

# SAFETY DATA SHEET

496515  
Oct 01, 2014  
ZenCircuit

## SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

**Product ID :** 496515  
**Product Name :** ZenCircuit  
**Revision Date :** Oct 01, 2014 **Date Printed :** May 12, 2015  
**Version:** 1.0 **Supersedes Date :** N.A.  
**Manufacturer's Name :** Zenex International  
**Address :** 1 Zenex Circle Cleveland, OH, US, 44146  
**Emergency Phone :** 1-800-535-5053  
**Information Phone :** (440)-232-4155  
**Fax :**  
**Product/Recommended Uses:** Contact Cleaner

## SECTION 2) HAZARDS IDENTIFICATION

### Classification:

Specific Target Organ Toxicity -Single Exposure (Respiratory Tract Irritation) - Category 3  
Specific Target Organ Toxicity - Repeated Exposure - Category 2  
Skin Irritation - Category 2  
Reproductive Toxicity - Category 1B  
Eye Irritation - Category 2  
Flammable Liquids Category 2  
Acute aquatic toxicity - Category 3  
Chronic aquatic toxicity - Category 3  
Acute toxicity Oral Category 4  
Aerosol - Category 3

### Pictograms:



### Signal Word:

Danger

### Hazardous Statements - Physical:

H229 - Pressurised container: May burst if heated  
H225 - Highly flammable liquid and vapor

### Hazardous Statements - Health:

H302 - Harmful if swallowed  
H319 - Causes serious eye irritation  
H360 - May damage fertility or the unborn child.  
H315 - Causes skin irritation  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H335 - May cause respiratory irritation

**Hazardous Statements - Environmental:**

- H402 - Harmful to aquatic life
- H412 - Harmful to aquatic life with long lasting effects

**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:**

- P273 - Avoid release to the environment.
- P264 - Wash thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P251 - Do not pierce or burn, even after use.
  
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- 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.
- P271 - Use only outdoors or in a well-ventilated area.

**Precautionary Statements - Response:**

- P301 + P315 - IF SWALLOWED: Get immediate medical advice/attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice/attention.
- P370 + P378 - In case of fire: Use water fog, dry chemical or carbon dioxide to extinguish.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
  
- P332 + P313 - If skin irritation occurs: Get medical advice/attention.
- P362 + P364 - Take off contaminated clothing. And wash it before reuse.
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.

**Precautionary Statements - Storage:**

- P403 + P410 - Store in a well-ventilated place. Protect from sunlight.
- P412 - Do not expose to temperatures exceeding 50 °C/122 °F.
- P235 - Keep cool.
- P405 - Store locked up.
- P403 - Store in a well-ventilated place.

**Precautionary Statements - Disposal:**

- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

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**SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS**

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CAS	Chemical Name	% by Weight
0000106-94-5	1-BOROMOPROPANE	47% - 84%
0000075-37-6	DIFLUOROETHANE	16% - 29%

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**SECTION 4) FIRST-AID MEASURES**

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**Inhalation:**

Remove source of exposure or move person to fresh air and keep comfortable for breathing.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eliminate all ignition sources if safe to do so.

**Eye Contact:**

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

**Skin Contact:**

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. Call a POISON CENTER/doctor if you feel unwell. Store contaminated clothing under water and wash before reuse or discard.

**Ingestion:**

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

Never give anything by mouth to an unconscious or convulsing victim. Keep person warm and quiet.

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**SECTION 5) FIRE-FIGHTING MEASURES**

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**Suitable Extinguishing Media:**

Use water, fog, dry chemical, or carbon dioxide.

Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

**Unsuitable Extinguishing Media:**

Water may be ineffective but can be used to cool containers exposed to heat or flame.

**Specific Hazards in Case of Fire:**

Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force.

Aerosol cans may rupture when heated.

Heated cans may burst.

In fire, will decompose to carbon dioxide, carbon monoxide

**Fire-Fighting Procedures:**

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**Special Protective Actions:**

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

Care should always be exercised in dust/mist areas.

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**SECTION 6) ACCIDENTAL RELEASE MEASURES**

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**Emergency Procedure:**

Flammable/combustible material.

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stay upwind; keep out of low areas.

Immediately turn off or isolate any source of ignition. Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately. Use absorbent sweeping compound to soak up material and put into suitable container for proper disposal.

**Recommended Equipment:**

Positive pressure, full-face piece self-contained breathing apparatus(SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

**Personal Precautions:**

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Use explosion proof equipment. Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

**Environmental Precautions:**

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

## SECTION 7) HANDLING AND STORAGE

### General:

For industrial and institutional use only.  
For use by trained personnel only.  
Keep away from children.  
Wash hands after use.  
Do not get in eyes, on skin or on clothing.  
Do not breathe vapors or mists.  
Use good personal hygiene practices.  
Eating, drinking and smoking in work areas is prohibited.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Eyewash stations and showers should be available in areas where this material is used and stored.

### Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

### Storage Room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

Store at temperatures below 120°F.

## SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

### Eye Protection:

Chemical goggles, safety glasses with side shields or vented/splash proof goggles. Contact lenses may absorb irritants. Particles may adhere to lenses and cause corneal damage.

### Skin Protection:

Wear gloves, long sleeved shirt, long pants and other protective clothing as required to minimize skin contact.

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Chemical-resistant clothing is recommended to avoid prolonged contact. Avoid unnecessary skin contact.

### Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors.

When spraying more than one half can continuously or more than one can consecutively, use NIOSH approved respirator.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m <sup>3</sup> )	OSHA STEL (ppm)	OSHA STEL (mg/m <sup>3</sup> )	OSHA- Tables- Z1,2,3	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m <sup>3</sup> )	NIOSH STEL (ppm)	NIOSH STEL (mg/m <sup>3</sup> )	NIOSH Carcinogen
1- BOROMOPROPANE												
DIFLUOROETHANE		2.5			1							

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m <sup>3</sup> )	ACGIH STEL (ppm)	ACGIH STEL (mg/m <sup>3</sup> )
1- BOROMOPROPANE	0.1			
DIFLUOROETHANE		2.5		

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

## Physical and Chemical Properties

Density	10.09149 lb/gal
Density VOC	7.56862 lb/gal
% VOC	75.00000%
VOC Actual	7.56862 lb/gal
VOC Actual	906.94744 g/l

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Appearance	N.A.
Odor Threshold	N.A.
Odor Description	N.A.
pH	N.A.
Water Solubility	Nil
Flammability	N/A
Flash Point Symbol	N.A.
Flash Point	N.A.
Viscosity	N.A.
Lower Explosion Level	3.9
Upper Explosion Level	16.9
Melting Point	N.A.
Vapor Density	Slower than ether
Freezing Point	N.A.
Low Boiling Point	0 °F
High Boiling Point	158 °F
Decomposition Pt	0
Auto Ignition Temp	N.A.
Evaporation Rate	Slower than ether

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## SECTION 10) STABILITY AND REACTIVITY

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### Stability:

Stable.

### Conditions to Avoid:

High temperatures.

### Incompatible Materials:

None known.

### Hazardous Reactions/Polymerization:

Will not occur.

### Hazardous Decomposition Products:

In fire, will decompose to carbon dioxide, carbon monoxide.

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## SECTION 11) TOXICOLOGICAL INFORMATION

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### Skin Corrosion/Irritation:

Overexposure will cause defatting of skin.

Causes skin irritation

### Serious Eye Damage/Irritation:

Overexposure will cause redness and burning sensation.

Causes serious eye irritation

### Carcinogenicity:

No data available

### Germ Cell Mutagenicity:

No data available

**Reproductive Toxicity:**

May damage fertility or the unborn child (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

**Respiratory/Skin Sensitization:**

No data available

**Specific Target Organ Toxicity - Single Exposure:**

May cause respiratory irritation

**Specific Target Organ Toxicity - Repeated Exposure:**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration Hazard:**

No data available

**Acute Toxicity:**

Inhalation: effect of overexposure include irritation of respiratory tract, headache, dizziness, nausea, and loss of coordination. Extreme overexposure may result in unconsciousness and possibly death.

0000075-65-0 TERT-BUTYL ALCOHOL

LD50 (oral, rat): 3,500 mg/kg (1)

LD50 (oral, rabbit): 3,600 mg/kg (1)

0000075-05-8 ACETONITRILE

LC50 (oral, adult rat): 3500 mg/kg (17)

LC50 (oral, young adult rat): 3100 mg/kg (17)

LC50 (oral, 14 day old rat): 160 mg/kg (17)

LC50 (oral, mouse): 269 mg/kg (14)

LC50 (oral, guinea pig): 177 mg/kg (15)

LD50 (oral, rat): 3800 mg/kg (12)

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**SECTION 12) ECOLOGICAL INFORMATION**

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**Toxicity:**

No data available.

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

**Persistence and Degradability:**

No data available.

**Bio-Accumulative Potential:**

No data available.

**Mobility in Soil:**

No data available.

**Other Adverse Effects:**

No data available.

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**SECTION 13) DISPOSAL CONSIDERATIONS**

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**Water Disposal:**

Under RCRA, it is the responsibility of the user of the product, to determine a 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.

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**SECTION 14) TRANSPORT INFORMATION**

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**U.S. DOT Information:**

Consumer Commodity, ORM-D

**IMDG Information:**

Consumer Commodity, ORM-D

**IATA Information:**

Consumer Commodity, ORM-D

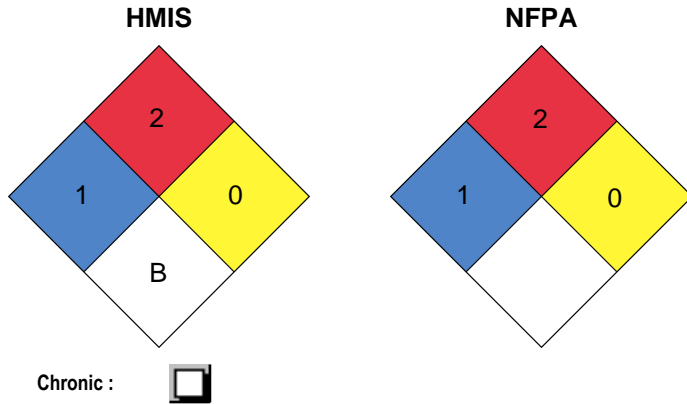
**SECTION 15) REGULATORY INFORMATION**

CAS	Chemical Name	% By Weight	Regulation List
0000075-37-6	DIFLUOROETHANE	16% - 29%	SARA312,VOC_exempt,TSCA,ACGIH,OSHA
0000106-94-5	1-BOROMOPROPANE	47% - 84%	SARA312,VOC,TSCA,ACGIH,CA_Prop65 - California Proposition 65

**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.

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