

MATERIAL SAFETY DATA SHEET (C1)R
G.J. Chemical Co

Section I Identification

Distribution Source-----> G.J. Chemical Co., Inc.
Street Address-----> 40 Veronica Avenue, Somerset, NJ 08873
Telephone Number-----> 973-589-1450
Emergency Telephone Number> 1-800-424-9300 Chemtrec

Product Name-----> Epoxy Reactive Diluent 61
Product Number-----> 151334
Chemical Name or Synonyms--> N-Butyl Glycidyl Ether (BGE)

Section II Ingredients

Ingredient	CAS No.	% by WT. Range	Exposure Limits
N-Butyl Glycidyl Ether	2426-08-6	>98	3ppm TLV(ACGIH)
	EC-No.219-326-4		50ppm PEL(OSHA)
	Index-No.603-039-00-7		25ppm TWA(OSHA)
Butan-1-ol	71-36-3	<2	20ppm TLV (ACGIH)
	EC-No.200-751-6		100ppm PEL(OSHA)
	Index No.603-004-00-6		50ppm CEILING(OSHA)
Epichlorohydrin	106-89-8	<1	0.5ppm TLV(ACGIH)
	EC-No.203-439-8		2.0ppm TWA(OSHA)
	Index-No.603-026-00-6		

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

Physical Appearance: Clear colorless Liquid with a pungent odor.

Section III Health Hazard Data

EMERGENCY OVERVIEW:

WARNING!

- ~Combustible
- ~Severely Irritating skin.
- ~May cause eye irritation.
- ~May cause skin irritation and sensitization by contact.
- ~May produce Central Nervous System (CNS) depression.
- ~Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger.
- ~Hazardous to the aquatic environment.
- ~May cause respiratory sensitization.
- ~ Target Organs: Central nervous system, Kidney, Liver, Lungs

GHS Classification

Flammable liquids (Category 3)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 1)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Respiratory sensitisation (Category 1)
Skin sensitisation (Category 1)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 1B)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H402 Harmful to aquatic life.

Precautionary statement(s)

P201 Obtain special instructions before use.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

CERCLA RATINGS (SCALE 0-3): Health=4 Fire=2 Reactivity=0 Persistence=0

NFPA RATINGS (SCALE 0-4): Health=4 Fire=2 Reactivity=0

HMIS RATINGS (SCALE 0-4): Health=4 Fire=2 Reactivity=0 PPE=G

Exposure limits: See Section II

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x

Effects of overexposure:

Acute:

Eye> May be severely irritating; May cause corneal damage.

Skin> Severely irritating to skin. Skin sensitization (Allergy) may be evidenced by rashes, especially hives; May be fatal if absorbed through skin.

Inhalation> Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. High vapor concentrations may produce central nervous system (CNS) depression. Potential respiratory irritant if material is heated or mists are formed.

Ingestion> Not likely to be a relevant route of exposure. May be moderately toxic and may be harmful if swallowed.

Chronic: N/A

Medical Conditions Aggravated by Exposure> Preexisting skin and eye disorders may be aggravated by exposure to this product. Preexisting skin or lung allergies may increase the chance of developing increased allergy symptoms from exposure to this product.

Section IV First Aid Measures

Emergency and First Aid Procedures:

Inhalation> Remove from exposure, restore breathing. Provide oxygen if breathing is difficult. Keep warm and quiet. Notify physician.

Eyes (Splash)> Immediately flush eyes with water for 15 minutes. Hold eyelids open for complete irrigation. Rest eyes for 30 minutes, if redness, burning,

blurred vision or swelling persist take to a physician.

Skin (Splash)> Immediately remove contaminated clothing. Wipe excess from skin and flush with plenty of water for at least 15 minutes. Wash affected area with soap and water. Consult a physician if irritation persists. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes cannot be decontaminated and should be destroyed to prevent reuse. Get medical attention immediately.

Ingestion> Do not give liquids if victim is unconscious or drowsy. Otherwise, give no more than 2 glasses of water and induce vomiting by giving 30cc (2 Tablespoons) syrup of IPECAC. Keep victims head below hips while vomiting. Consult a physician or poison control center, treat symptomatically.

Notes to Physician: If victim is a child give no more than 1 glass of water and 15cc (1 Tablespoon) syrup of IPECAC. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed endotracheal tube.

Section V Fire and Explosion Hazard Data

Flash Point: >129.9°F PMCC

LEL %: N/A

UEL %: N/A

Extinguishing Media - Foam--> x CO2--> x Dry Chemical--> x
Water-fog--> x Other-->

Special Fire Fighting Procedures: Shut off source. Do not use water in a jet. Water fog may be used to cool closed containers exposed to extreme heat to prevent pressure build up and possible auto ignition or explosion. Wear NIOSH approved positive pressure self-contained breathing apparatus for confined spaces and full bunker gear.

Unusual Fire and Explosion Hazards: Material will float on water and can be re-ignited. Keep containers tightly closed. Combustible liquid; isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

Section VI Accidental Release Measures

Protective Measures> Combustible; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

Spill Management> Use explosion proof equipment. Shut off valves, contain spill, keep out of water sources and sewers, for smaller spills add non-flammable absorbent such as clay or silica in spill area. For large spills use foam on spill to

minimize vapors clean up by vacuuming then using non-flammable absorbent. Remove contaminated soil to remove contaminated trace residues. Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Flush with water to remove trace residue. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Keep all nonessential people away.

Section VII Handling and Storage

General Handling Information> Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers. Surfaces that are sufficiently hot may ignite liquid product in the absence of sparks or flame.

Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials. Keep containers closed when not in use.

Do not take internally. Avoid prolonged or repeated contact with skin, eyes, and clothing. Do not breathe mists, aerosols or spray.

Container Warnings> Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

Avoid breathing vapors in top of shipping container. To prevent thermal burns avoid contact with hot product. Use with adequate ventilation.

Section VIII Exposure Controls and Personal Protection

General Considerations> Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

Engineering Controls> Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

Respiratory Protection> Avoid breathing vapors which may be produced from heating or exposure to large surface areas. Use a NIOSH approved respirator with organic vapor cartridges and full face piece to prevent overexposure.

Protective Gloves> Butyl Rubber or Neoprene chemical resistant gloves.

Eye Protection> Use safety eyewear with splash-guards or face-shield.

Other Protective Clothing or Equipment> Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse. Shower and eyewash should be easily accessible to the work area.

Section IX Physical and Chemical Properties

Appearance -----> Clear liquid.

Odor-----> Pungent

Boiling Range (°F)----->243.9-340

Solubility in water-----> 2%

Vapor Density (air=1)-----> 3.78

Evaporation Rate (Butyl Acetate=1)> N/A

Vapor Pressure-----> 3mmHg@20°C

Specific Gravity-----> 0.92

Melting/Freeze point-----> N/A

Section X Stability and Reactivity Data

Stability: Unstable () Stable (X)

Conditions to avoid--> Extremes of temperature and direct sunlight. Exposure to water vapor.

Incompatibility (Materials to Avoid)--> Can react vigorously with strong oxidizing agents, strong Lewis or mineral acids, and strong mineral and organic bases. Especially primary and secondary aliphatic amines. Reacts with considerable heat release with some curing agents.

Hazardous decomposition products--> Fumes, Smoke, Carbon Monoxide, Decomposition and combustion products may be toxic.

Hazardous Polymerization--> May occur () Will not occur (X)

Section XI Toxicity Data

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	 Oral LD50(Rat)	 Skin LD50(Rabbit) 	Inhalation LC50
N-Butyl Glycidyl Ether	 1660mg/kg	 2000mg/kg	 1030ppm/8hr
Butan-1-ol	 790mg/kg	 3.4-5.3g/kg	 >8000ppm/4hr

IARC: 2A - Group 2A: Probably carcinogenic to humans (Epichlorohydrin)
NTP: Reasonably anticipated to be a human carcinogen (Epichlorohydrin)
This product contains trace residual quantities of Epichlorohydrin (ECH) CAS 106-89-8. ECH has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells.
Epichlorohydrin has been shown to be carcinogenic in animal inhalation, intubation and drinking water exposure studies.
Mutagenicity - A component has tested positive in a number of in vitro genetic toxicity assays with and without metabolic activation.

Section XII Ecological Information

Biodegradability - This section will be updated as ecological reviews are completed.

Ecotoxicity - This section will be updated as ecological reviews are completed.

Section XIII Disposal Considerations

Waste Disposal Method> Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. If this material becomes waste, it would be an ignitable hazardous waste number D001

Section XIV Transport Information

DOT Shipping Name-----> Ethers, n.o.s.
Contains-----> N-Butyl Glycidyl Ether
DOT Hazard Classification----> 3
DOT Label Codes-----> 3
DOT ID Number-----> UN 3271
DOT Package Code-----> III
Emergency Response Guide-> 128
Marine Pollutant-----> No

Section XV Regulatory Information

(RQ) Reportable Quantity-> N-Butyl Glycidyl Ether - no RQ CERCLA
Butan-1-ol - 5000lbs.RQ CERCLA

Sara 302 - No TPQ

Sara 313 - No: N-Butyl Glycidyl Ether - No de minimis concentration
Yes: Butan-1-ol - de minimus concentration 1.0%

Sara Section 311 List Hazards:

- (a) Immediate Acute Health>>>>>> Yes
- (b) Delayed Chronic Health>>>>>> Yes
- (c) Fire>>>>> Yes (d) Reactive>>>>> N/A
- (e) Sudden Release of Pressure>>>>N/A

1-chloro-2,3-epoxy propane CAS 106-89-8 at <10ppm under California Safe Drinking Water & Toxic Enforcement Act was listed Oct. 1, 1990 as carcinogenic, listed under PA right to know as a special hazard and MA right to know as carcinogenic.

ACGIH	-	American Conference of Governmental Industrial Hygienists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American Nation Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation

EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System
IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System

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