SAFETY DATA SHEET

D.E.H.™ 591 Epoxy Curing Agent

Version	Revision Date:	SDS Number:	Date of last issue: 03-25-2021
4.1	01-18-2022	101270728	Date of first issue: 01-18-2022

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 pre-cautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1. IDENTIFICATION

Product name : D.E.H.™ 591 Epoxy Curing Agent
Product code : 000000001000000070

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
24-Hour Emergency Contact : +1 800 424 9300

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Identified uses : Curing agent.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitization : Sub-category 1A

Reproductive toxicity : Category 1B

Effects on or via lactation

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
May cause harm to breast-fed children.

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.
P263 Avoid contact during pregnancy/ while nursing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
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)
Modified aliphatic amine	Trade secret	10 - 25
Triethylenetetramine mixture	112-24-3	10 - 30
Benzyl alcohol	100-51-6	30 - 50
3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine)	2855-13-2	15 - 40
Aminoethylethanolamine	111-41-1	0.1 - < 0.5
Benzaldehyde	100-52-7	< 0.2

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : 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.

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 : Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.
Chemical eye burns may require extended irrigation. Obtain

prompt consultation, preferably from an ophthalmologist.
Attempt seizure control with diazepam 5-10 mg (adults) intravenous over 2-3 minutes. Repeat every 5-10 minutes as needed. Monitor for hypotension, respiratory depression, and need for intubation. Consider second agent if seizures persist after 30 mg.
If seizures persist or recur administer phenobarbital 600-1200 mg (adults) intravenous diluted in 60 ml 0.9% saline given at 25-50 mg/minute. Evaluate for hypoxia, dysrhythmia, electrolyte disturbance, hypoglycemia (treat adults with dextrose 100 mg intravenous).
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.
If burn is present, treat as any thermal burn, after decontamination.
No specific antidote.
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Repeated excessive exposure may aggravate preexisting lung disease.

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	:	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
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. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles.

Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.
Burning liquids may be extinguished by dilution with water.
Do not use direct water stream. May spread fire.
Move container from fire area if this is possible without hazard.
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.
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.

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.
Avoid breathing vapor or mist.

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.
Avoid contact with:
Brass.
Bronze.
Copper.
Copper alloys.

Recommended storage temperature : 41 - 86 °F / 5 - 30 °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
Benzyl alcohol	100-51-6	TWA	10 ppm	US WEEL
Triethylenetetramine mixture	112-24-3	TWA	1 ppm	US WEEL
Aminoethylethanolamine	111-41-1	TWA	0.05 mg/m3	OLIN OEL
	Further information: Absorbed via Skin, Skin Sensitizer			
Benzaldehyde	100-52-7	TWA	2 ppm	US WEEL
		STEL	4 ppm	US WEEL

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, use an approved respirator.
Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.
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. Natural rubber ('latex'). Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ('EVAL'). Examples of acceptable glove barrier materials include: Butyl rubber. Nitrile/butadiene rubber ('nitrile' or 'NBR'). Polyvinyl alcohol ('PVA'). Polyvinyl chloride ('PVC' or 'vinyl'). Viton. 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	:	Colorless to yellow
Odor	:	Amine.
Odor Threshold	:	No test data available
pH	:	Not applicable
Melting point/range	:	Not applicable
Freezing point		No test data available
Boiling point/boiling range	:	401 °F / 205 °C Method: Literature (benzyl alcohol)
Flash point	:	243 °F / 117 °C Method: Literature, closed cup (estimated from component data)
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	:	0.02 mmHg Method: Estimated. isophoronediamine
Relative vapor density	:	No test data available
Relative density	:	1.01 Method: OECD 109
Solubility(ies)		
Water solubility	:	Soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No test data available
Decomposition temperature	:	No test data available
Viscosity		
Viscosity, dynamic	:	50 - 100 cP (77 °F / 25 °C) Method: ASTM D 445
Viscosity, kinematic	:	No test data available
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. Generation of gas during decomposition can cause pressure in closed systems. Reaction with carbon dioxide may form an amine carbamate. Smoke may be generated depending on vapor pressure of mixture. Product absorbs carbon dioxide from the air.
Incompatible materials	:	Avoid contact with oxidizing materials. Avoid contact with: Acids. Acrylates. Alcohols. Aldehydes. Halogenated hydrocarbons. Ketones. Nitrites. 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. Ammonia. Volatile amines. Hydrocarbons. Phenolics.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: Low toxicity if swallowed. May cause central nervous system effects. Swallowing may result in gastrointestinal irritation or ulceration. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Symptoms may include convulsions or seizures. Remarks: As product: Single dose oral LD50 has not been determined. LD50 (Rat): > 1,000 mg/kg Method: Estimated. Remarks: Based on information for component(s):
Acute inhalation toxicity	:	Remarks: Excessive exposure may cause irritation to upper

respiratory tract (nose and throat).
Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.
May cause central nervous system depression.
Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.
Prolonged excessive exposure may cause serious adverse effects, even death.

Assessment: The component/mixture is moderately toxic after short term inhalation.
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.
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: As product:
The dermal LD50 has not been determined.
Based on information for component(s):

Components:

Modified aliphatic amine:

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

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

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

Triethylenetetramine mixture:

Acute oral toxicity : LD50 (Rat, male and female): 1,716 mg/kg

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

Acute dermal toxicity : LD50 (Rabbit): 1,465 mg/kg

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat, male): 1,620 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.178 mg/l
Exposure time: 4 h
Test atmosphere: vapor

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

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Acute oral toxicity	:	LD50 (Rat): 1,030 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 5.01 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal 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 dermal toxicity

Aminoethylethanolamine:

Acute oral toxicity	:	LD50 (Rat): 2,150 mg/kg
Acute inhalation toxicity	:	Remarks: At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation. Based on the available data, narcotic effects were not observed. Remarks: The LC50 has not been determined.
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute dermal toxicity

Benzaldehyde:

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): 1,300 - 2,850 mg/kg
Acute inhalation toxicity	:	Remarks: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.
Acute dermal toxicity	:	Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts. LD50 (Rabbit): > 1,250 mg/kg

Skin corrosion/irritation

Product:

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

Components:

Triethylenetetramine mixture:

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

Remarks : Classified as corrosive to the skin according to DOT guidelines.

Benzyl alcohol:

Remarks : Brief contact is essentially nonirritating to skin.
Prolonged contact may cause skin irritation with local redness.
May cause tingling/numbness in exposed areas (paresthesia).

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Remarks : Classified as corrosive to the skin according to DOT guidelines.

Aminoethylethanolamine:

Result : Causes burns.
Remarks : Avoid all skin contact.
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
May cause more severe response on covered skin (under clothing, gloves).

Remarks : Classified as corrosive to the skin according to DOT guidelines.

Benzaldehyde:

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

Serious eye damage/eye irritation

Product:

Remarks : May cause severe irritation with corneal injury which may re-

sult in permanent impairment of vision, even blindness. Chemical burns may occur.
Vapor may cause lacrimation (tears).

Components:

Triethylenetetramine mixture:

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

Benzyl alcohol:

Remarks : May cause moderate eye irritation.
May cause corneal injury.
Effects may be slow to heal.
Vapor may cause lacrimation (tears).

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

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

Benzaldehyde:

Remarks : May cause eye irritation.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Respiratory or skin sensitization

Product:

Assessment : The product is a skin sensitizer, sub-category 1A.
Remarks : A component in this mixture has caused allergic skin reactions in humans.
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:
Ethylenediamine.
Diethylenetriamine.
Piperazine.

Remarks : For respiratory sensitization:
No relevant data found.

Components:

Triethylenetetramine mixture:

Assessment : May cause sensitization by skin contact.
Remarks : Has caused allergic skin reactions in humans.
Has demonstrated the potential for contact allergy in mice.
Has caused allergic skin reactions when tested in guinea pigs.
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:
Ethylenediamine (EDA).
Diethylenetriamine.
Piperazine.
Aminoethylethanolamine (AEEA).

Remarks : For respiratory sensitization:
No relevant data found.

Benzyl alcohol:

Remarks : For skin sensitization:
No relevant data found.

Remarks : For respiratory sensitization:
No relevant data found.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Assessment : The product is a skin sensitizer, sub-category 1A.
Remarks : Skin contact may cause an allergic skin reaction.
Has caused allergic skin reactions when tested in guinea pigs.
Has caused allergic skin reactions in humans.

Remarks : For respiratory sensitization:
No relevant data found.

Aminoethylethanolamine:

Assessment : The product is a skin sensitizer, sub-category 1A.
Remarks : Skin contact may cause an allergic skin reaction.
Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product.
The similar material(s) is/are:
Triethylenetetramine (TETA).
Has caused allergic skin reactions when tested in guinea pigs.
Has demonstrated the potential for contact allergy in mice.

Remarks : For respiratory sensitization:
No specific, relevant data available for assessment.

Benzaldehyde:

Remarks : Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others.
Contains component(s) which were negative in animal genetic toxicity studies.

Components:

Triethylenetetramine mixture:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative.

Benzyl alcohol:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

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

Benzaldehyde:

Genotoxicity in vitro : Remarks: In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Carcinogenicity

Product:

Remarks : Contains component(s) which did not cause cancer in laboratory animals.

Components:

Triethylenetetramine mixture:

Remarks : Did not cause cancer in laboratory animals.

Benzyl alcohol:

Remarks : Did not cause cancer in laboratory animals.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Remarks : No relevant data found.

Aminoethylethanolamine:

Remarks : No relevant data found.

Benzaldehyde:

Remarks : Non-malignant stomach tumours were observed in mice receiving the material by mouth for two years; no carcinogenic activity was observed in rats.

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: For the minor component(s):
In animal studies, has been shown to interfere with fertility.

Effects on fetal development : Remarks: Contains component(s) which caused birth defects in laboratory animals.
Contains component(s) which have been toxic to the fetus in lab animal tests.

Components:

Triethylenetetramine mixture:

Effects on fertility : Remarks: No relevant data found.

Effects on fetal development : Remarks: Laboratory animals that were fed exaggerated doses of Triethylenetetraamine(TETA) showed adverse fetal effects that were believed to be associated with an observed copper deficiency.
Exposures having no effect on the mother should have no effect on the fetus.

Benzyl alcohol:

Effects on fertility : Remarks: No relevant data found.

Effects on fetal development : Remarks: Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Effects on fertility : Remarks: No relevant data found.

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

Aminoethylethanolamine:

Effects on fertility : Remarks: In animal studies, has been shown to interfere with fertility.

Effects on fetal development : Remarks: Has caused birth defects in laboratory animals.
Has been toxic to the fetus in laboratory animal tests.

Reproductive toxicity - Assessment : Presumed human reproductive toxicant
Effects on or via lactation

Benzaldehyde:

Effects on fertility : Remarks: No relevant data found.

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

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:

Triethylenetetramine mixture:

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

Benzyl alcohol:

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

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

Routes of exposure : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

Repeated dose toxicity

Product:

Remarks : Contains component(s) which have been reported to cause effects on the following organs in animals:
Central nervous system.
Muscles.
Respiratory tract.
Thymus.
Urinary tract.
Lung.

Components:

Triethylenetetramine mixture:

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

Benzyl alcohol:

Remarks : In animals, effects have been reported on the following organs after inhalation:
Central nervous system.
Muscles.
Thymus.
Urinary tract.
Based on available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

Remarks : In animals, effects have been reported on the following organs:
Gastrointestinal tract.
Kidney.
Repeated skin application to laboratory animals did not produce systemic toxicity.

Benzaldehyde:

Remarks : In animals, effects have been reported on the following organs:
Central nervous system.
Kidney.
Gastrointestinal tract.
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Observations in animals include:
Anesthetic or narcotic effects.

Aspiration toxicity

Product:

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

Components:

Triethylenetetramine mixture:

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

Benzyl alcohol:

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

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Modified aliphatic amine:

Toxicity to fish	:	Remarks: No relevant data found.

Triethylenetetramine mixture:

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 (Pimephales promelas (fathead minnow)): 330 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 or Equivalent
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 31.1 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 or Equivalent
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 20 mg/l End point: Growth rate inhibition

Exposure time: 72 h
Test Type: semi-static test
Method: OECD Test Guideline 201 or Equivalent

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.9 mg/l
End point: number of offspring
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211 or Equivalent

Toxicity to microorganisms : EC50 (Bacteria): 680 mg/l
Exposure time: 16 h

Benzyl alcohol:

Toxicity to fish : Remarks: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50 (Pimephales promelas (fathead minnow)): 460 mg/l
Exposure time: 96 h
Test Type: Static
Method: Method Not Specified.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: Static
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna): 51 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 2,100 mg/l
End point: Respiration rates.
Exposure time: 49 h
Test Type: Respiration inhibition
Method: OECD 209 Test

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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)): 110 mg/l

Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : EbC50 (alga Scenedesmus sp.): 37 mg/l
End point: Biomass
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 3 mg/l
End point: number of offspring
Exposure time: 21 d

Toxicity to microorganisms : EC10 (Bacteria): 1,120 mg/l
Exposure time: 18 h
Test Type: Static

Aminoethylethanolamine:

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 (Pimephales promelas (fathead minnow)): 640 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 22 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 353.6 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201 or Equivalent

Toxicity to microorganisms : EC50 (Bacteria): > 5,000 mg/l
Exposure time: 16 h

Benzaldehyde:

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).

LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.07 mg/l
Exposure time: 96 h
Method: Method Not Specified.

LC50 (Pimephales promelas (fathead minnow)): 9.9 mg/l
Exposure time: 96 h

Method: Method Not Specified.

LC50 (Oncorhynchus mykiss (rainbow trout)): 11.2 mg/l
Exposure time: 96 h
Method: Method Not Specified.

LC50 (Ictalurus catus (catfish)): 5.4 mg/l
Exposure time: 96 h
Method: Method Not Specified.

LC50 (Cyprinus carpio (Carp)): 13.8 mg/l
Exposure time: 96 h
Method: Method Not Specified.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 50 mg/l
Exposure time: 24 h

LC50 (Daphnia magna (Water flea)): 12.0 mg/l
Exposure time: 48 h
Method: Method Not Specified.

Toxicity to microorganisms : EC50 (activated sludge): 757 mg/l
Exposure time: 3 h

Persistence and degradability

Components:

Triethylenetetramine mixture:

Biodegradability : Remarks: Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

Result: Not biodegradable.
Biodegradation: 0 %
Exposure time: 20 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: 10-day Window: Fail

Biochemical Oxygen Demand (BOD) : 5.000 %
Incubation time: 5 d

2.5 - 11 %
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 1.94 mg/mg

ThOD : 3.40 mg/mg

Benzyl alcohol:

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

Inoculum: activated sludge, domestic (adaptation not specified)
Concentration: 100 mg/l
Biodegradation: 92 - 96 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 2.52 mg/mg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Rate constant: 8.25E-12 cm3/s
Method: Estimated.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Biodegradability : Result: Not biodegradable.
Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

aerobic
Concentration: 10 mg/l
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent
Remarks: 10-day Window: Fail

aerobic
Concentration: 10.1 mg/l
Biodegradation: 42 %
Exposure time: 3 h
Method: OECD Test Guideline 303A or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 3.38 mg/mg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Rate constant: 8.472E-11 cm3/s
Method: Estimated.

Aminoethylethanolamine:

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

Concentration: 18 mg/l
Biodegradation: > 97 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Pass

Chemical Oxygen Demand (COD)	:	1,070 mg/g
ThOD	:	2.77 mg/mg

Benzaldehyde:

Biodegradability	:	Biodegradation: 66 % Exposure time: 28 d Method: OECD Test Guideline 301C or Equivalent Remarks: 10-day Window: Fail
ThOD	:	2.42 mg/mg
Photodegradation	:	Sensitizer: OH radicals Concentration: 1,500,000 1/cm3 Rate constant: 1.79E-11 cm3/s Method: Estimated.

Bioaccumulative potential

Components:

Modified aliphatic amine:

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

Triethylenetetramine mixture:

Partition coefficient: n-octanol/water	:	log Pow: -2.65 Method: Estimated. Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Benzyl alcohol:

Partition coefficient: n-octanol/water	:	log Pow: 1.10 Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Partition coefficient: n-octanol/water	:	log Pow: 0.79 Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Aminoethylethanolamine:

Bioaccumulation	:	Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): < 3.7 Exposure time: 42 d Concentration: 0.1 mg/l Method: Measured

Partition coefficient: n-octanol/water	:	log Pow: -1.46 Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Benzaldehyde:

Partition coefficient: n-octanol/water	:	Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is medium (Koc between 150 and 500). log Pow: 1.48 Method: Measured

Mobility in soil

Components:

Triethylenetetramine mixture:

Distribution among environmental compartments	:	Koc: 4.1 - 310 Method: Estimated. Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Benzyl alcohol:

Distribution among environmental compartments	:	Koc: 16 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.

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

Distribution among environmental compartments	:	Koc: 340 Method: Estimated. Remarks: Potential for mobility in soil is medium (Koc between 150 and 500). 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.

Aminoethylethanolamine:

Distribution among environmental compartments	:	Koc: 3.5 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.

Benzaldehyde:

Distribution among environmental compartments : Koc: 152
Method: Estimated.

Other adverse effects

Components:

Triethylenetetramine mixture:

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).

Benzyl alcohol:

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).

3-Aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine):

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

Aminoethylethanolamine:

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).

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	:	(isophoronediamine, Triethylenetetramine Mixture)
Class	:	8
Packing group	:	II
Labels	:	8

IATA-DGR

UN/ID No.	:	UN 2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s. (isophoronediamine, Triethylenetetramine Mixture)
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. (isophoronediamine, Triethylenetetramine Mixture)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no
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. (isophoronediamine, Triethylenetetramine Mixture)
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

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
Reproductive toxicity
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

Benzyl alcohol	100-51-6
Triethylenetetramine mixture	112-24-3

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	:	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:

TCSI	:	not determined
TSCA	:	All substances listed as active on the TSCA Inventory or are not required to be listed.
AIIC	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
DSL	:	All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.
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	:	not determined

PICCS	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
IECSC	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
NZIoC	:	The product contains an intentional component that is not on the inventory.
CH INV	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.

TSCA list

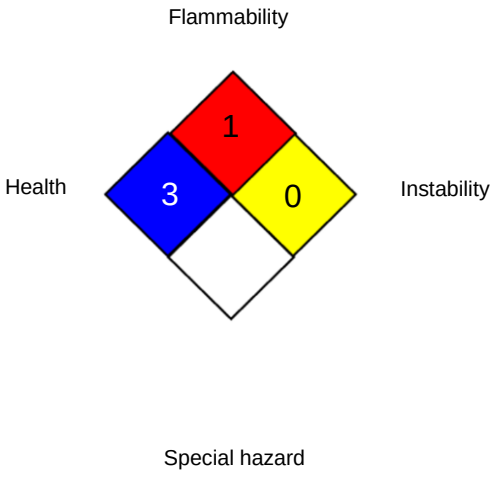
No substances are subject to a Significant New Use Rule.

Exemptions from the obligation to register

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA
US WEEL / STEL	:	Short-Term TWA

AIIC - Australian Inventory of Industrial Chemicals; 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

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