



# SAFETY DATA SHEET

## BLUE CUBE OPERATIONS LLC

**Product name:** D.E.H.™ 615 Epoxy Curing Agent

**Issue Date:** 03/23/2016

**Print Date:** 10/26/2016

BLUE CUBE OPERATIONS LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. IDENTIFICATION

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**Product name:** D.E.H.™ 615 Epoxy Curing Agent

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Used in applications such as: Curing agent.

### COMPANY IDENTIFICATION

BLUE CUBE OPERATIONS LLC  
2030 DOW CENTER  
MIDLAND MI 48674-0000  
UNITED STATES

**Customer Information Number:**

+1 844-238-3445  
INFO@OLINBC.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 1 800 424 9300

**Local Emergency Contact:** 1 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Skin corrosion - Category 1B

Serious eye damage - Category 1

Skin sensitisation - Category 1

Reproductive toxicity - Category 2

Specific target organ toxicity - single exposure - Category 3

### Label elements

**Hazard pictograms**



Signal word: **DANGER!**

#### Hazards

Causes severe skin burns and eye damage.  
 May cause an allergic skin reaction.  
 May cause respiratory irritation.  
 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.  
 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 Wash skin thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves/ protective clothing/ eye protection/ face protection.

##### Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
 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/doctor.  
 IF exposed or concerned: Get medical advice/ attention.  
 If skin irritation or rash occurs: Get medical advice/ attention.  
 Wash contaminated clothing before reuse.

##### Storage

Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.

##### Disposal

Dispose of contents/ container to an approved waste disposal plant.

#### Other hazards

No data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

Component	CASRN	Concentration
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P-tert-butylphenol	98-54-4	>= 30.0 - < 60.0 %
1,3-Benzenedimethanamine	1477-55-0	>= 20.0 - < 40.0 %
Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol	133548-08-0	>= 15.0 - < 40.0 %
Trimethyl-1,6-hexanediamine	25620-58-0	>= 5.0 - < 15.0 %

#### Note

The generic CAS 25620-58-0 covers all trimethyl-1,6-hexanediamine(TMD) isomers of CAS# 25513-64-8, 3236-54-2 and 3236-53-1.

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## 4. FIRST AID MEASURES

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### Description of first aid measures

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Properly dispose of leather items such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

**Eye contact:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

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

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably

from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

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## **5. FIREFIGHTING MEASURES**

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**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable extinguishing media:** Do not use direct water stream. May spread fire.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## **6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures:** Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Ventilate area of leak or spill. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Absorb with materials such as: Sand. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Do not swallow. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a cool, dry place.

### Storage stability

<b>Storage temperature:</b>	<b>Shelf life:</b>	<b>Use within</b>
5 - 30 °C (41 - 86 °F)	12 Month	

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
1,3-Benzenedimethanamine	ACGIH	C	0.1 mg/m3
	ACGIH	C	Absorbed via skin

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state	Liquid.
Color	Colorless
Odor	Amine.
Odor Threshold	No test data available
pH	8 - 11 <i>Calculated.</i>
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	> 230 °C (> 446 °F) <i>Literature</i>
Flash point	<b>closed cup</b> > 100 °C (> 212 °F) <i>Literature</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not Applicable
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 5 hPa at 50 °C (122 °F) <i>Literature</i>
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	0.9 - 1.2 at 20 °C (68 °F) <i>Calculated.</i>
Water solubility	Soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Dynamic Viscosity	450 mPa.s at 20 °C (68 °F) <i>Literature</i>
Kinematic Viscosity	No test data available
Explosive properties	No Assessment based on structural analysis
Oxidizing properties	No Assessment based on structural analysis
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No data available

**Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible materials:** Avoid contact with: Acids. Halogenated hydrocarbons. Oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aromatic compounds. Amines. Hydrocarbons. Phenolics.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

As product: Single dose oral LD50 has not been determined. Based on information for component(s):  
LD50, Rat, 2,100 mg/kg Estimated.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined. Based on information for component(s):  
LD50, Rabbit, > 5,000 mg/kg Estimated.

#### Acute inhalation toxicity

Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

As product: The LC50 has not been determined.

### Skin corrosion/irritation

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

May cause depigmentation (white patches on skin).

### Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Vapor or mist may cause eye irritation.

**Sensitization**

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Contains component(s) which have been reported to cause effects on the following organs in animals: Gastrointestinal tract.

Kidney.

Liver.

Spleen.

Cervix

uterus

Vagina

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals, even at exposure levels having an adverse effect on the mother.

**Reproductive toxicity**

In animal studies on component(s), effects on reproduction were seen only at doses that produced significant toxicity to the parent animals. Based on information for component(s): In animal studies, has been shown to interfere with fertility in males.

**Mutagenicity**

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**P-tert-butylphenol**

**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.6 mg/l

**1,3-Benzenedimethanamine**

**Acute inhalation toxicity**

Prolonged excessive exposure may cause serious adverse effects, even death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Salivation.

LC50, Rat, 4 Hour, dust/mist, 1.34 mg/l



**Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol**

**Acute inhalation toxicity**

Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

The LC50 has not been determined.

**Trimethyl-1,6-hexanediamine**

**Acute inhalation toxicity**

The LC50 has not been determined.

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## **12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**P-tert-butylphenol**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Leuciscus idus* (Golden orfe), 48 Hour, 1.6 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, 3.9 - 6.7 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

EC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Biomass, 14 - 22.7 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

EC50, Bacteria, 16 Hour, 227 mg/l

**Chronic toxicity to fish**

NOEC, *Pimephales promelas* (fathead minnow), flow-through test, 128 d, Growth rate inhibition, 0.01 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, *Daphnia magna* (Water flea), semi-static test, 21 d, number of offspring, 0.73 mg/l  
MATC (Maximum Acceptable Toxicant Level), *Daphnia magna* (Water flea), semi-static test, 21 d, number of offspring, > 0.73 mg/l

**1,3-Benzenedimethanamine**

**Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, *Leuciscus idus* (Golden orfe), 96 Hour, 75 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 15.2 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

EC50, alga Scenedesmus sp., static test, 72 Hour, Biomass, 12 mg/l, OECD Test Guideline 201 or Equivalent

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 4.7 mg/l

**Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LL50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 7.9 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EL50, Daphnia magna (Water flea), static test, 48 Hour, 8.98 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

EL50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, 4.94 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC50, activated sludge, 3 Hour, 66 mg/l, OECD Test Guideline 209

**Trimethyl-1,6-hexanediamine**

**Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, 172 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 24 Hour, 31.5 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, alga Scenedesmus sp., 72 Hour, Growth rate inhibition, 29.5 mg/l

**Toxicity to bacteria**

EC50, Bacteria, 17 Hour, 89 mg/l

**Persistence and degradability**

**P-tert-butylphenol**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 60 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

**Theoretical Oxygen Demand:** 2.77 mg/mg

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)  
**Sensitizer:** OH radicals  
**Atmospheric half-life:** 0.263 d  
**Method:** Estimated.

### 1,3-Benzenedimethanamine

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Not applicable

**Biodegradation:** 22 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302C or Equivalent

10-day Window: Fail

**Biodegradation:** 49 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**Theoretical Oxygen Demand:** 3.17 mg/mg

#### **Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 0.15 d

**Method:** Estimated.

### Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol

**Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 35 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

### Trimethyl-1,6-hexanediamine

**Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 37 %

**Exposure time:** 21 d

**Method:** OECD Test Guideline 301E or Equivalent

10-day Window: Not applicable

**Biodegradation:** 13 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302B or Equivalent

10-day Window: Not applicable

**Biodegradation:** 2.2 %

**Exposure time:** 3 d

**Method:** OECD Test Guideline 303A or Equivalent

**Theoretical Oxygen Demand:** 3.44 mg/mg

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 0.127 d

**Method:** Estimated.

**Bioaccumulative potential**

**P-tert-butylphenol**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.29 OECD Test Guideline 107 or Equivalent

**Bioconcentration factor (BCF):** 48 - 88 Cyprinus carpio (Carp) 56 d Measured  
**Bioconcentration factor (BCF):** 120 Leuciscus idus (Golden orfe) Measured

**1,3-Benzenedimethanamine**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.18 OECD Test Guideline 107 or Equivalent

**Bioconcentration factor (BCF):** < 3 Cyprinus carpio (Carp) 42 d Measured

**Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** <= 3.28

**Bioconcentration factor (BCF):** 3.6 Fish Estimated.

**Trimethyl-1,6-hexanediamine**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.77 Measured

**Mobility in soil**

**P-tert-butylphenol**

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient(Koc):** 582 Estimated.

**1,3-Benzenedimethanamine**

Potential for mobility in soil is low (Koc between 500 and 2000).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

**Partition coefficient(Koc):** 910 Estimated.

**Formaldehyde, polymer with 1,3-benzenedimethanamine and 4-(1,1-dimethylethyl)phenol**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient(Koc):** 3.7 OECD 121: HPLC Method

**Trimethyl-1,6-hexanediamine**

Potential for mobility in soil is low (Koc between 500 and 2000).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): 1200 Estimated.

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### 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

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### 14. TRANSPORT INFORMATION

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#### DOT

<b>Proper shipping name</b>	Corrosive liquid, basic, organic, n.o.s.(1,3-benzenedimethanamine, Trimethyl-1,6-hexanediamine)
<b>UN number</b>	UN 3267
<b>Class</b>	8
<b>Packing group</b>	II

#### Classification for SEA transport (IMO-IMDG):

<b>Proper shipping name</b>	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(1,3-benzenedimethanamine, Trimethyl-1,6-hexanediamine)
<b>UN number</b>	UN 3267
<b>Class</b>	8
<b>Packing group</b>	II
<b>Marine pollutant</b>	P-tert-butylphenol
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

#### Classification for AIR transport (IATA/ICAO):

<b>Proper shipping name</b>	Corrosive liquid, basic, organic, n.o.s.(1,3-benzenedimethanamine, Trimethyl-1,6-hexanediamine)
<b>UN number</b>	UN 3267
<b>Class</b>	8
<b>Packing group</b>	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service

representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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### OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard  
Chronic Health Hazard

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
1,3-Benzenedimethanamine	1477-55-0

### California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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## 16. OTHER INFORMATION

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### Hazard Rating System

#### NFPA

Health	Fire	Reactivity
3	1	0

### Revision

Identification Number: 101223845 / A476 / Issue Date: 03/23/2016 / Version: 11.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit

**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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