

This safety data sheet conforms to Regulation (EC) No. 1272/2008 and 453/2010. Version 1 10.05.17

**1.0 IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND COMPANY****1.1 PRODUCT IDENTIFIERS**

Product name: LithEX Fire Extinguisher Single Use Product – [Aerosol]

**1.2 RELEVANT IDENTIFIED USES OF SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST.**

Fire extinguisher for lithium battery fires

Not intended for other uses

**1.3 DETAILS OF SUPPLIER OF SAFETY DATA SHEET**

Dupré Minerals Limited

Spencroft Road, Newcastle-under-Lyme

Staffordshire ST5 9JE

UK

www.dupreminerals.com

**1.4 EMERGENCY TELEPHONE NUMBER**

+44 (0)1782 383000

**2.0 HAZARDS IDENTIFICATION****2.1 CLASSIFICATION OF THE SUBSTANCE / MIXTURE**

Classification according to Regulation (EC) 1272/2008 (CLP)

| Hazard Class | Hazard Category | Hazard Statement                                   |
|--------------|-----------------|--|
| Aerosol      | 3               | H229 – Pressurised container: may burst if heated. |

**2.2 LABEL ELEMENTS**

Labelling according Regulation (EC) No 1272/2008 (CLP)

|                                |  |
|--------------------------------|--|
| Pictogram                      | None   |
| Signal word                    | Warning  |
| Hazard statement(s)            | H229 – Pressurized container: may burst if heated.   |
| Precautionary statement(s)     | P251 – Do not pierce or burn, even after use.<br>P410+412 – Protect from sunlight.<br>Do not expose to temperatures exceeding 50 °C/122 °F.<br>P210 – Keep away from heat, hot surfaces, sparks,<br>open flames and other ignition sources. No smoking.<br>P102 – Keep out of reach of children. |
| Supplemental Hazard Statements | None   |

**2.3 OTHER HAZARDS**

None

**3.0 COMPOSITION/INFORMATION ON INGREDIENTS****3.2 COMPOSITION OF MIXTURES**

| <b>Chemical Name<br/>EC No.<br/>[CAS No.]</b>                     | <b>% Weight</b> | <b>REACH<br/>Registration No.</b>         | <b>CLP classification according to<br/>Regulation (EC) 1272/2008</b>                   |
|---|-----------------|---|--|
| <b>Vermiculite<br/>Dispersion<br/>406-060-8<br/>[110638-71-6]</b> | ~75.6           | Exempt in<br>accordance with<br>Annex V.7 | Not a hazardous substance or<br>mixture according to<br>Regulation (EC) No. 1272/2008. |
| <b>Nitrogen<br/>231-783-9<br/>[7727-37-9]</b>                     | ~0.885          | Exempt<br>Annex IV/V                      | Aerosol Category 3<br>H229 – Pressurized container:<br>may burst if heated             |
| <b>Helium<br/>231-168-5<br/>[7440-59-7]</b>                       | ~0.00666        | Exempt<br>Annex IV/V                      | Aerosol Category 3<br>H229 – Pressurized container:<br>may burst if heated             |

**4.0 FIRST AID MEASURES****4.1 DESCRIPTION OF FIRST AID MEASURES**

- Eye:** Immediately flush with clean water or eye wash solution, holding the eyelids apart for at least 15 minutes. Seek medical attention if irritation persists.
- Skin:** In case of irritation, wash with soap and water; seek medical advice if irritation persists.
- Inhalation:** Remove exposed person to fresh air, keep warm and at rest.
- Ingestion:** There are no known adverse effects. If ingested in large quantities, wash mouth out with water and give water to drink. Do not induce vomiting. If gastrointestinal symptoms persist seek medical advice.

**4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

No acute and delayed symptoms and effects are observed.

**4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

Treat symptomatically, no special antidote required.

**5.0 FIRE FIGHTING MEASURES****5.1 EXTINGUISHING MEDIA**

Non combustible product but the potentially combustible Class A packaging materials may be extinguished using LithEx, Foam, Water or Powder.

**5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

No data available

**5.3 ADVICE FOR FIRE FIGHTERS**

No specific fire fighting equipment is required.

Use an extinguishing agent suitable for the surrounding fire.

Cool container at risk.

Dispose of contaminated extinction water according to official regulations.

**6.0 ACCIDENTAL RELEASE MEASURES****6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

Ensure sufficient supply of air / adequate ventilation

Avoid breathing vapours, mist or gas.

**6.2 ENVIRONMENTAL PRECAUTIONS**

Avoid product entering drains.

**6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**

Absorb excess liquid with absorbent non-combustible material (e.g. vermiculite granules, universal binding agent, sand, diatomaceous earth), sweep up and shovel.

Dispose of in accordance to local waste regulations and section 13.

**6.4 REFERENCE TO OTHER SECTIONS**

For personal protective equipment see section 8.

Suitable methods for disposal are given in section 13.

**7.0 HANDLING AND STORAGE****7.1 PRECAUTIONS FOR SAFE HANDLING****7.1.1 General recommendations**

Ensure adequate ventilation.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

The extinguishing agent in its dried form is classed as an irritant and appropriate respiratory protection should be worn.

**7.1.2 Notes on general hygiene measures at the work place**

Wash hands after use, before work and after work

Avoid contact with skin, eyes and clothing

Wash clothing before reuse

**7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

Store between 5 °C and 25 °C, where possible.

Do not store at temperatures below 0 °C or over 50 °C.

Do not freeze. Product will not operate if frozen.

Store in a dry place. Store away from UV sunlight and external temperature variations.

Observe applicable local regulations for storage of aerosols.

**7.3.1 SPECIFIC END USE**

No data available

**8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION****8.1 CONTROL PARAMETERS****8.2 EXPOSURE CONTROLS**

Respiratory: Use appropriate engineering controls to maintain misted sprayed vermiculite and dust levels below OES-TWA limits.

Hands: Protective gloves if required and wash hands at the end of each work session.

Eyes: Goggles.

Skin: Wear appropriate PPE.

General: Protective work clothing, e.g. overalls.

Soiled clothing must be adequately laundered to avoid becoming a dust source.

**9.0 PHYSICAL AND CHEMICAL PROPERTIES****9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

|                       |  |
|-----------------------|--|
| Physical State        | Aerosol, substance: liquid               |
| Appearance:           | AVD(Li) gold / brown suspension.         |
| Odour:                | AVD(Li) odourless                        |
| pH:                   | AVD(Li) ~9                               |
| Boiling point:        | Water ~100 °C                            |
| Melting point:        | Water ~0 °C                              |
| Vapour Pressure:      | <12.0 bar at 20 °C<br>≤13.2 bar at 50 °C |
| Flash point:          | Not applicable                           |
| Flammability:         | Not flammable                            |
| Explosive properties: | Not applicable                           |
| Relative density:     | AVD(Li) ~1.1                             |
| Solubility:           | AVD(Li) miscible with water              |

**9.2 OTHER INFORMATION**

None available

**10.0 STABILITY AND REACTIVITY****10.1 REACTIVITY**

No data available

**10.2 CHEMICAL STABILITY**

Chemically stable with proper handling.

**10.3 POSSIBILITY OF HAZARDOUS REACTIONS**

No dangerous reactions are known

**10.4 CONDITIONS TO AVOID**

See also section 7.

Pressure increase will result in danger of bursting

Pressurised container: Protect from sunlight and do not expose to temperatures exceeding 50 °C.

Do not pierce or burn, even after use.

**10.5 INCOMPATIBLE MATERIALS**

No data available

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS**

No data available

**11.0 TOXICOLOGICAL INFORMATION****11.1 INFORMATION ON TOXICOLOGICAL EFFECTS****11.1.1 Toxicological Data****Acute Toxicity**

No data available

**Ingestion**

No data available

**Inhalation**

No data available

**Skin Contact**

No data available

**Eye Contact**

No data available

**Target Organs**

No data available

**12.0 ECOLOGICAL INFORMATION****12.1 TOXICITY**

No data available

**12.2 PERSISTENCE AND DEGRADIBILITY**

No data available

**12.3 BIOACCUMULATIVE POTENTIAL**

No data available

**12.4 MOBILITY IN SOIL**

No data available

**12.5 RESULTS OF PBT AND vPvB ASSESSMENT**

PBT / vPvB assessment not available as chemical safety assessment not required / not conducted.

**12.6 OTHER ADVERSE EFFECTS**

By intended use and observance of regulations / advices for storage and handling no adverse effects are expected.

**13.0 DISPOSAL CONSIDERATIONS****13.1 WASTE TREATMENT METHODS**

This product is not classified as hazardous waste under the EC Directive 2008/98/EC or as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No.894.

Dispose of according to national / regional legislation.

**14.0 TRANSPORT INFORMATION****14.1 UN-NUMBER 1950****14.2 UN PROPER SHIPPING NAME**

|             |                         |
|-------------|-------------------------|
| Road - ADR: | Aerosols                |
| Rail - RID: | Aerosols                |
| Sea - IMDG: | Aerosols                |
| Air - IATA: | Aerosols, non-flammable |

**14.3 TRANSPORT HAZARD CLASSES**

|                      |   |
|----------------------|---|
| Road - ADR:          | 2.2   |
| Classification Code: | 5A  |
| LQ (ADR 2017):       | I litre   |
| Tunnel Restriction:  | E   |
| Rail - RID:          | 2.2   |
| Sea - IMDG:          | 2.2   |
| EmS:                 | F-D, S-U are assigned to UN1950.                                    |
|                      | However, the product is non-flammable, non-toxic and non-corrosive. |
| Marine Pollutant:    | Not Applicable  |
| Air - IATA:          | 2.2   |

**14.4 PACKING GROUP**

Not classified.

**14.5 ENVIRONMENTAL HAZARDS**

Not classified.

**14.6 SPECIAL PRECAUTIONS FOR USER**

Not applicable.

**14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE**

Not applicable.

**15.0 REGULATORY INFORMATION****15.1 EU REGULATIONS****Regulation (EC) No. 2037/2000 (substances that deplete ozone)**

Not applicable

**Regulation (EC) No. 850/2004 (persistent organic pollutants)**

Not applicable

**Regulation (EC) No.689/2008 (concerning the export and import of dangerous chemicals)**

Not applicable

**Registration, Evaluation, Authorisation & Restriction of Chemicals (REACH)**

The mineral vermiculite is a naturally occurring product and, hence, article 2 (7) (b) and Annex V paragraph 7, of the REACH regulations exempts this material from REACH registration.

**Source of Reference for OELs**

HSE EH40 for Workplace Exposure Limits

**15.2 CHEMICAL SAFETY ASSESSMENT**

No chemical safety assessment has been carried out by the supplier.

**16.0 OTHER INFORMATION****(i) Indication of changes**

Changes made to data sheet to comply with changes to regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures.

This MSDS was last reviewed: 10<sup>th</sup> May 2017

**(ii) Abbreviations and acronyms**

WEL TWA 8 HRS – Workplace Exposure Limit Time Weighted Average – 8 Hours

**(iii) Key Literature References and Sources of Data**

Guidance Note EH40 Occupational Exposure Limits is published annually by the Health and Safety Executive. The latest relevant limits should be observed.

HS(G) 37 1993 "An introduction to Local Exhaust Ventilation" and Guidance Note EH44 2013 "Dust in the Work Place" are both available from HM Stationery Office.

Advice on respiratory protective equipment is also given in BS EN 529:200.

EN166: 2002 Personal Eye Protection.

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 CLP**

This material is not classified under this regulation with the respirable quartz content being <1% of the product.

**Training Advice**

All employees should be given adequate training in the proper use and handling of this product and any precautions and protective equipment required under applicable regulations

Such information given on this Safety Data Sheet is to the best of Dupré Minerals' knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy itself as to the suitability and completeness of such information for their own particular use.

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