SAFETY DATA SHEET

DLVNE - 61 Epoxy Resin

Version	Revision Date:	SDS Number:	Date of last issue: 09-17-2019
7.0	05-03-2021	102971417	Date of first issue: 05-03-2021

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	:	DLVNE - 61 Epoxy Resin
Product code	:	000000001000001888

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	:	Resin for epoxy systems.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin irritation	:	Category 2
Skin sensitization	:	Category 1

GHS label elements

Hazard pictograms :

Signal Word	:	Warning
Hazard Statements	:	Causes skin irritation. May cause an allergic skin reaction.
Precautionary Statements	:	**Prevention:** P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P264 Wash skin thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

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)
Reaction product of phenol-formaldehyde Novolac with epichlorohydrin	28064-14-4	> 60 - <= 70
Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-	14228-73-0	> 25 - <= 40
Monoglycidyl Ether	46354-03-4	> 1 - < 5
1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane	71463-68-8	> 1 - < 5

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 : Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse.
Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

In case of eye contact : Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Suitable emergency eye wash facility should be available in work area.

If swallowed	:	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
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	:	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	:	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	:	Isolate area. Keep unnecessary and unprotected personnel from entering the area. 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. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information. Absorb with materials such as: Sand.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated contact with skin. 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 metals such as: Brass.

Bronze.
Copper.
Copper alloys.

Recommended storage temperature : 36 - 109 °F / 2 - 43 °C

Storage period : 24 Months

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

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

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. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.

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: Butyl rubber. Ethyl vinyl alcohol laminate ('EVAL'). Nitrile/butadiene rubber ('nitrile' or 'NBR'). Neoprene. Polyvinyl chloride ('PVC' or 'vinyl'). 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 safety glasses (with side shields).

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	:	clear, light yellow
Odor	:	Essentially odorless
Odor Threshold	:	No test data available
pH	:	6 - 8 (68 °F / 20 °C) Method: Calculated.
Freezing point	:	No test data available
Melting point/range		Not applicable
Boiling point/boiling range	:	> 212 °F / > 100 °C Method: Estimated.
Flash point	:	> 201 °F / > 94 °C Method: EC Method A9, closed cup (based on major component)
Evaporation rate	:	No test data available
Flammability (liquids)	:	Not expected to be a static-accumulating flammable liquid.
Self-ignition	:	The substance or mixture is not classified as pyrophoric.
Upper explosion limit / Upper flammability limit	:	No test data available
Lower explosion limit / Lower flammability limit	:	No test data available
Vapor pressure	:	82 Pa Method: EC Method A4
Relative vapor density	:	No test data available
Relative density	:	1.1674 (77 °F / 25 °C) Method: ASTM D4052
Solubility(ies)		
Water solubility	:	insoluble

Partition coefficient: n-octanol/water	:	No data available for this product.
Autoignition temperature	:	212 °F / 100 °C (1 atm) Method: Estimated.
Decomposition temperature	:	No test data available
Viscosity		
Viscosity, dynamic	:	4,500 - 6,500 mPa,s (77 °F / 25 °C) Method: ASTM D 445
Viscosity, kinematic	:	No test data available
Explosive properties	:	No Method: Assessment based on structural analysis
Oxidizing properties	:	No Method: Assessment based on structural analysis
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.
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.
Hydrocarbons.
Phenolics.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

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.

Remarks: As product:
Single dose oral LD50 has not been determined.

LD50 (Rat): 4,000 mg/kg
Method: Estimated.
Remarks: Based on information for component(s):

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

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.

Remarks: As product:
The dermal LD50 has not been determined.

LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on information for component(s):

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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: At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation.

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

Acute oral toxicity : LD50 (Rat): 1,098 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

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

Monoglycidyl Ether:

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.

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)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.

Skin corrosion/irritation

Product:

Remarks : Brief contact may cause skin irritation with local redness.

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Result : No skin irritation

Remarks : Brief contact may cause slight skin irritation with local redness.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

Result : Skin irritation
Remarks : Brief contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

Product:

Remarks : May cause eye irritation.

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Result : No eye irritation
Remarks : May cause slight temporary eye irritation.
Corneal injury is unlikely.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

Remarks : May cause eye irritation.

Respiratory or skin sensitization

Product:

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

Remarks : For respiratory sensitization:
No relevant data found.

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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

Remarks : For respiratory sensitization:
No relevant data found.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

Assessment : May cause sensitization by skin contact.
Remarks : Has caused allergic skin reactions when tested in guinea pigs.
Did not demonstrate the potential for contact allergy in mice.

Remarks : For respiratory sensitization:
No relevant data found.

Germ cell mutagenicity

Product:

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

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

Carcinogenicity

Product:

Remarks : No relevant data found.

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Remarks : No relevant data found.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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: No relevant data found.

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

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Effects on fertility : Remarks: No relevant data found.

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

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

STOT-single exposure

Product:

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

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

Repeated dose toxicity

Product:

Remarks : For the component(s) tested:
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Remarks : No relevant data found.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

Aspiration toxicity

Product:

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

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:
Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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 (Leuciscus idus (Golden orfe)): 5.7 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)): 3.5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 or Equivalent

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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 (Fish): 13 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Monoglycidyl Ether:

Toxicity to fish : Remarks: For similar material(s):
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).

Remarks: No relevant data found.

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane:

Toxicity to fish : Remarks: No relevant data found.

Persistence and degradability

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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.

Biodegradation: 10 - 16 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Fail

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

Biodegradability : Remarks: Relevant data not available.

Monoglycidyl Ether:

Biodegradability : Remarks: Relevant data not available.

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane:

Biodegradability : Remarks: No relevant data found.

Bioaccumulative potential

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

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

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

Monoglycidyl Ether:

Partition coefficient: n-octanol/water : Remarks: No data available for this product.

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane:

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

Mobility in soil

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Distribution among environmental compartments : Remarks: No data available.

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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

Monoglycidyl Ether:

Distribution among environmental compartments : Remarks: No data available.

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane:

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

Other adverse effects

Components:

Reaction product of phenol-formaldehyde Novolac with epichlorohydrin:

Results of PBT and vPvB assessment : Remarks: No data available

Additional ecological information : No data available

Oxirane, 2,2'-[1,4-cyclohexanediylbis(methyleneoxymethylene)]bis-:

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).

Monoglycidyl Ether:

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

1,4-Cyclohexanedimethanol, polymer with 2-(chloromethyl)oxirane:

Results of PBT and vPvB assessment : Remarks: No data available

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 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
Class	:	9
Subsidiary risk	:	ENVIRONM.
Packing group	:	III
Labels	:	9 (ENVIRONM.)

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Epoxy resin)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes
Remarks	:	Stowage category A

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
Not regulated as a dangerous good

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 Respiratory or skin sensitization
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

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

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	:	All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.
AICS	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
NZIoC	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.

ENCS	:	not determined
ISHL	:	not determined
KECI	:	All intentional components are listed on the inventory, are exempt, or are supplier certified.
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.
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

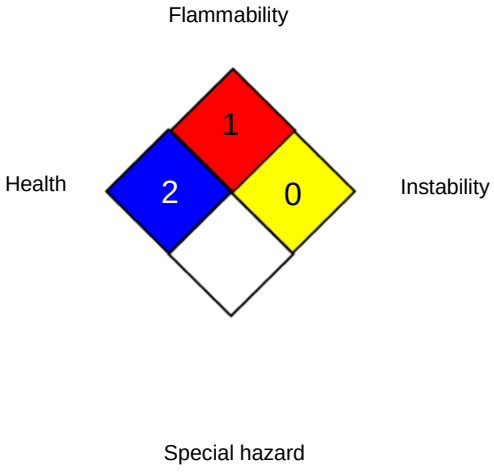
No substances are subject to a Significant New Use Rule.

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

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

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 : 05-03-2021

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