SAFETY DATA SHEET

D.E.H.™ 630 Epoxy Hardener

Version	Revision Date:	SDS Number:	Date of last issue: 08-12-2020
8.0	04-08-2021	101269982	Date of first issue: 04-08-2021

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.

SECTION 1. IDENTIFICATION

Product name	:	D.E.H.™ 630 Epoxy Hardener
Product code	:	000000001000000356

Manufacturer or supplier's details

Company name of supplier	:	BLUE CUBE OPERATIONS LLC
Address	:	190 CARONDELET PLAZA, SUITE 1530 CLAYTON MO 63105-3467
Telephone	:	(844) 238-3445
E-mail address	:	INFO@OLIN.COM
Emergency telephone	:	+1 800 424 9300
Local Emergency Contact	:	1-800-424-9300
Identified uses	:	Curing agent.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral)	:	Category 4
Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1
Reproductive toxicity	:	Category 2

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)

1,3-Cyclohexanebis(methylamine)	2579-20-6	> 20 - <= 30
Styrenated phenol	61788-44-1	> 15 - <= 25
Trimethyl-1,6-hexanediamine	25620-58-0	> 10 - <= 20
1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	110839-13-9	> 5 - <= 15
Salicylic acid	69-72-7	> 5 - <= 15
Dodecanol	112-53-8	> 5 - <= 10
1,3-Benzenedimethanamine	1477-55-0	> 1 - <= 5
Tetradecanol	112-72-1	<= 5
Cetyl alcohol	36653-82-4	<= 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Move person to fresh air; if effects occur, consult a physician.

In case of 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.

In case of 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.

If swallowed : 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)any additional important symptoms and effects are described in Section 11: Toxicology Information.

Protection of first-aiders : 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.

Notes to physician : 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.
Exposure to amine vapors may cause minor transient edema of the corneal epithelium (glaucopsia) with blurred vision, blue

haze and halos around bright objects. Effects disappear in a few hours and temporarily reduce ability to drive vehicles.
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.

SECTION 5. FIRE-FIGHTING MEASURES

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.
Specific hazards during fire fighting	:	Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.
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.
Further information	:	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. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the 'Accidental Release Measures' and the 'Ecological Information' sections of this (M)SDS.
Special protective equipment for fire-fighters	:	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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures.
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. Collect in suitable and properly labeled containers. Absorb with materials such as: Sand. See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated contact with skin. Do not swallow. Avoid breathing vapor. 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. Avoid contact with: Brass. Bronze. Copper. Copper alloys.
Recommended storage temperature	:	41 - 122 °F / 5 - 50 °C
Storage period	:	24 Months

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1,3-Cyclohexanebis(methylamine)	2579-20-6		0.1 ppm 0.8 mg/m3	OLIN OEL
1,3-Benzenedimethanamine	1477-55-0	C	0.1 mg/m3	ACGIH
		C	0.1 mg/m3	OSHA P0

Engineering measures : Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

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.
In misty atmospheres, use an approved particulate respirator.
For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

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

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ('EVAL'). Styrene/butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ('latex'). Neoprene. Nitrile/butadiene rubber ('nitrile' or 'NBR'). Polyvinyl chloride ('PVC' or 'vinyl'). Viton. Avoid gloves made of: 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.

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

Skin and body 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	orange, brown
Odor	:	amine-like
Odor Threshold	:	Not applicable
pH	:	11 Concentration: 5 % Method: Literature
Melting point/range	:	Not applicable
Freezing point		No test data available
Boiling point/boiling range	:	> 482 °F / > 250 °C (760 mmHg) Method: Literature
Flash point	:	> 201 °F / 94 °C Method: Estimated., closed cup
Evaporation rate	:	No test data available
Flammability (solid, gas)	:	Not applicable to liquids
Upper explosion limit / Upper flammability limit	:	No test data available
Lower explosion limit / Lower flammability limit	:	No test data available
Vapor pressure	:	Negligible
Relative vapor density	:	No test data available
Relative density	:	1.024 (77 °F / 25 °C, 760 mmHg) Method: Pyknometer
Solubility(ies) Water solubility	:	Partially soluble

Partition coefficient: n-octanol/water	:	No data available.
Autoignition temperature	:	No test data available
Decomposition temperature	:	No test data available
Viscosity		
Viscosity, dynamic	:	700 - 900 mPa,s Method: ISO 3219
Viscosity, kinematic	:	1000 mm2/s Method: ISO 3219
Explosive properties	:	No
Oxidizing properties	:	No
Molecular weight	:	No test data available

Note: These are the Reference Points for these Physical Properties listed above, unless otherwise noted in their respective Physical Property value information: Boiling Point at 760 mmHg; Evaporation Rate Butyl Acetate = 1; Relative Vapor Density Air = 1; and Relative Density Water = 1.
NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

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. Avoid contact with metals such as: Brass. Bronze. Copper. Copper alloys.
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.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Remarks: Low toxicity if swallowed.
Swallowing may result in gastrointestinal irritation or ulceration.
Swallowing may result in burns of the mouth and throat.
May cause nausea and vomiting.

LD50 (Rat): > 1,200 mg/kg
Method: Estimated.
Remarks: As product:
Single dose oral LD50 has not been determined.
Based on information for component(s):

Acute inhalation toxicity : Remarks: Vapor may cause severe irritation of the upper respiratory tract (nose and throat).
Mist may cause irritation of upper respiratory tract (nose and throat).

Remarks: As product:
The LC50 has not been determined.

Acute dermal toxicity : Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50 (Rabbit): > 2,000 mg/kg
Method: Estimated.
Remarks: As product:
The dermal LD50 has not been determined.
Based on information for component(s):

Components:

1,3-Cyclohexanebis(methylamine):

Acute oral toxicity : LD50 (Rat, female): > 300 - 2,000 mg/kg

Acute inhalation toxicity : Remarks: As product:
The LC50 has not been determined.

Remarks: Vapor may cause severe irritation of the upper respiratory tract (nose and throat).

Acute dermal toxicity : LD50 (Rabbit): 1,700 mg/kg

Styrenated phenol:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: Mist may cause irritation of upper respiratory tract (nose and throat).

Acute dermal toxicity : LD50 (Rabbit): > 7,000 mg/kg

Trimethyl-1,6-hexanediamine:

Acute oral toxicity : LD50 (Rat): 910 mg/kg

Acute inhalation toxicity : Remarks: The LC50 has not been determined.

Acute dermal toxicity : Remarks: The dermal LD50 has not been determined.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Acute oral toxicity : Remarks: Single dose oral LD50 has not been determined.

Acute inhalation toxicity : Remarks: The LC50 has not been determined.

Acute dermal toxicity : Remarks: The dermal LD50 has not been determined.

Salicylic acid:

Acute oral toxicity : LD50 (Rat, male): 891 mg/kg

Acute inhalation toxicity : Remarks: The LC50 has not been determined.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: Estimated.
Assessment: The substance or mixture has no acute dermal toxicity

Dodecanol:

Acute oral toxicity : Remarks: Low toxicity if swallowed.
Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

LD50 (Rat, male and female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: No adverse effects are anticipated from single exposure to mist.
Excessive exposure may cause severe irritation to the upper respiratory tract (nose and throat).

LC50 (Rat, male and female): > 71 mg/l
Exposure time: 1 h

Test atmosphere: dust/mist
Remarks: Based on information for a similar material:

Acute dermal toxicity : LD50 (Rabbit, male and female): > 8,000 mg/kg

1,3-Benzenedimethanamine:

Acute oral toxicity : LD50 (Rat): 980 mg/kg

Acute inhalation toxicity : Remarks: 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): 1.34 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 3,100 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Tetradecanol:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: No adverse effects are anticipated from single exposure to vapor.

LC50 (Rat, male and female): > 1.5 mg/l
Exposure time: 1 h
Test atmosphere: vapor
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 8,000 mg/kg

Cetyl alcohol:

Acute oral toxicity : Remarks: Single dose oral LD50 has not been determined.

Acute inhalation toxicity : Remarks: The LC50 has not been determined.

Acute dermal toxicity : Remarks: The dermal LD50 has not been determined.

Skin corrosion/irritation

Product:

Remarks : Brief contact may cause severe skin burns. Symptoms may

include pain, severe local redness and tissue damage.

Components:

1,3-Cyclohexanebis(methylamine):

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

Styrenated phenol:

Result : Skin irritation
Remarks : Brief contact may cause skin irritation with local redness. Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Trimethyl-1,6-hexanediamine:

Result : Corrosive after 3 minutes or less of exposure
Remarks : Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

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

Salicylic acid:

Remarks : Brief contact is essentially nonirritating to skin.

Dodecanol:

Remarks : Brief contact is essentially nonirritating to skin.

1,3-Benzenedimethanamine:

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

Tetradecanol:

Remarks : Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Product:

Remarks : May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Vapor may cause severe eye irritation.
Vapor of amines may cause swelling of the cornea resulting in

visual disturbances such as blurred or hazy vision. Bright lights may appear to be surrounded by halos. Effects may be delayed and typically disappear spontaneously.

Components:

1,3-Cyclohexanebis(methylamine):

Result : Corrosive
Remarks : May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Vapor may cause severe eye irritation.
Vapor of amines may cause swelling of the cornea resulting in visual disturbances such as blurred or hazy vision. Bright lights may appear to be surrounded by halos. Effects may be delayed and typically disappear spontaneously.

Styrenated phenol:

Result : Eye irritation
Remarks : May cause eye irritation.

Trimethyl-1,6-hexanediamine:

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

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Result : Corrosive
Remarks : Due to the effects of the material on the skin, it is assumed that exposure may cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

Salicylic acid:

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

Dodecanol:

Result : Eye irritation
Remarks : May cause moderate eye irritation.
May cause moderate corneal injury.

1,3-Benzenedimethanamine:

Result : Corrosive
Remarks : May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chem-

ical burns may occur.

Tetradecanol:

Result : Eye irritation
Remarks : May cause moderate eye irritation.
May cause slight corneal injury.

Respiratory or skin sensitization

Product:

Remarks : Contains component(s) which have caused allergic skin sensitization in guinea pigs.
Contains component(s) which have demonstrated the potential for contact allergy in mice.
Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s).
The similar material(s) is/are:
Triethylenetetramine (TETA).
Aminoethylethanolamine (AEEA).
Piperazine.

Remarks : For respiratory sensitization:
No relevant data found.

Components:

1,3-Cyclohexanebis(methylamine):

Assessment : Does not cause skin sensitization.
Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Styrenated phenol:

Assessment : The product is a skin sensitizer, sub-category 1A.
Remarks : Has demonstrated the potential for contact allergy in mice.

Remarks : For respiratory sensitization:
No relevant data found.

Trimethyl-1,6-hexanediamine:

Assessment : The product is a skin sensitizer, sub-category 1A.
Remarks : Has caused allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Assessment : May cause sensitization by skin contact.

Remarks : Has caused allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Salicylic acid:

Remarks : Did not demonstrate the potential for contact allergy in mice.

Remarks : For respiratory sensitization:
No relevant data found.

Dodecanol:

Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

1,3-Benzenedimethanamine:

Assessment : The product is a skin sensitizer, sub-category 1B.
Remarks : Has caused allergic skin reactions when tested in guinea pigs.
Has demonstrated the potential for contact allergy in mice.

Remarks : For respiratory sensitization:
No relevant data found.

Tetradecanol:

Remarks : Did not cause allergic skin reactions when tested in guinea pigs.
For respiratory sensitization:
No relevant information found.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative for component(s) tested.
Genetic toxicity studies in animals were negative for component(s) tested.

Components:

1,3-Cyclohexanebis(methylamine):

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative.
Animal genetic toxicity studies were negative.

Styrenated phenol:

Genotoxicity in vitro : Remarks: No relevant data found.

Trimethyl-1,6-hexanediamine:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative.

Salicylic acid:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Dodecanol:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

1,3-Benzenedimethanamine:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Tetradecanol:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative.

Carcinogenicity

Product:

Remarks : No relevant data found.

Components:

1,3-Cyclohexanebis(methylamine):

Remarks : No relevant data found.

Styrenated phenol:

Remarks : No relevant data found.

Trimethyl-1,6-hexanediamine:

Remarks : No relevant data found.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Remarks : No relevant data found.

Salicylic acid:

Remarks : Did not cause cancer in laboratory animals.

Dodecanol:

Remarks : No relevant data found.

1,3-Benzenedimethanamine:

Remarks : No relevant data found.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: Contains component(s) which did not interfere with reproduction in animal studies.

Effects on fetal development : Remarks: Contains component(s) which caused birth defects in lab animals at doses nontoxic to the mother.
Contains component(s) which, in laboratory animals, have been toxic to the fetus at doses nontoxic to the mother.

Components:

1,3-Cyclohexanebis(methylamine):

Effects on fertility : Remarks: In animal studies, did not interfere with reproduction.

Effects on fetal development : Remarks: Did not cause birth defects or any other fetal effects in laboratory animals.

Styrenated phenol:

Effects on fertility : Remarks: No relevant data found.

Effects on fetal development : Remarks: No relevant data found.

Trimethyl-1,6-hexanediamine:

Effects on fertility : Remarks: In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Effects on fetal development : Remarks: Did not cause birth defects in laboratory animals.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Effects on fertility : Remarks: No relevant data found.

Effects on fetal development : Remarks: No relevant data found.

Salicylic acid:

Effects on fertility : Remarks: In animal studies, did not interfere with reproduction.
In animal studies, did not interfere with fertility.

Effects on fetal development : Remarks: Has caused birth defects in laboratory animals at doses nontoxic to the mother.
Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

Reproductive toxicity - Assessment : Suspected human reproductive toxicant, Suspected of damaging the unborn child.

Dodecanol:

Effects on fertility : Remarks: No relevant data found.

Effects on fetal development : Remarks: No relevant data found.

1,3-Benzenedimethanamine:

Effects on fertility : Remarks: In animal studies, did not interfere with fertility.
In animal studies, did not interfere with reproduction.

Effects on fetal development : Remarks: Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

STOT-single exposure

Product:

Assessment : Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Components:

1,3-Cyclohexanebis(methylamine):

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Styrenated phenol:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Trimethyl-1,6-hexanediamine:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Assessment : Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Salicylic acid:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

1,3-Benzenedimethanamine:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT-repeated exposure

Components:

1,3-Cyclohexanebis(methylamine):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Remarks : For the component(s) tested:
In animals, effects have been reported on the following organs:
Nervous system.
Gastrointestinal tract.
Kidney.
Respiratory tract.
Liver.

Components:

1,3-Cyclohexanebis(methylamine):

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Styrenated phenol:

Remarks : In animals, effects have been reported on the following organs:
Nervous system.
Gastrointestinal tract.
Respiratory tract.

Trimethyl-1,6-hexanediamine:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Salicylic acid:

Remarks : In animals, effects have been reported on the following organs:
Kidney.
Liver.

Dodecanol:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

1,3-Benzenedimethanamine:

Remarks : In animals, effects have been reported on the following organs:
Gastrointestinal tract.

Aspiration toxicity

Product:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Components:

1,3-Cyclohexanebis(methylamine):

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Styrenated phenol:

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

Trimethyl-1,6-hexanediamine:

Based on available information, aspiration hazard could not be determined.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Salicylic acid:

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

Dodecanol:

May be harmful if swallowed and enters airways.

1,3-Benzenedimethanamine:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

1,3-Cyclohexanebis(methylamine):

Toxicity to fish	:	Remarks: 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)): > 100 mg/l Exposure time: 96 h Method: Method Not Specified.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 29 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 or Equivalent
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 276 mg/l End point: Growth rate inhibition Exposure time: 72 h Method: OECD Test Guideline 201 or Equivalent
Toxicity to soil dwelling organisms	:	EC50 (Eisenia fetida (earthworms)): >= 1,000 mg/kg Exposure time: 14 d End point: growth Method: Other guidelines

Styrenated phenol:

Toxicity to fish	:	Remarks: 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 (Brachydanio rerio (zebrafish)): 14.8 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna): > 1 - 10 mg/l Exposure time: 48 h Test Type: Static Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	EL50 (Desmodesmus subspicatus (green algae)): 3.14 mg/l Exposure time: 72 h Test Type: Static Method: OECD Test Guideline 201 GLP: yes
Toxicity to fish (Chronic toxicity)	:	NOEC (Oryzias latipes (Orange-red killifish)): 1.9 mg/l Exposure time: 14 d Test Type: flow-through Method: OECD Test Guideline 204
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna): 0.2 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity	:	Toxic to aquatic life.

Trimethyl-1,6-hexanediamine:

Toxicity to fish	:	Remarks: 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)): 172 mg/l Exposure time: 48 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 31.5 mg/l Exposure time: 24 h
Toxicity to algae/aquatic plants	:	ErC50 (alga Scenedesmus sp.): 29.5 mg/l End point: Growth rate inhibition Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Bacteria): 89 mg/l Exposure time: 17 h

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Toxicity to fish	:	Remarks: 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 (Rainbow trout (Oncorhynchus mykiss)): 64 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 or Equivalent
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 1.46 mg/l Exposure time: 48 h

Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 30 mg/l
End point: Cell yield inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201 or Equivalent

Toxicity to microorganisms : EC50 (activated sludge): 888.9 mg/l
End point: Respiration rates.
Exposure time: 3 h
Test Type: aerobic
Method: activated sludge test (OECD 209)

Salicylic acid:

Toxicity to fish : Remarks: 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 (emerald shiner (Notropis atherinoides)): > 150 mg/l
Exposure time: 96 h
Method: Method Not Specified.

LC50 (Leuciscus idus (Golden orfe)): 90 mg/l
Exposure time: 48 h
Test Type: static test
Method: Method Not Specified.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 105 - 230 mg/l
Exposure time: 24 h
Method: Method Not Specified.

Toxicity to microorganisms : EC50 (activated sludge): > 3,200 mg/l
Exposure time: 3 h
Method: OECD 209 Test

Dodecanol:

Toxicity to fish : Remarks: Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50 (Pimephales promelas (fathead minnow)): 1.01 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 320 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : EC50 (alga Scenedesmus sp.): 0.97 mg/l
End point: Growth rate inhibition

Exposure time: 96 h
Method: OECD Test Guideline 201 or Equivalent

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna): 0.014 mg/l
End point: number of offspring
Exposure time: 21 d
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 1

1,3-Benzenedimethanamine:

Toxicity to fish : Remarks: 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)): 75 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15.2 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : EC50 (alga Scenedesmus sp.): 12 mg/l
End point: Biomass
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201 or Equivalent

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 4.7 mg/l
End point: number of offspring
Exposure time: 21 d

Tetradecanol:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0016 mg/l
End point: number of offspring
Exposure time: 21 d
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to soil dwelling organisms : (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 7 d
End point: mortality

Persistence and degradability

Components:

1,3-Cyclohexanebis(methylamine):

Biodegradability : Remarks: 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.
Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Biodegradation: 29 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Fail

Biodegradation: 92 - 96 %
Exposure time: 28 d
Method: OECD Test Guideline 303A or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 3.37 mg/mg

Trimethyl-1,6-hexanediamine:

Biodegradability : Result: Not biodegradable.
Remarks: 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.

aerobic
Concentration: 10 mg/l
Biodegradation: 37 %
Exposure time: 21 d
Method: OECD Test Guideline 301E or Equivalent
Remarks: 10-day Window: Fail

aerobic
Concentration: 10,000 mg/l
Biodegradation: 13 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent
Remarks: 10-day Window: Not applicable

aerobic
Concentration: 10 mg/l
Biodegradation: 2.2 %
Exposure time: 3 d
Method: OECD Test Guideline 303A or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 3.44 mg/mg

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

Sensitizer: OH radicals
Rate constant: 8.407E-11 cm3/s
Method: Estimated.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Biodegradability : Result: Not biodegradable.
Remarks: Material is not readily biodegradable according to OECD/EEC guidelines.

aerobic
Inoculum: activated sludge
Concentration: 12 mg/l
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Fail

Salicylic acid:

Biodegradability : Result: Readily biodegradable.
Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biodegradation: 88.1 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 1.62 mg/mg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Rate constant: 1.300E-11 cm3/s
Method: Estimated.

Dodecanol:

Biodegradability : Result: Readily biodegradable.
Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: 10-day Window: Pass

Tetradecanol:

Biodegradability : Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass

Biodegradation: 92 %
Exposure time: 28 d

Bioaccumulative potential

Components:

1,3-Cyclohexanebis(methylamine):

Partition coefficient: n-octanol/water : log Pow: 0.44
Method: OECD Test Guideline 107 or Equivalent
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Styrenated phenol:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Trimethyl-1,6-hexanediamine:

Partition coefficient: n-octanol/water : log Pow: 0.77
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 4.77
Method: Estimated.

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

log Pow: 3.6 (77 °F / 25 °C)
pH: 7

Salicylic acid:

Partition coefficient: n-octanol/water : log Pow: 2.26
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Dodecanol:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 177
Method: Estimated.

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

log Pow: 5.13
Method: Measured

1,3-Benzenedimethanamine:

Partition coefficient: n-octanol/water : log Pow: 0.18
Method: OECD Test Guideline 107 or Equivalent
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Tetradecanol:

Partition coefficient: n-octanol/water : Remarks: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Pow: 5.5
Method: Measured

Cetyl alcohol:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Mobility in soil

Components:

1,3-Cyclohexanebis(methylamine):

Distribution among environmental compartments : Koc: > 141 - 832
Method: Measured
Remarks: Potential for mobility in soil is high (Koc between 50 and 150).
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.

Trimethyl-1,6-hexanediamine:

Distribution among environmental compartments : Koc: 1200
Method: Estimated.
Remarks: 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.

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Distribution among environmental compartments : Remarks: Expected to be relatively immobile in soil (Koc > 5000).

Adsorption/Soil
Medium: Soil
Koc: > 5000, log Koc: 10.51
Method: OECD 121: HPLC Method

Salicylic acid:

Distribution among environ- : Koc: 24

mental compartments

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

Dodecanol:

Distribution among environmental compartments : Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

Koc: 327
Method: Estimated.

Tetradecanol:

Distribution among environmental compartments : Remarks: No relevant data found.

Cetyl alcohol:

Distribution among environmental compartments : Remarks: No relevant data found.

Other adverse effects

Components:

1,3-Cyclohexanebis(methylamine):

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Trimethyl-1,6-hexanediamine:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Salicylic acid:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Dodecanol:

Results of PBT and vPvB : This substance has not been assessed for persistence, bioac-

assessment cumulation and toxicity (PBT).

Tetradecanol:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Cetyl alcohol:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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.
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.
DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.
FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S. (1,3-Cyclohexanebis(methylamine))
Class	:	8
Packing group	:	II
Labels	:	8

IATA-DGR

UN/ID No.	:	UN 2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s. (1,3-Cyclohexanebis(methylamine))
Class	:	8
Packing group	:	II
Labels	:	Corrosive

Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851

IMDG-Code

UN number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S. (1,3-Cyclohexanebis(methylamine), Tetradecanol)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes
Remarks	:	Stowage category AAlkalis

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

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s. (1,3-Cyclohexanebis(methylamine))
Class	:	8
Packing group	:	II
Labels	:	CORROSIVE
ERG Code	:	153
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization Acute toxicity (any route of exposure)
SARA 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.

US State Regulations

Pennsylvania Right To Know

1,3-Benzenedimethanamine	1477-55-0

California Prop. 65

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.

International Regulations

Montreal Protocol (Ozone Depleting Substances)	:	Not applicable
Rotterdam Convention (Prior Informed Consent)	:	Not applicable
Stockholm Convention (Persistent Organic Pollutants)	:	Not applicable

The ingredients of this product are reported in the following inventories:

CH INV	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
DSL	:	This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL. 1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]
AICS	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
NZIoC	:	not determined
ENCS	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
ISHL	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
KECI	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
PICCS	:	not determined
IECSC	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
TCSI	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
TSCA	:	All substances listed as active on the TSCA Inventory or are not required to be listed.

TSCA list

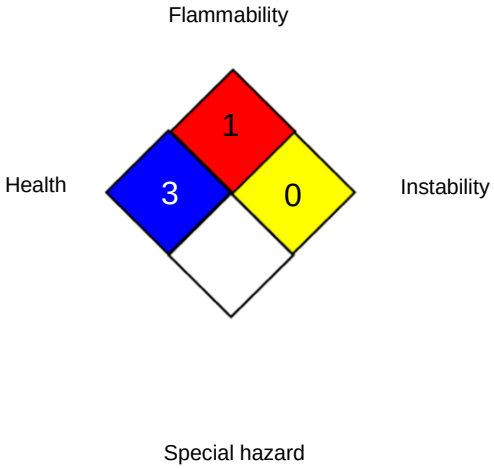
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
ACGIH / C	:	Ceiling limit
OSHA P0 / C	:	Ceiling limit

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of

Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 04-08-2021

BLUE CUBE OPERATIONS LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US / Z8