

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
 Product name : Eco-burner Fuel

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For use ONLY in re-fill of Eco-burner Chafo, as directed by Eco-burner Ltd. Directions for use provided in "Eco-burner Quick Start Guide." Use only with approved Eco-burner Chafo Devices.  
 Use of the substance/mixture : Fuel

#### 1.2.2. Uses advised against

Any other use not specifically described by Eco-burner, Ltd.

#### 1.3. Details of the supplier of the safety data sheet

Eco-burner  
 Unit 5 Airside, Gulf Stream Avenue  
 Airport Business Park  
 Waterford,  
 T +353 (0)51 353806 - F +353 (0)51 364067  
[info@Eco-burner.com](mailto:info@Eco-burner.com) - [www.Eco-burner.com](http://www.Eco-burner.com)

#### 1.4. Emergency telephone number

Emergency number : +1 202 464 2554 (Carechem)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flam. Aerosol 1 H222  
 Compressed gas H280  
 Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02



GHS04

Signal word (GHS-US) : Danger  
 Hazard statements (GHS-US) : H222 - Extremely flammable aerosol  
 H280 - Contains gas under pressure; may explode if heated  
 Precautionary statements (GHS-US) : P210 - Keep away from heat, open flames, sparks. - No smoking  
 P211 - Do not spray on an open flame or other ignition source  
 P251 - Pressurized container: Do not pierce or burn, even after use  
 P410+P403 - Protect from sunlight. Store in a well-ventilated place  
 P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Exact concentrations withheld as trade secret.

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| Name      | Product identifier | %       | GHS-US classification |
|-----------|--------------------|---------|-----------------------|
| n-Butane  | (CAS No) 106-97-8  | 70 – 90 | Flam. Gas 1, H220     |
| Propane   | (CAS No) 74-98-6   | 10 – 30 | Flam. Gas 1, H220     |
| Isobutane | (CAS No) 75-28-5   | 1 – 5   | Flam. Gas 1, H220     |

Full text of H-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Artificial respiration and/or oxygen if necessary. Call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Thaw frosted parts with lukewarm water. Do not rub affected area. Get medical advice/attention.
- First-aid measures after eye contact : Direct contact with the eyes is likely to be irritating.
- First-aid measures after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : In high concentrations : Anesthetic effects. Shortness of breath. Inhalation of vapours may cause respiratory irritation. Headache. Dizziness. Nausea.
- Symptoms/injuries after skin contact : May cause moderate irritation. Rapid evaporation of the liquid may cause frostbite.
- Symptoms/injuries after eye contact : This gas is non-irritating; but direct contact with liquefied/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry chemical. Foam. Water spray. Water fog.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Extremely flammable aerosol.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : No dangerous reactions known.

#### 5.3. Advice for firefighters

- Precautionary measures fire : Stop leak if safe to do so.
- Firefighting instructions : DO NOT fight fire when fire reaches explosives. Evacuate area.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : No open flames. No smoking. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Do not breathe aerosol. Refer to section 8.2.
- Emergency procedures : Stop leak, if possible without risk. Keep upwind. Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Do not breathe aerosol. Refer to section 8.2.
- Emergency procedures : Stop leak if safe to do so. Eliminate every possible source of ignition. Evacuate unnecessary personnel. Keep upwind.

#### 6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Do not discharge into drains or the environment.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Eliminate all ignition sources.

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Methods for cleaning up : Notify environmental authorities.

### 6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Pressurized container: Do not pierce or burn, even after use

Precautions for safe handling : Do not spray on an open flame or other ignition source.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Avoid static electricity discharges. No flames, no sparks. Eliminate all sources of ignition

Storage conditions : Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place.

Incompatible materials : Heat sources. Direct sunlight.

Storage area : Store in dry, cool, well-ventilated area.

### 7.3. Specific end use(s)

Fuel.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| n-Butane (106-97-8) |                  |          |
|---------------------|------------------|----------|
| ACGIH               | ACGIH TWA (ppm)  | 1000 ppm |
| ACGIH               | ACGIH STEL (ppm) | 1000 ppm |
| OSHA                | Not applicable   |          |

| Isobutane (75-28-5) |                  |          |
|---------------------|------------------|----------|
| ACGIH               | ACGIH TWA (ppm)  | 1000 ppm |
| ACGIH               | ACGIH STEL (ppm) | 1000 ppm |
| OSHA                | Not applicable   |          |

| Propane (74-98-6) |                                     |                        |
|-------------------|-------------------------------------|------------------------|
| ACGIH             | Not applicable                      |                        |
| OSHA              | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 1800 mg/m <sup>3</sup> |
| OSHA              | OSHA PEL (TWA) (ppm)                | 1000 ppm               |

### 8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

Personal protective equipment : Avoid all unnecessary exposure. Accidental release of the contents: avoid leaks.

Hand protection : None under normal use. It is a good industrial hygiene practice to minimize skin contact. In case of repeated or prolonged contact wear gloves. Insulated gloves.

Eye protection : None under normal use. In case of aerosol production: protective goggles.

Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of inadequate ventilation wear respiratory protection. Use self-contained breathing apparatus.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Aerosol.

Colour : Colourless

Odour : Sweet petroleum

Odour threshold : No data available

pH : No data available

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|   |                                    |
|---|------------------------------------|
| Melting point                               | : No data available                |
| Freezing point                              | : No data available                |
| Boiling point                               | : -42.2 - -0.5 °C (-1.1 - 31.1 °F) |
| Flash point                                 | : -104.4 °C (-156 °F (estimated))  |
| Relative evaporation rate (butyl acetate=1) | : No data available                |
| Relative evaporation rate (ether=1)         | : > 1                              |
| Flammability (solid, gas)                   | : No data available                |
| Explosive limits                            | : No data available                |
| Explosive properties                        | : No data available                |
| Oxidising properties                        | : No data available                |
| Vapour pressure                             | : 40 PSIG @ 70 °F                  |
| Relative density                            | : 0.567                            |
| Relative vapour density at 20 °C            | : 1.886                            |
| Solubility                                  | : Water: 0.008 % @ 70 °F           |
| Log Pow                                     | : No data available                |
| Log Kow                                     | : No data available                |
| Auto-ignition temperature                   | : No data available                |
| Decomposition temperature                   | : No data available                |
| Viscosity                                   | : 0.084 - 0.14 cP liquid           |
| Viscosity, kinematic                        | : No data available                |
| Viscosity, dynamic                          | : No data available                |

### 9.2. Other information

VOC content : 100 %

## SECTION 10: Stability and reactivity

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### 10.1. Reactivity

No dangerous reactions known.

### 10.2. Chemical stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Heat. Sparks. Open flame. Direct sunlight. Overheating.

### 10.5. Incompatible materials

Strong oxidizers. Alkali. Strong mineral acids.

### 10.6. Hazardous decomposition products

Carbon monoxide. Mixture of hydrocarbons.

## SECTION 11: Toxicological information

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### 11.1. Information on toxicological effects

|  |                  |
|--|------------------|
| Acute toxicity                                     | : Not classified |
| Skin corrosion/irritation                          | : Not classified |
| Serious eye damage/irritation                      | : Not classified |
| Respiratory or skin sensitisation                  | : Not classified |
| Germ cell mutagenicity                             | : Not classified |
| Carcinogenicity                                    | : Not classified |
| Reproductive toxicity                              | : Not classified |
| Specific target organ toxicity (single exposure)   | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard                                  | : Not classified |

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|                                      |  |
|--------------------------------------|--|
| Symptoms/injuries after inhalation   | : In high concentrations : Anesthetic effects. Shortness of breath. Inhalation of vapours may cause respiratory irritation. Headache. Dizziness. Nausea.                   |
| Symptoms/injuries after skin contact | : May cause moderate irritation. Rapid evaporation of the liquid may cause frostbite.  |
| Symptoms/injuries after eye contact  | : This gas is non-irritating; but direct contact with liquefied/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns. |
| Likely routes of exposure            | : Inhalation; Skin and eye contact.  |

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

|                                 |  |
|---------------------------------|--|
| Sewage disposal recommendations | : Do not dispose of waste into sewer.  |
| Waste disposal recommendations  | : Container under pressure. Do not drill or burn even after use. Dispose in a safe manner in accordance with local/national regulations. |
| Additional information          | : Flammable vapours may accumulate in the container.   |

### SECTION 14: Transport information

|   |   |
|---|---|
| In accordance with DOT                            |   |
| Transport document description                    | : UN1075 Petroleum gases, liquefied (or Liquefied petroleum gas), 2.1 |
| UN-No.(DOT)                                       | : UN1075  |
| Proper Shipping Name (DOT)                        | : Petroleum gases, liquefied<br>or Liquefied petroleum gas            |
| Department of Transportation (DOT) Hazard Classes | : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115                      |
| Hazard labels (DOT)                               | : 2.1 - Flammable gas   |



#### Additional information

Other information : No supplementary information available.

#### ADR

|                                |                              |
|--------------------------------|------------------------------|
| Transport document description | : UN 1950 AEROSOLS, 2.1, (D) |
| Class (ADR)                    | : 2 - Gases                  |
| Classification code (ADR)      | : 5F                         |
| Danger labels (ADR)            | : 2.1 - Flammable gases      |



|                               |      |
|-------------------------------|------|
| Tunnel restriction code (ADR) | : D  |
| LQ                            | : 11 |
| Excepted quantities (ADR)     | : E0 |

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### Transport by sea

UN-No. (IMDG) : 1950  
Proper Shipping Name (IMDG) : AEROSOLS  
Class (IMDG) : 2 - Gases

### Air transport

UN-No.(IATA) : 1950  
Proper Shipping Name (IATA) : Aerosols, flammable  
Class (IATA) : 2

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### n-Butane (106-97-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Isobutane (75-28-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Propane (74-98-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

##### n-Butane (106-97-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### Isobutane (75-28-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### Propane (74-98-6)

Listed on the Canadian DSL (Domestic Substances List) inventory.

### EU-Regulations

#### n-Butane (106-97-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### Isobutane (75-28-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### Propane (74-98-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aerosol 1 H222;H229

Full text of H-phrases: see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; R12

### 15.2.2. National regulations

#### n-Butane (106-97-8)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on Taiwan National Chemical Inventory  
Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the Chinese Catalog of Hazardous Chemicals.  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

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### Isobutane (75-28-5)

Listed on KECI (Korean Existing Chemicals Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on Taiwan National Chemical Inventory  
Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

### Propane (74-98-6)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on Taiwan National Chemical Inventory  
Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on the Chinese Catalog of Hazardous Chemicals.  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

### 15.3. US State regulations

#### n-Butane (106-97-8)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

#### Isobutane (75-28-5)

U.S. - New Jersey - Right to Know Hazardous Substance List

#### Propane (74-98-6)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

|                            |   |
|----------------------------|---|
| Indication of changes      | : Original Document.  |
| Data sources               | : ACGIH (American Conference of Government Industrial Hygienists).<br>European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <a href="http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database">http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database</a> .<br>Kriester Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.<br>NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.<br>National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.<br>TSCA Chemical Substance Inventory. Accessed at <a href="http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html">http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html</a> .<br>OSHA 29CFR 1910.1200 Hazard Communication Standard. |
| Abbreviations and acronyms | : CAS (Chemical Abstracts Service) number.<br>ATE: Acute Toxicity Estimate.<br>CLP: Classification, Labelling, Packaging.<br>EC50: Environmental Concentration associated with a response by 50% of the test population.<br>GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).<br>LD50: Lethal Dose for 50% of the test population.<br>NOEC: No Observable Effect Concentration.<br>OSHA: Occupational Safety & Health Administration.<br>PNEC: Predicted No Effect Level.<br>STEL: Short Term Exposure Limits.<br>TSCA: Toxic Substances Control Act.<br>TWA: Time Weight Average.   |
| Training advice            | : Normal use of this product shall imply use in accordance with the instructions on the packaging.  |

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### Full text of H-phrases:

|                 |  |
|-----------------|--|
| Compressed gas  | Gases under pressure : Compressed gas              |
| Flam. Aerosol 1 | Flammable aerosols, Category 1                     |
| Flam. Gas 1     | Flammable gases, Category 1                        |
| H220            | Extremely flammable gas                            |
| H222            | Extremely flammable aerosol                        |
| H280            | Contains gas under pressure; may explode if heated |

### NFPA health hazard

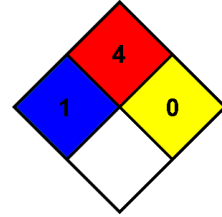
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

### NFPA fire hazard

: 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

### NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



SDS US (GHS HazCom 2012)

### SDS Prepared by:

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*