





# SAFETY DATA SHEET

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**II**

Warning

: Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

### Other hazards

None known.

### Supplemental information

If product is in liquid or paste form, physical or health hazards listed related to dust are not considered significant. However, product may contain substances that could be potential hazards if caused to become airborne due to grinding, sanding or other abrasive processes.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Benzyl alcohol	100-51-6	>= 40 - < 50
Isophoronediamine	2855-13-2	>= 10 - < 20
m-phenylenebis(methylamine)	1477-55-0	>= 10 - < 20
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 10 - < 20
ethanol	64-17-5	>= 5 - < 10
Phenol, 4-dodecyl-, branched	210555-94-5	>= 2 - < 5
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	>= 2 - < 5

## SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Keep eye wide open while rinsing.

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- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Do not induce vomiting without medical advice.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Gastrointestinal discomfort  
Respiratory disorder  
Allergic reactions  
Headache  
Dermatitis  
See Section 11 for more detailed information on health effects and symptoms.  
Health injuries may be delayed.  
corrosive effects  
sensitizing effects  
toxic effects for reproduction  
Harmful if swallowed or if inhaled.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May damage fertility or the unborn child.  
Causes severe burns.
- Notes to physician : Treat symptomatically.
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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : Water
- Further information : Use water spray to cool unopened containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Remove all sources of ignition.  
Deny access to unprotected persons.  
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
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If the product contaminates rivers and lakes or drains inform respective authorities.  
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Use explosion-proof equipment. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take precautionary measures against electrostatic discharges.

Advice on safe handling : Do not breathe vapors or spray mist.  
Avoid exceeding the given occupational exposure limits (see section 8).  
Do not get in eyes, on skin, or on clothing.  
For personal protection see section 8.  
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharge.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Pregnant women or women of child-bearing age should not be exposed to this product.  
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).  
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.  
Keep in a well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Store in accordance with local regulations.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
m-phenylenebis(methylamine)	1477-55-0	(c)	0.1 mg/m <sup>3</sup>	CA AB OEL

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		C	0.1 mg/m3	CA BC OEL
		C	0.1 mg/m3	CA QC OEL
		C	0.1 mg/m3	ACGIH
ethanol	64-17-5	TWA	1,000 ppm 1,880 mg/m3	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		TWAEV	1,000 ppm 1,880 mg/m3	CA QC OEL
		TWA	1,000 ppm	ACGIH
		STEL	1,000 ppm	ACGIH

**Engineering measures** : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.  
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

### Personal protective equipment

**Respiratory protection** : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

**Hand protection**

**Remarks** : 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.

**Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

**Skin and body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

**Hygiene measures** : Avoid contact with skin, eyes and clothing.  
Wash hands before breaks and immediately after handling the product.  
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Wash thoroughly after handling.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: amber
Odor	: amine-like
Odor Threshold	: No data available
pH	: Not applicable
Melting point/range / Freezing point	: No data available
Boiling point/boiling range	: No data available
Flash point	: ca. 40 °C (104 °F) Method: closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: 13 %(V)
Lower explosion limit	: 1.3 %(V)
Vapor pressure	: 75.9935 hpa (57.000 mmHg)
Relative vapor density	: No data available
Density	: ca. 1.01 g/cm <sup>3</sup> (23 °C (73 °F) ())
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: ca. > 20.5 mm <sup>2</sup> /s (40 °C)
Explosive properties	: No data available
Molecular weight	: No data available

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: The product is chemically stable.
Possibility of hazardous reactions	: Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: No data available
No decomposition if stored and applied as directed.	

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed or if inhaled.

#### Product:

Acute oral toxicity	: Acute toxicity estimate: 1,890 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate: 4.9 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

#### Ingredients:

##### **Benzyl alcohol:**

Acute oral toxicity	: LD50 Oral (Rat): 1,620 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 4.178 mg/l Exposure time: 4 h Test atmosphere: dust/mist

##### **Isophoronediamine:**

Acute oral toxicity	: LD50 Oral (Rat): 1,030 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 5.01 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 Dermal (Rabbit): > 2,000 mg/kg

##### **m-phenylenebis(methylamine):**

Acute oral toxicity	: LD50 Oral (Rat): 930 mg/kg
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Acute inhalation toxicity : LC50 (Rat): 1.34 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rat): > 3,100 mg/kg

**bisphenol-A-(epichlorhydrin) epoxy resin:**

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

**Phenol, 4-dodecyl-, branched:**

Acute oral toxicity : LD50 Oral (Rat): 2,140 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg

**Skin corrosion/irritation**

Causes severe burns.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

Skin sensitization: May cause an allergic skin reaction.

Respiratory sensitization: Not classified based on available information.

**Ingredients:**

**Isophoronediamine:**

Assessment: The product is a skin sensitizer, sub-category 1A.

Result: The product is a skin sensitizer, sub-category 1A.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**IARC** Not applicable

**NTP** Not applicable

**Reproductive toxicity**

May damage fertility or the unborn child.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

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### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Ingredients:

##### **Benzyl alcohol:**

Toxicity to fish : LC50 (Fish): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
aquatic invertebrates Exposure time: 48 h

##### **Isophoronediamine:**

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100  
mg/l  
Exposure time: 72 h

##### **m-phenylenebis(methylamine):**

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 10 - 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l  
aquatic invertebrates Exposure time: 48 h

##### **bisphenol-A-(epichlorhydrin) epoxy resin:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1.8 mg/l  
aquatic invertebrates Exposure time: 48 h

##### **Phenol, 4-dodecyl-, branched:**

Toxicity to fish : LC50 (Fish): 0.14 mg/l  
Exposure time: 96 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.53  
mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic tox- : 10  
icity)

M-Factor (Chronic aquatic : 10  
toxicity)

##### **2,4,6-tris(dimethylaminomethyl)phenol:**

Toxicity to algae : EC50 (Scenedesmus capricornutum (fresh water algae)): > 10  
- 100 mg/l  
Exposure time: 72 h

#### **Persistence and degradability**

No data available

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### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### **Other adverse effects**

#### **Product:**

Additional ecological information : Do not empty into drains; dispose of this material and its container in a safe way.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.  
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
May be harmful to the environment if released in large quantities.  
Water polluting material.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal methods**

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## **SECTION 14. TRANSPORT INFORMATION**

### **Domestic regulation**

#### **TDG (road/train)**

UN number : UN 2734  
Proper shipping name : AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.  
(Isophoronediamine, ethanol, bisphenol-A-(epichlorhydrin) epoxy resin)  
Class : 8  
Subsidiary risk : 3  
Packing group : II  
Labels : 8 (3)

### **International Regulations**

#### **IATA-DGR**

UN/ID No. : UN 2734  
Proper shipping name : Amines, liquid, corrosive, flammable, n.o.s.  
(3-aminomethyl-3,5,5-trimethylcyclohexylamine, ethanol, epoxy resin)

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Class : 8  
Subsidiary risk : 3  
Packing group : II  
Labels : Corrosives, Flammable Liquids  
Packing instruction (cargo aircraft) : 855  
Packing instruction (passenger aircraft) : 851

**IMDG-Code**

UN number : UN 2734  
Proper shipping name : AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.  
(3-aminomethyl-3,5,5-trimethylcyclohexylamine, ethanol, epoxy resin)

Class : 8  
Subsidiary risk : 3  
Packing group : II  
Labels : 8 (3)  
EmS Code : F-E, S-C  
Marine pollutant : yes

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

Not applicable for product as supplied.

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### SECTION 15. REGULATORY INFORMATION

**Canadian lists**

No substances are subject to a Significant New Activity Notification.

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### SECTION 16. OTHER INFORMATION

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### Full text of other abbreviations

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
CAS	Chemical Abstracts Service
DNEL	Derived no-effect level
EC50	Half maximal effective concentration
GHS	Globally Harmonized System
IATA	International Air Transport Association
IMDG	International Maritime Code for Dangerous Goods
LD50	Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative and toxic
PNEC	Predicted no effect concentration
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	Substances of Very High Concern
vPvB	Very persistent and very bioaccumulative