

Safety Data Sheet



Superior Solutions

Zep, Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Section 1. Chemical Product and Company Identification

Product name ZEP POWERSOLV 5000
Product use Energized Electrical Cleaner
Product code 0555
Date of issue 10/01/13 **Supersedes** 10/10/11

Not available.

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

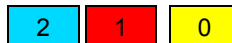
Prepared By
Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

WARNING

*Hazard Determination System (HDS): Health, Flammability, Reactivity



CAUSES EYE AND SKIN IRRITATION.

HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects

Routes of Entry

Dermal contact. Eye contact. Inhalation.

Eyes

Causes eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin

Causes skin irritation. Harmful if absorbed through the skin. Direct contact may cause irritation and redness. Prolonged or repeated contact may dry skin and cause irritation.

Inhalation

Over-exposure by inhalation may cause respiratory irritation. Can cause central nervous system (CNS) depression. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea.

Ingestion

Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Chronic effects

Inhalation of spray mists or vapors may cause central nervous system depression characterized by headache, dizziness, nausea, stupor, weakness and/or numbness and tingling in the extremities (medical term - peripheral neuropathy). The substance may be toxic to kidneys, lungs, liver, peripheral nervous system and central nervous system (CNS).

Carcinogenicity

Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
propan-1-ol	A4	-	-	-	-	-
1,2-epoxybutane	-	2B	-	-	-	-

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
1-bromopropane	106-94-5	>93
N-PROPANOL; Ethyl Carbinol; 1-Propyl Alcohol	71-23-8	<4
Butylene Oxide; 1,2-epoxybutane	106-88-7	<1

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin Contact	Flush affected skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Get medical attention if symptoms occur.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If breathing is difficult, Get medical attention.
Ingestion	Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if adverse health effects persist or are severe.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)



Flash Point	Not available.
Flammable Limits	Lower: 3.8% Upper: 9.5%
Flammability	Non-flammable.
Fire hazard	Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapor will form a flammable mixture in a narrow concentration range of 4.6% to 8.5% by volume in air. May emit toxic fumes under fire conditions.
Fire-Fighting Procedures	Use an extinguishing agent suitable for the surrounding fire. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment.

Section 6. Accidental Release Measures

Spill Clean up	Put on appropriate personal protective equipment (see Section 8). Absorb with an inert material and place in an appropriate waste disposal container.
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Section 7. Handling and Storage

Handling	Do not breathe vapor or mist. Use only with adequate ventilation. Put on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.
Storage	Store between the following temperatures: 40°F - 120°F (4.4°C - 49°C). Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store and use away from heat, sparks, open flame or any other ignition source. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name	Exposure limits
1-bromopropane	ACGIH TLV (United States, 3/2012). TWA: 10 ppm 8 hours.
N-PROPANOL; Ethyl Carbinol; 1-Propyl Alcohol	ACGIH TLV (United States). : 200 ppm OSHA PEL 1989 (United States, 3/1989). TWA: 200 ppm 8 hours. TWA: 500 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 625 mg/m³ 15 minutes. NIOSH REL (United States, 1/2013). Absorbed through skin. TWA: 200 ppm 10 hours. TWA: 500 mg/m³ 10 hours. STEL: 250 ppm 15 minutes. STEL: 625 mg/m³ 15 minutes. OSHA PEL (United States, 6/2010). TWA: 200 ppm 8 hours. TWA: 500 mg/m³ 8 hours. ACGIH TLV (United States, 3/2012). TWA: 100 ppm 8 hours. AIHA WEEL (United States, 10/2011). TWA: 2 ppm 8 hours.
Butylene Oxide; 1,2-epoxybutane	

Personal Protective Equipment (PPE)

- Eyes** Recommended: Splash goggles. 
- Body** Recommended: Chemical-resistant gloves. Viton®, Neoprene or Nitrile gloves. 
- Respiratory** Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and Chemical Properties

Physical State	Liquid.	Color	Clear. Colorless.
pH	Not available.	Odor	Characteristic. [Strong]
Boiling Point	70°C (158°F)	Vapor Pressure	14.8 kPa (110.8 mm Hg) [room temperature]
Specific Gravity	1.29	Vapor Density	>1 [Air = 1]
Solubility	Very slightly soluble in the following materials: cold water and hot water.	Evaporation Rate	<1 (butyl acetate = 1)
		VOC (Consumer)	100 % (w/w) 10.8 lbs/gal (1290 g/l)

Section 10. Stability and Reactivity

- Stability and Reactivity** The product is stable.
- Incompatibility** Reactive or incompatible with the following materials: natural rubber (latex), oxidizing materials, metals, acids and alkalis.
Prolonged contact with aluminum, magnesium and zinc.
- Hazardous Polymerization** Under normal conditions of storage and use, hazardous polymerization will not occur.
- Hazardous Decomposition Products** Carbon dioxide (CO₂), Carbon monoxide and Hydrogen Bromide (HBr).

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1-bromopropane	LD50 Oral	Rat	3600 mg/kg	-
	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	5040 mg/kg	-
	LD50 Dermal	Rabbit	5040 mg/kg	-
	LD50 Oral	Mouse	6800 mg/kg	-
	LD50 Oral	Rat	1870 mg/kg	-
1,2-epoxybutane	LD50 Oral	Rat	1870 mg/kg	-
	LC50 Inhalation Vapor	Rat	6300 mg/m ³	4 hours
	LD50 Oral	Rat	500 mg/kg	-

Section 12. Ecological Information

Environmental Effects Not available.

Aquatic Ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
1-bromopropane	-	Acute LC50 67300 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
propan-1-ol	-	Acute EC50 4480000 µg/l Fresh water	Algae - Green algae - Selenastrum sp.	96 hours
	-	Acute LC50 1000000 µg/l Fresh water	Crustaceans - Scud - Gammarus pulex	48 hours
	-	Acute LC50 2950000 µg/l Fresh water	Daphnia - Water flea - Daphnia pulex	48 hours
	-	Acute LC50 3800000 µg/l Marine water	Fish - Bleak - Alburnus alburnus	96 hours

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: - (Not applicable.)
Classification: - (Non-hazardous waste)

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	Not regulated.	-	-	-	
IMDG Class	Not regulated.	-	-	-	

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

Product name

1,2-epoxybutane

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

State Regulations**California Prop 65**

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

*NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.