SAFETY DATA SHEET

# Ikaros Linethrower Complete

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

| | |
|---|---|
| Date issued | 22.11.2016 |
| Revision date | 23.11.2020 |

### 1.1. Product identifier

| | |
|---|---|
| Product name | Ikaros Linethrower Complete |
| Article no. | 346100 |
| Product definition | 2 g ignition composition, 220 g composite propellant |

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

| | |
|---|---|
| Use of the substance / preparation | Pyrotechnic linethrower |

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

| | |
|---|---|
| Company name | Hansson PyroTech AB |
| Postal address | Köpingsvägen 35 |
| Postcode | 711 31 |
| City | Lindesberg |
| Country | Sweden |
| Telephone number | +46 58187139 |
| Email | info@hansson-pyrotech.com |
| Website | www.hansson-pyrotech.com |

### 1.4. Emergency telephone number

| | |
|---|---|
| Emergency telephone | Telephone number: +46 581 87 147 (Available 24 hours)<br>Description: Emergency call |

## SECTION 2: Hazards identification

## 2.1. Classification of the substance or mixture

| | |
|---|---|
| Classification according to Regulation (EC) No 1272/2008 [CLP / GHS] | Expl. 1.3; H203<br><br>Acute Tox. 4; H302 |
| Substance / mixture hazardous properties | Main health hazard: Pyrotechnic product. Inhalation: May be mildly irritating to the respiratory system. Contact with skin: May be mildly irritating to the skin. Contact with burning product can cause severe burns. Contact with eyes: May be mildly irritating to the eyes. Ingestion: Harmful if swallowed. Fire and explosion hazard: Risk of explosion if the product is exposed to electric shock, friction, fire or other sources of ignition. Environmental hazard: Not classified as dangerous to the environment. |

## 2.2. Label elements

### Hazard pictograms (CLP)

| | |
|---|---|
| Composition on the label | Potassium perchlorate |
| Signal word | Danger |
| Hazard statements | H203 Explosive; fire, blast or projection hazard. |
| Precautionary statements | P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P234 Keep only in original packaging. P240 Ground and bond container and receiving equipment. P250 Do not subject to grinding / shock / friction / . P280 Wear protective gloves / protective clothing / eye protection / face protection. P370 + P372 + P380 + P373 In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives. P401 Store in accordance with national regulation. P501 Dispose of contents / container to authorised waste disposal facility. |
| Other EU labelling requirements | In accordance with Article 23 and marginal 1.3.5 of the CLP, the specific provisions on labelling laid down in section 1.3 of Annex I shall apply in respect of the followings:<br>(e) explosives, as referred to in section 2.1 of Annex I, placed on the market with a view to obtaining an explosive or pyrotechnic effect.<br><br>1.3.5 Explosives placed on the market with a view to obtaining an explosive or pyrotechnic effect.<br>Explosives, as referred to in section 2.1, placed on the market with a view to obtaining an explosive or pyrotechnic effect shall be labelled and packaged in accordance with the requirements for explosives only. |

## 2.3. Other hazards

| | |
|---|---|
| Health effect | Contact with burning product can cause severe burns. |

# SECTION 3: Composition / information on ingredients

## 3.2. Mixtures

| Substance | Identification | Classification | Contents | Notes |
|---|---|---|---|---|

| | | | |
|---|---|---|---|
| Potassium perchlorate | CAS No.: 7778-74-7<br>EC No.: 231-912-9<br>Index No.: 017-008-00-5<br>REACH Reg. No.: 01-2120021000-89 | Ox. Sol. 1; H271<br>Acute tox. 4; H302 | = 72,34 % |
| Potassium nitrate | CAS No.: 7757-79-1<br>EC No.: 231-818-8<br>REACH Reg. No.: 01-2119488224-35 | Ox. Sol. 3; H272<br>Aquatic Acute 1; H400 | = 0,68 % |
| Sulphur | CAS No.: 7704-34-9<br>EC No.: 231-722-6<br>Index No.: 016-094-00-1<br>REACH Reg. No.: 01-2119487295-27 | Skin Irrit. 2; H315 | = 0,14 % |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

| | |
|---|---|
| General | Contaminated work clothing should be washed before using again. Special treatment is urgent (see label on this label). |
| Inhalation | Move the person to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist. |
| Skin contact | If burned, rinse with plenty of water for at least 20 minutes. In case of any other contact with skin, wash with soap and water for several minutes. |
| Eye contact | Hold eyelids open and rinse with a lot of water or eye wash liquid for several minutes. Remove contact lenses. Consult a doctor if symptoms persist. |
| Ingestion | Get medical advice/attention. |

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

| | |
|---|---|
| Acute symptoms and effects | Contact with burning product can cause severe burns. May cause nausea and vomiting. Harmful if swallowed. May be mildly irritating to the eyes. May be mildly irritating to the skin and respiratory system. |

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

| | |
|---|---|
| Medical treatment | None other than the one listed above. |

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

| | |
|---|---|
| Suitable extinguishing media | Use foam, dry chemical, CO2 or mist early in the fire. Once the product is lit up, it is very difficult to extinguish. |
| Improper extinguishing media | No restrictions. |

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

| | |
|---|---|
| Fire and explosion hazards | The product is an explosion hazard, as it generates large quantities of gas and heat, once lit. |

### 5.3. Advice for firefighters

| | |
|---|---|
| Personal protective equipment | Wear full protective clothing for chemical fires, including breathing apparatus. If possible, remove undamaged containers from the danger area. Remove all ignition sources. |

## SECTION 6: Accidental release measures

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

| | |
|---|---|
| Personal protection measures | Ensure good ventilation. Use appropriate protective equipment, see section 8. Avoid skin and eye contact. Remove all ignition sources. |

### 6.2. Environmental precautions

| | |
|---|---|
| Environmental precautionary measures | Prevent discharge into sewers or the local environment/streams. Contact emergency services upon greater emissions. |

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

| | |
|---|---|
| Containment | Collect with tools that do not give rise to ignition. |
| Clean up | The waste is placed in closed containers and disposed of as hazardous waste in accordance with section 13. |

### 6.4. Reference to other sections

| | |
|---|---|
| Other instructions | See sections 8 and 13 for information about protection and waste management. |

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | |
|---|---|
| Handling | Avoid sparks, shock and friction. Use personal protective equipment, see section 8. Avoid skin and eye contact. Protect the product from sources of ignition. |

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

| | |
|---|---|
| Storage | Store cool and dry in a well-ventilated place. Keep away from sources of ignition – no smoking. Keep out of reach of children. |

### 7.3. Specific end use(s)

| | |
|---|---|
| Specific use(s) | Linethrowing rocket. |

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

| | |
|---|---|
| Control parameters comments | PNEC/DNEL are not available. |

### 8.2. Exposure controls

### Precautionary measures to prevent exposure

| | |
|---|---|
| Appropriate engineering controls | Keep away from fire, sparks and other ignition sources. When cleaning, use equipment that does not cause sparks. |

### Eye / face protection

| | |
|---|---|
| Suitable eye protection | Shatter-proof glasses or goggles. |

### Hand protection

| | |
|---|---|
| Suitable gloves type | Leather gloves or the like. |

### Skin protection

| | |
|---|---|
| Skin protection remark | Change work clothing daily if contamination is reasonably probable. |

### Respiratory protection

| | |
|---|---|
| Recommended type of equipment | Particle filter EN143 Type P or EN149 type FFP-S. |

### Hygiene / environmental

| | |
|---|---|
| Personal protection equipment, comments | Contact your protective equipment supplier for more information. |
| Specific hygiene measures | No smoking. |

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state | Red plastic container with handle, ignition mechanism in metal and white plastic cap. |
| Colour | Contains coloured metal rocket and white synthetic string. |
| Odour | None. |
| pH | Status: In delivery state<br>Comments: No information available.<br><br>Status: In aqueous solution<br>Comments: No information available. |
| Melting point / melting range | Comments: No information available. |
| Boiling point / boiling range | Comments: No information available. |
| Flash point | Comments: No information available. |
| Evaporation rate | Comments: No information available. |
| Flammability | The contents are flammable. |
| Explosion limit | Comments: No information available. |
| Vapour pressure | Comments: No information available. |
| Vapour density | Comments: No information available. |
| Relative density | Comments: No information available. |
| Solubility | Comments: Insoluble in water. |

| | |
|---|---|
| Auto-ignition temperature | Value: > 250 °C<br>Method: Ignition temperature |
| Viscosity | Comments: No information available. |
| Explosive properties | The product is explosive. |
| Oxidising properties | Content is oxidizing. |

### 9.2. Other information

### Other physical and chemical properties

| | |
|---|---|
| Comments | These are typical values and do not constitute an exact product specification. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

| | |
|---|---|
| Reactivity | Stable product under recommended storage and handling conditions. |

### 10.2. Chemical stability

| | |
|---|---|
| Stability | Stable product under recommended storage and handling conditions. |

### 10.3. Possibility of hazardous reactions

| | |
|---|---|
| Possibility of hazardous reactions | Stable product under recommended storage and handling conditions. |

### 10.4. Conditions to avoid

| | |
|---|---|
| Conditions to avoid | Avoids temperatures above 75°C. |

### 10.5. Incompatible materials

| | |
|---|---|
| Materials to avoid | Not applicable. |

### 10.6. Hazardous decomposition products

| | |
|---|---|
| Hazardous decomposition products | The product is explosive, generating large quantities of gas and heat once ignited. Also emits large quantities of orange smoke. |

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

| | |
|---|---|
| Substance | Potassium nitrate |
| Acute toxicity | **Type of toxicity:** Acute<br>**Effect tested:** LD50<br>**Route of exposure:** Oral<br>**Value:** = 3750 mg/kg<br>**Animal test species:** Rat |
| Substance | Sulphur |
| Acute toxicity | **Type of toxicity:** Acute |

| | |
|---|---|
| | **Effect tested:** LD50<br>**Route of exposure:** Oral<br>**Value:** > 3000 mg/kg<br>**Animal test species:** Rat<br>**Comments:** Not hazardous if swallowed.<br><br>**Type of toxicity:** Acute<br>**Effect tested:** LD50<br>**Route of exposure:** Dermal<br>**Value:** > 2000 mg/kg<br>**Animal test species:** Rabbit<br>**Comments:** Not hazardous in case of skin contact. |
| Other toxicological data | No data available for the product itself. The data below is based on individual ingredients of the product. |

### Other information regarding health hazards

| | |
|---|---|
| General respiratory or skin sensitisation | No known sensitizing effect. |
| Inhalation | May be mildly irritating to the respiratory system. |
| Skin contact | May be mildly irritating to the skin. |
| Eye contact | May be mildly irritating to the eyes. |
| Ingestion | May cause nausea and vomiting. |
| Germ cell mutagenicity, human experience | No known mutagenicity. |
| Carcinogenicity, other information | No known carcinogenicity. |
| Reproductive toxicity | No known reproductive toxicity. |

### Symptoms of exposure

| | |
|---|---|
| In case of ingestion | Harmful if swallowed. May cause irritation of the gastrointestinal tract with nausea and vomiting as a result. |
| In case of skin contact | May be mildly irritating to the skin. |
| In case of inhalation | May be mildly irritating to the respiratory system. |
| In case of eye contact | May cause slight eye irritation. |

## SECTION 12: Ecological information

### 12.1. Toxicity

| | |
|---|---|
| Substance | Potassium perchlorate |
| Aquatic toxicity, fish | **Value:** = 2511 mg/l<br>**Test duration:** 96h<br>**Method:** LC50<br>**Comments:** Not hazardous to aquatic organisms. |
| Substance | Sulphur |
| Aquatic toxicity, fish | **Value:** = 866 mg/l<br>**Test duration:** 96h |

| | |
|---|---|
| | **Species:** Brachydanio rerio<br>**Method:** LC50<br>**Comments:** Not hazardous to aquatic organisms. |
| Substance | Potassium nitrate |
| Aquatic toxicity, algae | **Value:** = 0,14 mg/l<br>**Test duration:** 72h<br>**Method:** IC50<br>**Comments:** Very toxic to aquatic organisms. |
| Substance | Sulphur |
| Aquatic toxicity, crustacean | **Value:** > 5000 mg/l<br>**Test duration:** 48h<br>**Species:** D.magna<br>**Method:** EC50<br>**Comments:** Not hazardous to aquatic organisms. |
| Ecotoxicity | Producted has not been tested. The data below is based on individual ingredients of the product. |

### 12.2. Persistence and degradability

| | |
|---|---|
| Persistence and degradability description/evaluation | Not applicable. Contains inorganic materials and is in solid form. |

### 12.3. Bioaccumulative potential

| | |
|---|---|
| Bioaccumulation, comments | No bioaccumulation expected. |

### 12.4. Mobility in soil

| | |
|---|---|
| Mobility | None – product in form of solid article. |

### 12.5. Results of PBT and vPvB assessment

| | |
|---|---|
| Results of PBT and vPvB assessment | This product does not contain any PBT or vPvB substances. |

### 12.6. Other adverse effects

| | |
|---|---|
| Additional ecological information | Not classified as toxic to water (the IMDG-code). |

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

| | |
|---|---|
| Appropriate methods of disposal for the chemical | Waste should be kept in separate container. NO SMOKING! Unused product is hazardous waste and must be disposed of in accordance with national and local regulations. Contact approved waste disposal service to dispose of this material. |
| Appropriate methods of disposal for the contaminated packaging | Used product treated as ordinary plastic / metallic waste. DO NOT TRY TO DISASSEMBLE UNUSED PRODUCT! Contaminated packaging may pose a fire hazard. |
| EWC waste code | EWC waste code: 160402 fireworks wastes<br>Classified as hazardous waste: Yes |

| | |
|---|---|
| Other information | Contaminated packing may burn rapidly. |

## SECTION 14: Transport information

### 14.1. UN number

| | |
|---|---|
| ADR/RID/ADN | 0240 |
| IMDG | 0240 |
| ICAO/IATA | 0240 |
| Comments | Article Number: 346100<br>UN-number: ROCKETS, LINE-THROWING<br>Packaging in cardboard : 1.3 G<br>Packaging instructions: P130<br>Swedish Rescue Service Agency Cert. No.: 2015-3834 (8)<br>EX-nr (DOT/USA): EX1999040089 |

### 14.2. UN proper shipping name

| | |
|---|---|
| ADR/RID/ADN | ROCKETS, LINE-THROWING |
| IMDG | ROCKETS, LINE-THROWING |
| ICAO/IATA | ROCKETS, LINE-THROWING |

### 14.3. Transport hazard class(es)

| | |
|---|---|
| ADR/RID/ADN | 1.3G |
| IMDG | 1.3G |
| ICAO/IATA | 1.3G |

### 14.4. Packing group

### 14.5. Environmental hazards

### 14.6. Special precautions for user

| | |
|---|---|
| Special safety precautions for user | See P-statements in Section 2.2. |

### 14.7. Maritime transport in bulk according to IMO instruments

### IMDG Other information

| | |
|---|---|
| EmS | F-B, S-X |

## SECTION 15: Regulatory information

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

| | |
|---|---|
| Legislation and regulations | Safety data sheet and classification in accordance with regulation 1272/2008 /EC (CLP) and regulation 830/2015/EC. |

### 15.2. Chemical safety assessment

| | |
|---|---|
| Chemical safety assessment performed | Yes |
| Chemical safety assessment | Chemical safety investigation (CSI) is established for the product. |

## SECTION 16: Other information

| | |
|---|---|
| List of relevant H-phrases (Section 2 and 3) | H203 Explosive; fire, blast or projection hazard.<br>H271 May cause fire or explosion; strong oxidiser.<br>H272 May intensify fire; oxidiser.<br>H302 Harmful if swallowed.<br>H315 Causes skin irritation.<br>H400 Very toxic to aquatic life. |
| CLP classification, comments | Classification and labelling are based on CLP (Regulation 1272/2008/EC and Regulation 830/2015/EC) |
| Last update date | 23.11.2020 |
| Version | 5 |