75 ppm	Free gaseous
formaldehyde <sup>B</sup>	OSHA	PEL-STEL 2 ppm	formaldehyde
	ACGIH	TLV-TWA 0.1 ppm	
	ACGIH	TLV-STEL 0.3 ppm	
Polymeric Diphenylmethane	OSHA	None	
Diisocyanate <sup>c</sup>	ACGIH	None	
Paraffin wax	OSHA	PEL-TWA 2 mg/m <sup>3</sup>	Paraffin wax fume
	ACGIH	TLV-TWA 2 mg/m <sup>3</sup>	Paraffin wax fume

# 8. Exposure Control Measures/Personal Protection (cont'd.)

Polyethylene Coated and/or	OSHA	PEL-TWA 15 mg/m <sup>3</sup>	Aluminum (total dust
Laminated Paper Aluminum Foil (RBS Roof Sheathing only)	OSHA	PEL-TWA 5 mg/m <sup>3</sup>	fraction) Aluminum (respirable dust fraction)
	ACGIH	TLV-TWA 10 mg/m <sup>3</sup>	Aluminum (total dust)

A In AFL-CIO v OSHA, 965 F. 2d 962 (11th Cir. 1992), the Court overturned OSHA's 1989 Air Contaminants Rule, including the specific PEL's for wood dust that OSHA had established at that time. The 1989 vacated PEL's were: 5 mg/m³ PEL-TWA and 10 mg/m³ STEL (15 min), all softwood and hardwood except Western Red Cedar. Wood dust is now regulated by OSHA as "Particulates Not Otherwise Regulated" (PNOR), which is also referred to as "nuisance dust". However, some states have regulated wood dust PEL's in their state plans. Additionally, OSHA indicated that it may cite employers under the OSH Act general duty clause in appropriate circumstances.

#### Ventilation:

- LOCAL EXHAUST Provide local exhaust as needed so that exposure limits are met. Ventilation to control dust should be considered where potential explosive concentrations and ignition sources are present. The design and operation of any exhaust system should consider the possibility of explosive concentrations of wood and resin dust within the system. See "SPECIAL" section below. Use of tool mounted exhaust systems should also be considered, especially when working in enclosed areas.
- MECHANICAL (GENERAL) Provide general ventilation in processing and storage areas so that exposure limits are met.
- SPECIAL Ensure that exhaust ventilation and material transport systems involved in handling these products contain explosion relief vents or suppression systems designed and operated in accordance with applicable standards if the operating conditions justify their use.
- OTHER ENGINEERING CONTROLS Cutting and machining of these products should preferably be done outdoors or with adequate ventilation and containment.

#### **Personal Protective Equipment:**

- RESPIRATORY PROTECTION Use filtering face piece respirator ("dust mask") tested and approved under appropriate government standards such as NIOSH (US),CSA (Canada), CEN (EU), or JIS (Japan) where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort or symptom relief. Use respiratory protection in accordance with jurisdictional regulatory requirements similar to the OSHA respiratory protection standard 29CFR 1910.134 following a determination of risk from potential exposures.
- EYE PROTECTION Approved goggles or tight fitting safety glasses are recommended when excessive exposures to dust may occur (e.g. during clean up) and when eye irritation may occur.
- PROTECTIVE GLOVES Cloth, canvas, or leather gloves are recommended to prevent direct contact and to minimize potential slivers and mechanical irritation from handling product.
- OTHER PROTECTIVE CLOTHING OR EQUIPMENT Outer garments which cover the arms may be desirable in extremely dusty areas.
- WORK/HYGIENE PRACTICES Follow good hygienic and housekeeping practices. Clean up areas where wood and resin dust settles to avoid excessive accumulation of this combustible material. Minimize compressed air blowdown or other practices that generate high airborne-dust concentrations.

<sup>&</sup>lt;sup>B</sup> These products may contain free formaldehyde (<0.1%, wt. %), which may be released depending on concentration and environmental conditions. These products contain no added urea-formaldehyde resins.

<sup>&</sup>lt;sup>c</sup> This ingredient is the polymerized form of MDI resin.

# 9. Physical/Chemical Properties

Appearance: Weyerhaeuser OSB products consist of a ligno cellulosic matrix of interlocking wood fibers having a slight characteristic odor. The wood component of these products may consist of aspen, southern pine, red pine, maple, black poplar or birch. OSB Sheathing has green with white paint on the edges. Edge™ flooring is painted green with white on the edges; Edge Gold™ flooring is painted gold on the edges. RBS™ has paper backed perforated aluminum foil adhered to one face of the board. Rim Board comes in variable length strips. SturdiStep™ is cut-to-order OSB.

Odor/Odor Threshold(s):	NAV
pH:	NAP
Melting/Freezing Point:	NAP
Boiling Point (@ 760 mm Hg) and Range:	NAP
Flash Point:	NAP
Evaporation Rate:	0
Flammability:	NAP
Lower/Upper Explosive Limits:	40,000 mg of dust per cubic meter of air is often used
	as the LEL for wood dusts.
Vapor Pressure (mm Hg):	NAP
Vapor Density (air = 1; 1 atm):	NAP
Relative Density:	NAP
Solubility:	<0.1
Partition Coefficient (n-octanol/water):	NAP
Autoignition Temperature:	Variable [typically 400°-500°F (204°-260°C)]
Decomposition Temperature:	NAV
Viscosity:	NAP
Other Properties:	NAP

# 10. Stability and Reactivity

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Hazardous Polymerization: ☐ May occur ☑ Will not occur

Stability: ☐ Unstable ☑ Stable

Conditions to Avoid: Avoid open flame. Product may ignite at temperatures in excess of 400°F

(204°C).

Incompatibility (Materials to Avoid): Avoid contact with oxidizing agents and drying oils.

**Hazardous Decomposition or By-Products:** Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas. Spontaneous and rapid hazardous decomposition will not occur.

**Sensitivity to Static Discharge**: Airborne wood and resin dust may be ignited by a static discharge depending on airborne concentrations, particle size and moisture content.

# 11. Toxicological Information

#### Likely Route(s) of Exposure:

■ Ingestion:

Skin: Dust Inhalation: Dust Eye: Dust

# 11. Toxicological Information (cont'd.)

### Signs and Symptoms of Exposure:

Wood Dust - NTP: According to its Report on Carcinogens, Fourteenth Edition, NTP states, "Wood dust is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans". An association between wood dust exposure and cancer of the nasal cavity has been observed in case reports, cohort studies, and case-control studies that specifically addressed nasal cancer. Associations with cancer of the nasal cavities and paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure. This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust. There is inadequate evidence for the carcinogenicity of wood dust from studies in experimental animals according to NTP.

**Wood Dust: IARC – Group 1:** Carcinogenic to humans; sufficient evidence of carcinogenicity. This classification is primarily based on studies showing an association between occupational exposure to wood dust and adenocarcinoma to the nasal cavities and paranasal sinuses. IARC did not find sufficient evidence of an association between occupational exposure to wood dust and cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum.

**Formaldehyde - NTP:** According to its Report on Carcinogens, Fourteenth Edition, NTP states, Formaldehyde (gas) is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans and sup porting data on mechanisms of carcinogenesis.

**Formaldehyde: IARC – Group 1:** Carcinogenic to humans, sufficient evidence of carcinogenicity. A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries and "strong but not sufficient evidence" for leukemia. However, numerous epidemiological studies have failed to demonstrate a relationship between formaldehyde exposure and nasal cancer or pulmonary diseases such as emphysema or lung cancer.

# **Carcinogenicity Listing:**

NTP: Wood dust, Known Human Carcinogen. Formaldehyde, Known to be a

Human Carcinogen.

IARC Monographs: Wood dust, Group 1 − carcinogenic to humans. Formaldehyde, Group

1-carcinogenic to humans.

SHA Regulated: Formaldehyde Gas 29 CFR 1910.1048

**Toxicity Data:** No specific information available for product in purchased form. Individual component information is listed below.

#### Components:

### Wood dust (softwood or hardwood)

Dusts generated from sawing, sanding or machining the product may cause respiratory irritation, nasal dryness and irritation, coughing and sinusitis. NTP and IARC (Group 1) classify wood dust as a human carcinogen. See Section 2 above.

### Formaldehyde

Human inhalation TC<sub>Lo</sub> of 17 mg/m³ for 30 minutes produced eye and pulmonary results; human inhalation TC<sub>Lo</sub> of 300 ug/m³ produced nose and central nervous system results; LC<sub>50</sub> (rat, inhalation) = 1,000 mg/m³, 30 minutes; LC<sub>50</sub> (mice, inhalation) = 400 mg/m³, 2 hours. IARC and NTP classify formaldehyde as a human carcinogen (IARC Group 1). See Section 2 above.

Target Organs: Eyes, skin, and respiratory system.

**Note:** Weyerhaeuser evaluated the studies referenced in the ACGIH® TLV® Documentation for Wood Dust and others which included potential allergenic references for wood species which may cause skin or respiratory sensitization. There are a limited number of studies of highly variable consistency which reference sensitization from some species of wood. When the total weight of evidence is considered these products are determined to be an eye, skin and respiratory irritant and not a respiratory or skin sensitizer according to health hazard classification criteria.

## 12. Ecological Information

**Ecotoxicity:** NAV for finished product.

Formaldehyde component:

 $\begin{array}{lll} 96 \text{ hr LC}_{50} \text{ Fathead Minnow} & 24 \text{ mg/L} \\ 96 \text{ hr LC}_{50} \text{ Bluegill} & 0.10 \text{ mg/L} \\ 5 \text{ min EC}_{50} \text{ Photobacterium phosphoreum} & 9 \text{ mg/L} \\ 96 \text{ hr EC}_{50} \text{ Water flea} & 20 \text{ mg/L} \\ \end{array}$ 

**Biopersistance and Degradability:** The wood portion of these products would be expected to be biodegradable.

# Formaldehyde

Trace amounts of free formaldehyde may be released to the atmosphere and would be expected to be removed in the atmosphere by direct photolysis and oxidation by photochemically produced hydroxyl radicals (half-life of a few hours). In the aqueous phase formaldehyde biodegradation is expected to take place in a few days.

### Polymeric MDI

The effects from a simulated accidental pollution event in a pond with polymeric MDI on different trophic levels of the aquatic ecosystem were investigated (Heimbach F. et.al., 1996). Neither monomeric MDI nor its potential reaction product MDA (4, 4 \*-diphenylmethanediamine) was detected in water or accumulated by fish. The MDI polymerized to inert polyurea on the sediment of the test ponds. This polymerization formed carbon dioxide, released as bubbles which floated to the water surface. There was no direct effect on the pelagic community (phytoplankton, zooplankton, fish, and macrophytes) of the test ponds.

**Bioaccumulation:** NAV **Soil Mobility:** NAV

Other adverse effects: NAP

### 13. Disposal Considerations

**Waste Disposal Method:** Dry land disposal or incineration is acceptable in most areas. It is, however, the user's responsibility to determine at the time of disposal whether your waste meets any jurisdictional criteria. Note that wood and resin dust may pose a combustible dust hazard.

### 14. Transport Information

**Mode:** (air, land, water) Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations. Not regulated as a hazardous material by IMDG or IATA regulations concerning the transport of hazardous materials.

UN Proper Shipping Name:
UN/NA ID Number:
NAP
Hazard Class:
NAP
Packing Group:
NAP
Environmental Hazards (Marine

Pollutant):

Special Precautions: NAP

## 15. Regulatory Information

**TSCA:** Phenol-formaldehyde resin, polymeric diphenylmethane diisocyanate, titanium dioxide and paraffin wax are on the TSCA inventory.

CERCLA: Formaldehyde (100 lbs. RQ) is on the CERCLA chemical substance inventory.

**DSL:** Formaldehyde, titanium dioxide, polymeric diphenylmethane diisocyanate and paraffin wax are on the DSL.

**OSHA:** Wood products are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood and resin dust generated by sawing, sanding or machining these products are considered hazardous. Workplace exposure to formaldehyde is specifically regulated under 29 CFR 1910.1048.

#### STATE RIGHT-TO-KNOW:

California Proposition 65 -

**WARNING**: This product can expose you to chemicals including wood dust which are known to the State of California to cause cancer, and methanol, which are known to the State of California to cause birth defects or other reproductive harm. Drilling, sawing, sanding or machining wood products can expose you to wood dust. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to <a href="www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>/wood. This product also can release titanium dioxide (airborne, unbound particles of respirable size), a chemical known to the state of California to cause cancer, if the painted edges are cut or sanded.

These products contain formaldehyde, which depending on temperature and humidity may be emitted from the product. Formaldehyde is known to the State of California to cause cancer.

<u>Pennsylvania</u> – These products contain formaldehyde which, depending on temperature and humidity, may be emitted from the product. When cut or otherwise machined, these products may emit wood dust and titanium dioxide. These products may also contain paraffin wax. Formaldehyde, titanium dioxide, wood dust, and paraffin wax appear on Pennsylvania's Appendix A, Hazardous Substance Lists.

New Jersey – These products contain formaldehyde which, depending on temperature and humidity, may be emitted. When cut or otherwise machined, the products may emit wood dust and titanium dioxide. Formaldehyde, titanium dioxide and wood dust are on the New Jersey Environmental Hazardous Substance List.

**SARA 313 Information**: To the best of our knowledge, these products contain formaldehyde at de minimis concentrations (<0.1%) and is not subjected to the SARA Title III Section 313 supplier notification requirements.

**SARA 311/312 Hazard Category:** These products have been reviewed according the EPA "Hazard Categories: promulgated under SARA Title III, Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard

A delayed (chronic) health hazard

A corrosive hazard

A fire hazard

A reactivity hazard

A sudden release hazard

Yes

Yes

No

No

No

**FDA:** Not intended for use as a food additive or indirect food contact item.

**WHMIS Classification:** Wood and products made from wood are exempt from WHMIS per the Hazardous Products Act (HPA). However, wood dust released during the use or modifications of wood products may be hazardous. See Section 2 for health and combustible dust hazard information.

#### 16. Other Information

**Date Prepared:** 11/04/2010 **Date Revised:** 08/27/2018

Prepared By: Weyerhaeuser Company Health and Safety

Weverhaeuser SDS available on:

http://www.wy.com/sustainability/environment/product-stewardship/safety-data-sheets/

User's Responsibility: The information contained in this Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to ensure that the most current SDS is used.

#### **Definition of Common Terms:**

ACGIH® = American Conference of Governmental Industrial Hygienists

C = Ceiling Limit

CAS# = Chemical Abstracts System Number DOT = U. S. Department of Transportation

DSL = Domestic Substance List

EC# = Identifying Number Assigned to Chemicals Contained in the European Inventory of

Existing Chemical Substances (EINECS)

EC<sub>50</sub> = Effective Concentration That Inhibits the Endpoint to 50% of Control Population

EPA = U.S. Environmental Protection Agency

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HMIS = (Canada) Hazardous Materials Identification System

IARC = International Agency for Research on Cancer IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LC<sub>50</sub> = Concentration in Air Resulting in Death To 50% of Experimental Animals

LCLo = Lowest Concentration in Air Resulting in Death

LD<sub>50</sub> = Administered Dose Resulting in Death to 50% of Experimental Animals

LDLo = Lowest Dose Resulting in Death

LEL = Lower Explosive Limit LFL = Lower Flammable Limit

MSHA = Mine Safety and Health Administration

NAP = Not Applicable NAV = Not Available

NIOSH = National Institute for Occupational Safety and Health

NFPA = National Fire Protection Association

NPRI = (Canada) National Pollution Release Inventory

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit

PNOR = Particulate Not Otherwise Regulated
PNOS = Particulate Not Otherwise Specified
RCRA = Resource Conservation and Recovery Act
STEL = Short-Term Exposure Limit (15 minutes)
STP = Standard Temperature and Pressure

TCLo = Lowest Concentration in Air Resulting in a Toxic Effect

TDG = (Canada) Transportation of Dangerous Goods
TDLo = Lowest Dose Resulting In a Toxic Effect

TLV = Threshold Limit Value

# 16. Other Information (cont'd.)

TSCA = Toxic Substance Control Act TWA = Time-Weighted Average (8 hours)

UFL = Upper Flammable Limit

WHMIS = (Canada) Workplace Hazardous Materials Information System