








# Safety Data Sheet

(11312)

## HEMPEL'S CURING AGENT 966US

Protective Clothing	General Hazard	DOT
Consult your supervisor or S.O.P. for special handling	  	 

Conforms to ANSI Z400.1-2010 Standard - HPR - Canada

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Product name : HEMPEL'S CURING AGENT 966US  
 Product identity : 966US0000H  
 Product type : Curing agent

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

Field of application : metal industry buildings, ships and shipyards.  
 Identified uses : Industrial/Professional use

#### 1.3 Details of the supplier of the safety data sheet

Company details : Hempel (Canada), Inc.  
 #111 19097 26th Ave  
 Surrey, B.C V3S 3V7  
 Phone: 604-536-4275  
 Fax: 604-536-4375  
 Toll free: 1 800 661 3201  
 E-mail Hempel@Hempel.com

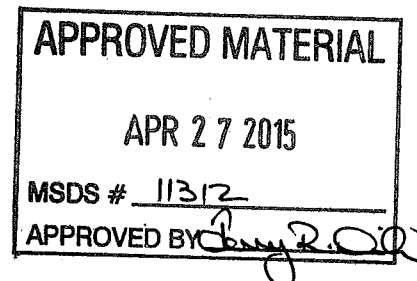
Manufacturer : HEMPEL (USA), Inc., 600 Conroe Park North Drive, Conroe, Texas 77303, USA

#### 1.4 Emergency telephone number (with hours of operation)

For Transportation Emergencies : CHEMTREC: **1-800-424-9300** (Toll-free in the U.S., Canada and the U.S. Virgin Islands) **703-527-3887** (24 hours)  
 For calls originating elsewhere (Collect calls are accepted). Contract number: CCN10384  
 To preserve the effectiveness of arrangements for providing accurate and timely emergency response information, the basic identifying information (shipper name or contract number) must be included on shipping papers.

If the purchaser of this product is going to be shipping this product to other locations, the purchaser must arrange for its own Emergency Information Provider to respond to transport incidents. Hempel's 24 hour response contract does not cover non-Hempel shipments.

For all other information : In Canada toll free calling available: 1-800-661-3201 or (604)-273-3200  
 (8 AM - 5 PM CST) See Section 4 of the safety data sheet (first aid measures).



### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

GHS Classification : SKIN CORROSION/IRRITATION - Category 1B  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 TOXIC TO REPRODUCTION (Fertility) - Category 2  
 TOXIC TO REPRODUCTION (Unborn child) - Category 2

#### 2.2 Label elements

Hazard pictograms :



# HEMPEL

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**SECTION 2: Hazards identification**

Signal word :	Danger
Hazard statements :	H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H361 - Suspected of damaging fertility or the unborn child.
Precautionary statements :	
Prevention :	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response :	IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately 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. 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.
Disposal :	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements :	None known.

**2.3 Other hazards**

Hazards not otherwise classified : None known.

**SECTION 3: Composition/information on ingredients**

Product definition : Mixture  
Physical state : Liquid.

Product/ingredient name	Identifiers	%	GHS Classification
m-Xylylene-diamine	1477-55-0	10 - 12.5	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1
polyoxypropylenediamine	9046-10-0	5 - 10	SKIN CORROSION/IRRITATION - Category 1C SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 ASPIRATION HAZARD - Category 1
p-tert-butylphenol	98-54-4	5 - 10	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
2-butoxyethanol	111-76-2	5 - 10	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
2,2,4- and 2,4,4- trimethylhexamethylene diamine	*25620-58-0	5 - 10	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1
nonylphenol	25154-52-3	3 - 5	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 TOXIC TO REPRODUCTION (Fertility) - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.



### SECTION 3: Composition/information on ingredients

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

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.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General :	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).
Eye contact :	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek immediate medical attention.
Inhalation :	Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. In case of burns flush with water until the pain ceases. While flushing remove clothing from the affected area unless it is burnt into the skin. If hospital treatment is necessary flushing must continue during transfer and until the hospital staff takes over the treatment.
Ingestion :	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. Lower the head so that vomit will not re-enter the mouth and throat.
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.

#### 4.2 Most important symptoms and effects, both acute and delayed

##### Potential acute health effects

Eye contact :	Causes serious eye damage.
Inhalation :	May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact :	Causes severe burns. May cause an allergic skin reaction.
Ingestion :	May cause burns to mouth, throat and stomach.

##### Over-exposure signs/symptoms

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



## SECTION 4: First aid measures

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

### 4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed.  
Specific treatments : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Extinguishing media : Recommended: alcohol resistant foam, CO<sub>2</sub>, powders, water spray.  
Not to be used: waterjet.

### 5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very 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 combustion products : Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/oxides

### 5.3 Advice for firefighters

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. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid all direct contact with the spilled material. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

### 6.2 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.

### 6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. 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). Contaminated absorbent material may pose the same hazard as the spilled product.

### 6.4 Reference to other sections

See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.



**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

**7.3 Specific end use(s)**

See separate Product Data Sheet for recommendations or industrial sector specific solutions. This product may be applied using several application techniques and methods of handling may be different for each. Application techniques include [but are not limited to] brushing, rolling, and spray application [conventional, HPLV, airless, pleural component or aerosol can]. Avoid the breathing of vapors and, if spraying, do not breath spray mist or aerosols.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Product/ingredient name	List name	TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
		ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	
Xylylene-diamine	US ACGIH 4/2014	-	-	-	-	-	-	-	0.1	-	[1]
	AB 4/2009	-	-	-	-	-	-	-	0.1	-	[1]
	BC 4/2014	-	-	-	-	-	-	-	0.1	-	[1]
	ON 1/2013	-	-	-	-	-	-	-	0.1	-	[1]
	QC 1/2014	-	-	-	-	0.1	-	-	-	-	[1]
2-butoxyethanol	US ACGIH 4/2014	20	-	-	-	-	-	-	-	-	-
	AB 4/2009	20	97	-	-	-	-	-	-	-	[3]
	BC 4/2014	20	-	-	-	-	-	-	-	-	-
	ON 1/2013	20	-	-	-	-	-	-	-	-	[1]
	QC 1/2014	20	97	-	-	-	-	-	-	-	-
1,2,4-trimethylbenzene	US ACGIH 4/2014	25	123	-	-	-	-	-	-	-	-
	AB 4/2009	25	123	-	-	-	-	-	-	-	-
	BC 4/2014	25	-	-	-	-	-	-	-	-	-
	ON 1/2013	25	123	-	-	-	-	-	-	-	-
	QC 1/2014	25	123	-	-	-	-	-	-	-	-
Calcium carbonate	AB 4/2009	-	10	-	-	-	-	-	-	-	[3]
		-	10	-	-	-	-	-	-	-	[a]

[1]Absorbed through skin. [3]Skin sensitization  
 Form: [a]Total dust.

**Recommended monitoring procedures**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**8.2 Exposure controls**

**Appropriate engineering controls**





## SECTION 8: Exposure controls/personal protection

Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Use local and general exhaust ventilation to effectively remove and prevent buildup of mists/vapors/fumes generated from the handling of this product.

Note: Local exhaust ventilation is designed to capture an emitted contaminant at or near its source, before the contaminant has a chance to disperse into the workplace air. General exhaust ventilation, also called dilution ventilation, is different from local exhaust ventilation because instead of capturing emissions at their source and removing them from the air, general exhaust ventilation allows the contaminant to be emitted into the workplace air and then dilutes the concentration of the contaminant to an acceptable level (e.g., to the PEL or below).

### Individual protection measures

- General : Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.
- Hygiene measures : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
- 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.
- Hand protection : Wear chemical-resistant gloves in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.  
Since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:  
  
May be used: polyvinyl alcohol (PVA)  
Recommended: Silver Shield / 4H gloves, nitrile rubber, neoprene rubber, butyl rubber, Viton®  
Not recommended: natural rubber (latex), polyvinyl chloride (PVC)
- Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.  
Wear suitable protective clothing. Always wear protective clothing when spraying.  
Chemical-resistant apron.
- Respiratory protection : If working areas have insufficient ventilation, wear half or totally covering mask equipped with gas filter of type Organic Vapor, when grinding use particle filter of type P95, P99 or P100. When spraying use a combined filter (organic vapor / HEPA or organic vapor / P100 type). Be sure to use approved/certified respirator or equivalent. Always wear an air-fed respirator when spraying in a continuous and prolonged work situation (e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter).
- Protective clothing (pictograms) :

**Consult your supervisor or S.O.P. for special handling**

Note: Application of paint products by spraying requires additional safety precautions: Full body suit, Full face respirator with air supplied.

### 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.



## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Odor :	Non-characteristic.
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	1339°C This is based on data for the following ingredient: Calcium carbonate
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	☑losed cup: >93.3°C (>199.9°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Upper/lower flammability or explosive limits :	1.1 - 12.7 vol %
Vapor pressure :	Testing not relevant or not possible due to nature of the product.
Vapor density :	Testing not relevant or not possible due to nature of the product.
Relative density :	☑295 g/cm <sup>3</sup>
Solubility(ies) :	Easily soluble in the following materials: cold water and hot water.
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Testing not relevant or not possible due to nature of the product.
Decomposition temperature :	Testing not relevant or not possible due to nature of the product.
Viscosity :	Testing not relevant or not possible due to nature of the product.
Explosive properties :	Not available.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

### 9.2 Other information

Solvent(s) % by weight (Included exempt solvent(s)):	☑8 % (w/w)
Water % by weight :	Weighted average: 0 %
VOC content (Coatings) :	☑737 lbs/gal (88.3 g/l)
VOC content (Regulatory) :	☑737 lbs/gal (88.3 g/l)
TOC Content (Volatile) :	Weighted average: 57 g/l
Solvent Gas :	Weighted average: 0.018 m <sup>3</sup> /l

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

### 10.2 Chemical stability

The product is stable.

### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4 Conditions to avoid

No specific data.

### 10.5 Incompatible materials



**SECTION 10: Stability and reactivity**

Highly reactive or incompatible with the following materials: oxidizing materials.  
 Reactive or incompatible with the following materials: reducing materials.

**10.6 Hazardous decomposition products**

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:  
 Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/oxides

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Inhalation of a corrosive substance may result in health effects such as stinging, coughing and in extreme cases, dyspnoea or loss of consciousness with a risk of lung damage, possibly lung oedema. Cauterization of skin and mucous membrane. If splashed in the eyes, the liquid may cause irreversible damage. Accidental swallowing may cause stinging and cauterization to mouth, oesophagus and stomach. Symptoms and signs include bloody vomiting, chock and loss of consciousness.

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
p-Xylylene-diamine	LC50 Inhalation Dusts and mists	Rat	1.34 mg/l	4 hours
	LD50 Dermal	Rabbit	2 g/kg	-
	LD50 Oral	Rat	930 mg/kg	-
polyoxypropylenediamine	LD50 Dermal	Rabbit	2980 mg/kg	-
	LD50 Oral	Rat	2880 mg/kg	-
p-tert-butylphenol	LC50 Inhalation Dusts and mists	Rat	>5600 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2520 uL/kg	-
2-butoxyethanol	LC50 Inhalation Dusts and mists	Rat	2.2 mg/l	4 hours
	LD50 Oral	Rat	910 mg/kg	-
2,2,4- and 2,4,4-trimethylhexamethylene diamine nonylphenol	LD50 Dermal	Rabbit	2031 mg/kg	-
	LD50 Oral	Rat	1412 mg/kg	-

**Acute toxicity estimates**

Route	ATE value
Oral	3031.4 mg/kg
Dermal	10144.8 mg/kg
Inhalation (vapors)	70.87 mg/l
Inhalation (dusts and mists)	44 mg/l

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure
p-Xylylene-diamine	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms
	Skin - Severe irritant	Rabbit	-	24 hours 750 Micrograms
	Respiratory - Severe irritant	Rabbit	-	-
polyoxypropylenediamine	Eyes - Severe irritant	Rabbit	-	100 milligrams
p-tert-butylphenol	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams
2-butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams
	Skin - Severe irritant	Mouse	-	-
2,2,4- and 2,4,4-trimethylhexamethylene diamine nonylphenol	Eyes - Severe irritant	Rabbit	-	-
	Skin - Severe irritant	Rabbit	-	-
	Eyes - Severe irritant	Rabbit	-	-

**Sensitizer**





**SECTION 11: Toxicological information**

Product/ingredient name	Route of exposure	Species	Result
2,2,4- and 2,4,4-trimethylhexamethylene diamine	skin	Guinea pig	Sensitizing

**Carcinogen Classification**

Product/ingredient name	IARC	NTP	OSHA
butoxyethanol	3	-	-

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
p-tert-butylphenol	Category 3	Not applicable.	Respiratory tract irritation

**Aspiration hazard**

Product/ingredient name	Result
polyoxypropylenediamine	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential chronic health effects**

Sensitization : Contains m-Xylylene-diamine, 2,2,4- and 2,4,4- trimethylhexamethylene diamine. May produce an allergic reaction.

Other information : No additional known significant effects or critical hazards.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Do not allow to enter drains or watercourses. Very toxic to aquatic life with long lasting effects.

When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effect on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.

Product/ingredient name	Result	Species	Exposure
m-Xylylene-diamine	Acute EC50 12 mg/l	Algae	72 hours
	Acute EC50 15.2 mg/l	Daphnia - Daphnia	48 hours
	Acute LC50 75 mg/l	Fish - Leuciscus idus	96 hours
	Acute NOEC 4.7 mg/l	Daphnia	21 days
polyoxypropylenediamine	Acute EC50 15 mg/l	Algae	72 hours
	Acute EC50 80 mg/l	Daphnia	48 hours
	Acute LC50 772 mg/l	Fish	96 hours
p-tert-butylphenol	Acute EC50 14 - 22.7 mg/l	Aquatic plants	72 hours
	Acute EC50 3900 - 4500 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5140 - 5620 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 2.3 mg/l Fresh water	Fish - Cyprinus carpio - Adult	28 days
	Acute EC50 29.5 mg/l	Algae	72 hours
2,2,4- and 2,4,4-trimethylhexamethylene diamine nonylphenol	Acute EC50 0.085 mg/l	Daphnia	48 hours
	Acute EC50 96 µg/l Fresh water	Fish - Pimephales promelas - Fry	96 hours
	Acute LC50 0.051 mg/l Marine water	Crustaceans - Americamysis bahia - Larvae	48 hours
	Chronic NOEC 694 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 901 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 24 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 2.9 µg/l Fresh water	Fish - Oryzias latipes - Fry	100 days



**SECTION 12: Ecological information**

**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
Xylylene-diamine	OECD 301B 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	49 % - Inherent - 28 days	-	-
polyoxypropylenediamine	-	0 % - Not readily - 28 days	-	-
p-tert-butylphenol	OECD 301A Ready Biodegradability - DOC Die-Away Test	98 % - Readily - 28 days	-	-
2-butoxyethanol	-	32 % - 5 days	756 mg/kg BOD <sub>5</sub>	-
2,2,4- and 2,4,4-trimethylhexamethylene diamine	-	32 % - 28 days	2379000 mg/kg COD	-
nonylphenol	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	7 % - Not readily - 28 days	-	-
		48.2 % - 35 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Xylylene-diamine	-	-	Inherent
polyoxypropylenediamine	-	-	Not readily
p-tert-butylphenol	-	-	Readily
2-butoxyethanol	-	-	Inherent
2,2,4- and 2,4,4-trimethylhexamethylene diamine	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Xylylene-diamine	0.18	2.69	low
polyoxypropylenediamine	1.34	-	low
p-tert-butylphenol	3.29	44 - 48	low
2-butoxyethanol	0.81	-	low
2,2,4- and 2,4,4-trimethylhexamethylene diamine	0.77	-	low
nonylphenol	3.28	154.88	low

**12.4 Mobility in soil**

Soil/water partition coefficient (K<sub>oc</sub>) : No known data available in our database.  
 Mobility : No known data available in our database.

**12.5 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7 and Section 8 for additional handling information and protection of employees.










### SECTION 13: Disposal considerations

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 handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### SECTION 14: Transport information

Transport may take place according to national regulation or TDG for transport by road and by train, IMDG for transport by sea, IATA for Air shipment.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
<b>DOT Code</b>	UN2735	AMINES, LIQUID, CORROSIVE, N. O.S. (m-Xylylene-diamine). (p-tert-butylphenol)	8 -	 	III Yes.	ERG : 153 The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes.
<b>TDG Code</b>	UN2735	AMINES, LIQUID, CORROSIVE, N. O.S. (m-Xylylene-diamine). (p-tert-butylphenol)	8 -	 	III Yes.	The marine pollutant mark is not required when transported by road or rail.
<b>IMDG Code</b>	UN2735	AMINES, LIQUID, CORROSIVE, N. O.S. (m-Xylylene-diamine). (p-tert-butylphenol)	8 -	 	III Yes.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  <u>Emergency schedules (EmS)</u> F-A,S-B
<b>IATA Code</b>	UN2735	AMINES, LIQUID, CORROSIVE, N. O.S. (m-Xylylene-diamine)	8 -		III No.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Code : Classification  
PG\* : Packing group  
Env.\* : Environmental hazards

#### 14.6 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.

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : All components are listed or exempted.

#### Canada

WHMIS (Canada) :  
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).  
Class E: Corrosive material





### SECTION 15: Regulatory information

Canadian lists : **CEPA Toxic substances:** The following components are listed: Nonylphenol and its ethoxylates; 2-butoxyethanol  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** The following components are listed: Nonylphenol and its ethoxylates; 2-Butoxyethanol; Light aromatic solvent naphtha  
**Alberta Designated Substances:** None of the components are listed.  
**Ontario Designated Substances:** None of the components are listed.  
**Quebec Designated Substances:** None of the components are listed.  
**CEPA Toxic Substances (Schedule I):** Particulate Matter (spray mist – during spray application), Volatile organic compounds (evaporating solvents).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### SECTION 16: Other information

Remarks : Warning! If you scrape, sand, or remove old paint, you may release lead dust. LEAD is TOXIC.

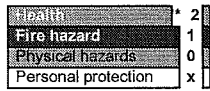
Validation : Validated by US - HSE Products Coordinator on 3/11/2015.

#### GHS Classification

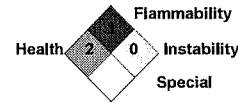
Procedure used to derive the classification.

Classification	Justification
SKIN CORROSION/IRRITATION - Category 1B	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION (Fertility) - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



Personal Protective Equipment (PPE) shown in this section is a suggestion. Since conditions vary from one work location to another consult the facility safety & health program. Customer or end user is responsible to evaluate worker exposure conditions at the site of application and determine the appropriate PPE suitable for workers at that particular facility or location.

#### Abbreviations and acronyms :

ANSI = American National Standards Institute  
HCS = Hazardous Communication System  
TSCA = Toxic Substances Control Act  
CFR = Code of federal Regulations  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
OSHA = United States Occupational Health and Safety Administration  
NIOSH = National Institute for Occupational Safety and Health  
ACGIH = American Conference of Industrial Hygienists  
IARC = International Agency for Research on Cancer.  
NTP = National Toxicology Program  
ATE = Acute Toxicity Estimate

OECD = Organisation for Economic Co-operation and Development  
BCF = Bioconcentration Factor  
DOT = United States Department of Transportation  
ERG = Emergency Response Guide  
TDG = Transport of Dangerous Goods, Canada  
SCT = Transportation & Communications Ministry, Mexico  
IMDG = International Maritime Dangerous Goods  
IATA = International Air Transport Association  
WHMIS = Workplace Hazardous Material Information System  
CEPA = Canadian Environmental Protection Act  
NOM = Norma Oficial Mexicana  
IDLH = Immediate Danger to Life and Health

#### Notice to reader

Indicates information that has changed from previously issued version.

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*