

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND MANUFACTURER'S IDENTIFICATION

Product ID: 490605
Product Name: ZENAVOLT
Revision Date: Jan 15, 2019 **Date Printed:** Jan 15, 2019
Version: 2.0 **Supersedes Date:** Nov 15, 2016
Manufacturer's Name: Zenex International
Address: 1 Zenex Circle Cleveland, OH, US, 44146
Emergency Phone: 1-800-535-5053
Information Phone Number: (440)-232-4155
Fax:
Product/Recommended Uses: Battery Terminal Cleaner w/ indicator

SECTION 2) HAZARDS IDENTIFICATION

Classification

Aerosols Category 1
Gases Under Pressure Liquefied Gas

Pictograms



Signal Word

Danger

Hazardous Statements - Physical

H222 - Extremely flammable aerosol
H280 - Contains gas under pressure; may explode if heated

Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.

Precautionary Statements - Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Do not pierce or burn, even after use.

Precautionary Statements - Response

No precautionary statement available.

Precautionary Statements - Storage

P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

P403 - Store in a well-ventilated place.

Precautionary Statements - Disposal

No precautionary statement available.

SECTION 3) COMPOSITION, INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000106-97-8	BUTANE	3% - 10%
0000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER	1.0% - 2.5%
0000074-98-6	PROPANE	1.0% - 2.5%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4) FIRST-AID MEASURES

Inhalation

If symptoms develop move victim to fresh air. Get medical attention if Inhalation symptoms persist.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin Contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion

Ingestion is not a likely route of exposure. Get medical attention if you feel unwell.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Carbon dioxide. Water fog. Foam.

Unsuitable Extinguishing Media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific Hazards in Case of Fire

Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

Fire-Fighting Procedures

Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Recommended Equipment

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Personal Precautions

Wear appropriate protective equipment (see Section 8).

Environmental Precautions

Avoid discharge into drains, water courses or onto ground.

SECTION 7) HANDLING AND STORAGE

General

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Ventilation Requirements

Use in a well-ventilated place.

Storage Room Requirements

Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection

Safety glasses with side shields should be used if indicated. Eye wash and safety showers in the workplace are recommended.

Skin Protection

Use solvent-resistant protective gloves for prolonged or repeated contact.

Respiratory Protection

Avoid breathing vapors. In restricted areas, use approved chemical/mechanical filters designed to remove a combination of particles and vapor. In confined areas, use an approved air line respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above PEL/TLV limits.

Appropriate Engineering Controls

Ventilation should be sufficient to prevent inhalation of any vapors.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
BUTANE								800	1900			
ETHYLENE GLYCOL MONOBUTYL ETHER	50	240			1		1	5	24			
PROPANE	1000	1800			1			1000	1800			

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
BUTANE			1000 (EX)	
ETHYLENE GLYCOL MONOBUTYL ETHER	20			
PROPANE			Simple asphyxiant (D), explosion hazard (EX)	

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	8.28 lb/gal
Density VOC	0.74 lb/gal
% VOC	8.97%
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Appearance	Gas, Aerosol
Odor Threshold	N.A.
Odor Description	N.A.
pH	N.A.
Water Solubility	N.A.
Flammability	Flash point below 73°F/23°C
Vapor Pressure (Calculated @ 20 C/68 F)	90-100 psig @ 20°C Estimated
Flash Point	-156°F (-104.4°C) Propellant Estimated
Viscosity	N.A.
Lower Explosion Level	N.A.
Upper Explosion Level	N.A.
Vapor Density	N.A.
Melting Point	N.A.
Freezing Point	N.A.
Low Boiling Point	212°F (100°C)
High Boiling Point	N.A.
Decomposition Pt	N.A.
Auto Ignition Temp	N.A.
Evaporation Rate	Slower than ether

SECTION 10) STABILITY AND REACTIVITY

Stability

The product is stable under normal storage conditions.

Conditions to Avoid

High temperatures. Incompatible materials.

Incompatible Materials

Strong oxidizing agents. Nitrates. Fluorine. Chlorine.

Hazardous Reactions/Polymerization

None known.

Hazardous Decomposition Products

None known.

SECTION 11) TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation

No data available

Serious Eye Damage/Irritation

No data available

Carcinogenicity

No data available

Germ Cell Mutagenicity

No data available

Reproductive Toxicity

No data available

Respiratory/Skin Sensitization

No data available

Specific Target Organ Toxicity - Single Exposure

No data available

Specific Target Organ Toxicity - Repeated Exposure

No data available

Aspiration Hazard

No data available

Acute Toxicity

0000111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER

LC50 (female rat): 450 ppm (4-hour exposure) (2)

LC50 (male rat): 486 ppm (4-hour exposure) (2)

LD50 (oral, male weanling rat): 3000 mg/kg (1)

LD50 (oral, 6-week old male rat): 2400 mg/kg (1)

LD50 (oral, yearling male rat): 560 mg/kg (1)

LD50 (oral, female rat): 530 mg/kg; 2500 mg/kg (1) LD50 (oral, male mouse): 1230 mg/kg (1)

LD50 (oral, rabbit): 320 mg/kg (1)

LD50 (dermal, male rabbit): 406 mg/kg (cited as 0.45 mL/kg) (1)

0000106-97-8 BUTANE

LC50 (mouse): 202000 ppm (481000 mg/m³) (4-hour exposure); cited as 680 mg/L (2-hour exposure) (9)

LC50 (rat): 276000 ppm (658000 mg/m³) (4-hour exposure); cited as 658 mg/L (4-hour exposure) (9)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and Degradability

No data available.

Bio-Accumulative Potential

Partition coefficient n-octanol / water (log Kow)

Ethylene Glycol Monobutyl Ether 0.83

Butane 2.89

Propane 2.36

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

UN number: UN1950

Proper shipping name: Aerosols, flammable

Hazard class: 2.1

Packaging group: N.A.

Note / Special Provision: (each not exceeding 1 L capacity) (LTD QTY)

IMDG Information

UN number: UN1950
Proper shipping name: Aerosols, flammable
Hazard class: 2.1
Packaging group: N.A.
Note / Special Provision: (each not exceeding 1 L capacity) (LTD QTY)

IATA Information

UN number: UN1950
Hazard class: 2.1
Packaging group: N.A.
Proper shipping name: Aerosols, flammable
Note / Special Provision:(each not exceeding 1 L capacity) (LTD QTY)

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000106-97-8	BUTANE	3% - 10%	SARA312,VOC,TSCA,ACGIH
0000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER	1.0% - 2.5%	SARA313, CERCLA,SARA312,VOC,TSCA,ACGIH,OSHA
0000074-98-6	PROPANE	1.0% - 2.5%	SARA312,VOC,TSCA,ACGIH,OSHA

SECTION 16) OTHER INFORMATION

Glossary

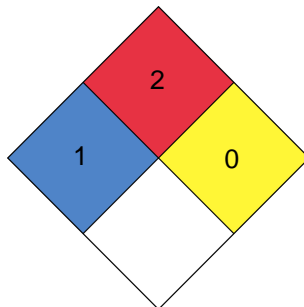
* There are points of differences between OSHA GHS and UN GHS. In 90% of the categories, they can be used interchangeably, but for the Skin Corrosion/Irritant Category and the Specific Target Organ Toxicity (Single and Repeated Exposure) Categories. In these cases, our system will say UN GHS.

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

HMIS

Health	/ 1
FLAMMABILITY	2
Physical Hazard	0
Personal Protection	B

NFPA



(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks

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