



**FlameBlock (Pty) Ltd**  
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## FlameBlock Lithium Black: MSDS

### **Section 1: Product Identification**

- 1.1 Trade Name:** FlameBlock Lithium-Black
- 1.2 Synonyms:** Lithium battery fire extinguishing dispersion
- 1.3 NFPA and HMIS Codes:**

<b><u>NFPA</u></b>		<b><u>HMIS</u></b>	
Health:	2	Health	2
Fire:	0	Fire	0
Stability:	0	Stability:	0
Special Hazards:	N/A		

### **1.4 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Fire extinguishing medium for lithium-ion batteries.

### **1.3 Details of the supplier of the safety data sheet Company**

FlameBlock  
15 Prinsloo Street  
Alberton North, 1449  
Gauteng  
South Africa

**1.4 Emergency Telephone Number:** +27 (011) 869 2142

**1.5 Information Contact Number:** +27 (011) 869 2142

**Product Name:** FlameBlock Lithium-Black  
**Revision Number:** 0.1

**Date:** 06/07/2023  
**Prepared By:** D de Wet-Roos

## **Section 2: Hazards Identification**

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

Non-hazardous substance.

### **2.2 Label Elements**

#### **Hazard Pictogram(s)**

None

#### **Signal Word**

Warning

#### **Hazard Statement(s)**

Harmful if swallowed.

#### **Hazard and Precautionary statement(s)**

H302 Harmful if swallowed.

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P314 Get medical advice/ attention if you feel unwell.

P501 Dispose of contents/ container to an approved waste disposal plant.

## Risk statement(s)

R 22 Harmful if swallowed

## Substances that contribute to the classification:

Ethylene Glycol

## Section 3: Precautionary Measures and Handling Procedures

### 3.1 Substances

Not applicable.

### 3.2 Mixtures

Chemical Name	EC No.	CAS No.	REACH Registration No.	CLP Classification
Inorganic Material	N/A	N/A	N/A	N/A
Water	231-791-2	7732-18-5	Exempt	Not Classified
Ethylene glycol	203-473-3	107-21-1	REACH registrations identifies that this substance may cause damage to organs through prolonged or repeated exposure.	Acute toxicity 4
Proprietary Ingredients	N/A	N/A	N/A	Not Classified

## **Section 4: First Aid Measures**

### **4.1 Description of first aid measures**

#### **4.1.1 General information.**

May be harmful if swallowed.

May cause kidney damage if swallowed.

May cause central nervous system effects if swallowed.

#### **4.1.2 Following inhalation.**

Not anticipated. If inhaled, remove to fresh air. If normal functioning of individual hampered get medical attention immediately.

#### **4.1.3 Following skin contact.**

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

#### **4.1.4 Following eye contact.**

Immediately flush with clean water or eye wash solution, holding the eyelids apart for at least 15 minutes. Get immediate medical attention.

#### **4.1.5 Following ingestion.**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

#### **4.1.6 Self-protection of the first aider.**

Spilt material may be a slipping hazard. Wear gloves when handling the product.

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

### **4.2.1 General information.**

May be harmful if swallowed.

### **4.2.2 Symptoms and effects.**

**Eye:** May cause moderate eye irritation.

**Skin:** Low hazard for usual industrial handling. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts.

**Ingestion:** Swallowing of significant amounts (> 250 ml) may cause nausea, vomiting or diarrhea. The main ingredient that contributes to poisoning is ethylene glycol and as such the symptoms associated with ethylene glycol may be experienced. Excessive exposure may cause CNS effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Toxicity follows 3-stage progression. (1) involves central nervous system effects including paralysis of eye muscles, convulsions, and coma. Metabolic acidosis and cerebral swelling may also occur. (2) involves cardiopulmonary system with symptoms of hypertension, rapid heart-beat, and possible cardiac failure. (3) involves severe kidney abnormalities including possible renal failure.

**Inhalation:** Vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea. Mist can occur with the discharge of the fire extinguisher or dispersing devices. Stand well clear of any mist development.

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

### **4.3.1 Specific Treatment.**

It is recommended to get immediate medical attention.

### **4.3.2 Notes for the doctor.**

Treat symptomatically as for ethylene glycol.

## **Section 5: Firefighting Measures**

### **5.1 Extinguishing media:**

#### **Suitable extinguishing media**

The product is in itself formulated to prevent fires.

#### **Unsuitable extinguishing media:**

None.

### **5.2 Special hazards arising from the substance or mixture:**

No special hazards.

### **5.3 Advice for firefighters:**

Use standard equipment for fire-fighting.

#### **Additional provisions:**

No additional provisions required.

## **Section 6: Accidental release Measures**

### **6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. For personal protection, see section 8.

### **6.2 Environmental precautions:**

Formulated to be environmentally friendly.

Prevent large quantities of product from entering drains or fresh water/potable water.

### **6.3 Methods and material for containment and cleaning up:**

Absorb any spillage using an absorbable material such as vermiculite or saw dust.

## 6.4 Reference to other sections:

See sections 8 and 13.

## **Section 7: Handling and Storage**

### 7.1 Precautions for safe handling:

If the product is spilled treat the area as a slip hazard zone.

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

Store in original packaging. Protect packaging from damage. Can be stored from -5 °C to 60 °C. Although the product is not damaged by exposure to low temperatures, it may require re-dispersing. If the product is stored for longer than 6 months it is advisable to make sure settling has not occurred.

### 7.3 Specific end use(s):

This product should be handled by professional users or users with suitable instruction on its use. Where appropriate use a dust/gas mask if aerosol or dust particles form. Wear appropriate safety clothing including disposable gloves and safety goggles/glasses.

## **Section 8: Exposure Controls/Personal Protection**

### 8.1 Control parameters:

Not available.

### 8.2 Exposure controls:

#### 8.2.1 Appropriate engineering controls:

If the product is installed with a localized, fixed fire extinguishing system a local dust extraction or aerosol extraction system is recommended.

#### 8.2.2 Individual protection measures:

**Hands:** Protective gloves if required. Wash hands after use.

**Eyes:** Safety goggles or mask – no specific recommendation.

**Skin:** Wear appropriate PPE. Long sleeve overalls if possible.

**Respiratory:** In cases of prolonged exposure wear appropriate gas mask or dust mask. No specific recommendation.

**General:** Protective overalls recommended.

### 8.2.3 Environmental exposure controls:

Use appropriate engineering controls to prevent aerosol/dust escaping into the atmosphere.

## **Section 9: Physical Characteristics**

**Appearance and Odour:** Viscous black liquid.

<b>Boiling Point (°C):</b>	N/A	<b>Melting/Freezing Point (°C):</b>	N/A
<b>Specific Gravity:</b>	N/A	<b>Vapour Density:</b>	N/A
<b>Vapour Pressure:</b>	N/A	<b>% Volatiles:</b>	N/A
<b>Solubility in Water (%):</b>	Soluble	<b>Evaporation Rate:</b>	N/A
<b>pH (as is):</b>		<b>pH (% in solution):</b>	N/A
<b>Odour Threshold:</b>	N/A	<b>Oil/Water Partition Coefficient:</b>	N/A
<b>Odour:</b>	N/A	<b>Oxidizing properties:</b>	N/A
<b>Evaporation rate:</b>	N/A	<b>Solubility:</b>	Water
<b>Flammability:</b>	N/A	<b>Auto-ignition temperature:</b>	N/A
<b>Viscosity</b>	N/A	<b>Explosive properties:</b>	N/A



## **Section 10: Stability and Reactivity**

### **10.1 Reactivity:**

No hazardous reactions are expected.

### **10.2 Chemical stability:**

Chemically stable under the conditions of storage, handling and use.

### **10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

### **10.4 Conditions to avoid:**

No data available.

### **10.5 Incompatible materials:**

No data available.

### **10.6 Hazardous decomposition products:**

No data available.

## **Section 11: Toxicological Information**

### **11.1 Information on toxicological effects:**

#### **a. Acute toxicity**

No data available.

#### **b. Skin corrosion/irritation.**

No data available.

**c. Serious eye damage/irritation.**

No data available.

**d. Respiratory or skin irritation.**

No data available.

**e. Germ cell mutagenicity.**

No data available.

**f. Carcinogenicity.**

No data available.

**g. Reproductive toxicity.**

No data available.

**h. STOT – single exposure.**

No data available.

**i. STOT- repeated exposure.**

No data available.

**j. Aspiration hazard.**

No data available.

**11.2 Information on likely routes of exposure.**

No data available.

**11.3 Other information.**

None

## **Section 12: Ecological Information**

**12.1 Toxicity:** Not available

**12.2 Persistence and degradability:** Not available

**12.3 Bio-accumulative potential:** Not available

**12.4 Mobility in soil:** Not available

**12.5 Results of PBT and vPvB assessment:** Product fails to meet PBT/vPvB criteria

**12.6 Other adverse effects:** Not described

## **Section 13: Disposal Considerations**

**13.1 Waste treatment methods:**

This product is not classified as hazardous waste.

## **Section 14: Transport Information**

**14.1 UN Number:** Not available

**14.2 UN proper shipping name:** Not available

**14.3 Transport hazard class(es):** Not available.

**14.4 Packing Group:** Not classified.

**14.5 Environmental hazards:** Not classified.

**14.6 Special precautions:** Not available

## **Section 15: Regulatory Information**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Not applicable.

### **15.2 Chemical safety assessment:**

The supplier has not carried out evaluation of chemical safety.

## **Section 16: Other Information**

### **Legislation related to safety data sheets:**

The SDS shall be supplied in an official language of the country where the product is placed on the market. The safety data sheet has been designed with the available data in accordance with ANNEX-II Guide to the compilation of safety data sheets of regulation (EC) No 1907/2006.

### **Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bio-concentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier