

# SAFETY DATA SHEET

DURA-PLATE® 235 Multi-Purpose Epoxy (Part B)  
Hardener

## 1. Product and company identification

**Product name** : DURA-PLATE® 235 Multi-Purpose Epoxy (Part B)  
Hardener  
**Product code** : B67V235  
**Product type** : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

**Supplier's details** : The Sherwin-Williams Company  
101 W. Prospect Avenue  
Cleveland, OH 44115

**Emergency telephone number (with hours of operation)** : +(81)-345209637 (Available 24 hours / 365 days)

**e-mail address of person responsible for this SDS** : sds@sherwin.com

**Date of issue/Date of revision** : 7/31/2018

**Date of previous issue** : No previous validation

## 2. Hazards identification

**GHS Classification** : FLAMMABLE LIQUIDS - Category 3  
SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
TOXIC TO REPRODUCTION (Fertility) - Category 1B  
TOXIC TO REPRODUCTION (Unborn child) - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), kidneys, liver, respiratory system) - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), hearing organs, nervous system, respiratory system) - Category 1  
ASPIRATION HAZARD - Category 1  
AQUATIC HAZARD (ACUTE) - Category 2  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## 2. Hazards identification

**Hazard statements** : Flammable liquid and vapor.  
Causes severe skin burns and eye damage.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May damage fertility or the unborn child.  
Suspected of causing cancer.  
May be fatal if swallowed and enters airways.  
Causes damage to organs. (central nervous system (CNS), kidneys, liver, respiratory system)  
May cause drowsiness or dizziness.  
Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS), hearing organs, nervous system, respiratory system)  
Toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

**Response** : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Storage** : Store locked up. Store in a well-ventilated place. Keep cool.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : Read Safety Data Sheet Before Use.

## 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

**ENCS number** : Not available.

**ISHL number** : Not available.

### 3. Composition/information on ingredients

Ingredient name	%	CAS number	ENCS	ISHL
Xylene	25	1330-20-7	(3)-3; (3)-60	(3)-3; (3)-60
2,4,6-Tris(dimethylaminomethyl)phenol	≤8.0	90-72-2	(3)-714; (3)-762; (3)-776	Not available.
1-Butanol	≤8.0	71-36-3	(2)-3049	(2)-3049
Ethylbenzene	4.4	100-41-4	(3)-28; (3)-60	(3)-28; (3)-60;
Ethylenediamine	1.2	107-15-3	(2)-150	3-60 (2)-150

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.

## 4. First aid measures

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### Short term exposure

**Potential delayed effects** : Not available.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

See toxicological information (Section 11)

## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

## 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

### Precautions for safe handling

#### **Protective measures**

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### **Advice on general occupational hygiene**

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### **Conditions for safe storage**

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

<b>Ingredient name</b>	<b>Exposure limits</b>
Xylene	<b>Japan Society for Occupational Health (Japan, 5/2016).</b> OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m <sup>3</sup> 8 hours. <b>ISHL (Japan, 4/2017).</b> TWA: 50 ppm 8 hours.
1-Butanol	<b>Japan Society for Occupational Health (Japan, 5/2016). Absorbed through skin.</b> OEL-C: 50 ppm OEL-C: 150 mg/m <sup>3</sup> <b>ISHL (Japan, 4/2017).</b> TWA: 25 ppm 8 hours.
Ethylbenzene	<b>Japan Society for Occupational Health (Japan, 5/2016).</b> OEL-M: 50 ppm 8 hours. OEL-M: 217 mg/m <sup>3</sup> 8 hours. <b>ISHL (Japan, 4/2017).</b> TWA: 20 ppm 8 hours.
Ethylenediamine	<b>Japan Society for Occupational Health (Japan, 5/2016). Absorbed through skin. Skin sensitizer. Inhalation sensitizer.</b>



## 8. Exposure controls/personal protection

OEL-M: 10 ppm 8 hours.  
OEL-M: 25 mg/m<sup>3</sup> 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.

## 9. Physical and chemical properties

<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: 117°C (242.6°F)
<b>Flash point</b>	: Closed cup: 48°C (118.4°F) [Pensky-Martens Closed Cup]
<b>Fire point</b>	: Not available.
<b>Evaporation rate</b>	: 0.91 (butyl acetate = 1)
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Lower: 1% Upper: 16.6%
<b>Vapor pressure</b>	: 1.4 kPa (10.7 mm Hg) [at 20°C]
<b>Vapor density</b>	: 2.07 [Air = 1]
<b>Relative density</b>	: 0.94
<b>Solubility</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (40°C (104°F)): <0.205 cm <sup>2</sup> /s (<20.5 cSt)
<b>Flow time (ISO 2431)</b>	: Not available.
<b><u>Aerosol product</u></b>	
<b>Heat of combustion</b>	: 12.869 kJ/g

## 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity



## 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
2,4,6-Tris (dimethylaminomethyl) phenol	LD50 Oral	Rat	1200 mg/kg	-
	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
1-Butanol	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Ethylbenzene	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
2,4,6-Tris (dimethylaminomethyl) phenol	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Skin - Mild irritant	Rat	-	0.025 Milliliters	-
	Skin - Severe irritant	Rat	-	0.25 Milliliters	-
1-Butanol	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Milliliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Ethylenediamine	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	750 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	450 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 10 milligrams	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

## 11. Toxicological information

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Xylene	Category 1	Not determined	central nervous system (CNS), kidneys, liver and respiratory system
1-Butanol	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylenediamine	Category 1	Not determined	respiratory system

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Xylene	Category 1	Not determined	nervous system and respiratory system
1-Butanol	Category 1	Not determined	central nervous system (CNS) and hearing organs
Ethylbenzene Ethylenediamine	Category 2 Category 2	Not determined Not determined	hearing organs eyes, kidneys and liver

### Aspiration hazard

Name	Result
Xylene Ethylbenzene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

## 11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- General** : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : May damage the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : May damage fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	8028.3 mg/kg
Dermal	3082 mg/kg
Inhalation (vapors)	35.75 mg/l

## 11. Toxicological information

## 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
1-Butanol	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
Ethylbenzene	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
Ethylenediamine	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 100000 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute LC50 26500 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 115.7 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 160 µg/l Fresh water	Daphnia - Daphnia magna	21 days

### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Xylene	-	8.1 to 25.9	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**Hazardous to the ozone layer** : Not applicable.

**Other adverse effects** : No known significant effects or critical hazards.




## 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when

## 13. Disposal considerations

handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

	UN	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL
Transport hazard class(es)	3 	3 	3 
Packing group	III	III	III
Environmental hazards	No.	No.	No.

### Additional information

IMDG : **Emergency schedules** F-E, S-E

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## 15. Regulatory information

### Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Category IV	Class II petroleum	III	Flammable - Keep Fire Away	1000 L

**Fire Service Law - Obstructive materials** : Not listed

**Designated combustibles** : Not available. **Designated quantity** : Not available.

### Maritime Safety Law

#### Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

### Container class

None of the components are listed.

### ISHL

#### Use of specified chemical substances

## 15. Regulatory information

Ingredient name	%	Status	Reference number
Ethyl benzene	≤5.0	Group-2 Substances under Supervision	3-3

### Label requirements

Ingredient name	%	Status	Reference number
Butanol	≤8.0	Listed	477
Ethylenediamine	≤1.8	Listed	83
Xylene	≥25 - ≤38	Listed	136
Ethylbenzene	≤5.0	Listed	70

### Chemicals requiring notification

Ingredient name	%	Status	Reference number
Butanol	≤8.0	Listed	477
Ethylenediamine	≤1.8	Listed	83
Xylene	≥25 - ≤38	Listed	136
Ethylbenzene	≤5.0	Listed	70

### Carcinogen

None of the components are listed.

### Mutagen

None of the components are listed.

**Corrosive liquid** : Not listed  
**ISHL Appendix 1** : Flammable liquid Class 4

**Lead regulation** : Not listed  
**Prevention of Tetraalkyl  
Lead Poisoning** : Not listed

**Harmful Substances  
Subject to Obtaining  
Permission for  
Manufacturing** : Not listed

**Harmful Substances,  
Prohibited for  
Manufacturing** : Not listed

**Dangerous Substances** : Inflammable

**Organic solvents  
poisoning prevention** : Class 2

### Chemical Substances Control Law (CSCL)



## 15. Regulatory information

Ingredient name	%	Status	Reference number
1-Butanol; butan-1-ol	≤8.0	Priority assessment	124
Xylene	≥25 - ≤38	Priority assessment	125
Ethylbenzene; Ethylbenzol; EB	≤5.0	Priority assessment	50
Toluene; Methylbenzene	≤0.10	Priority assessment	46
Formaldehyde; Methanal	<0.10	Priority assessment	25

### Poisonous and Deleterious Substances

None of the components are listed.

### Pollutant Release and Transfer Registers (PRTR)

Ingredient name	%	Status	Reference number
ethylenediamine	1.2	Class 1	59
xylene	25	Class 1	80
ethylbenzene	4.4	Class 1	53

**JSOH Carcinogen** : Group 2B

**Law Concerning Prevention of Pollution of the Ocean and Maritime Disaster** : Not available.

**Road law** : Not available.

**List of Specially Controlled Industrial Waste** : Not listed

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : All components are listed or exempted.

**Canada** : All components are listed or exempted.

**China** : All components are listed or exempted.

**Europe** : Not determined.

**Japan** : **Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.

**Malaysia** : All components are listed or exempted.

**New Zealand** : All components are listed or exempted.

## 15. Regulatory information

<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: Not determined.

## 16. Other information

### History

<b>Date of printing</b>	: 7/31/2018
<b>Date of issue/Date of revision</b>	: 7/31/2018
<b>Date of previous issue</b>	: No previous validation
<b>Version</b>	: 1

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN CORROSION - Category 1	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Fertility) - Category 1B	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), kidneys, liver, respiratory system) - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), hearing organs, nervous system, respiratory system) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method
AQUATIC HAZARD (ACUTE) - Category 2	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other

## 16. Other information

source.