



SAFETY DATA SHEET

Ikaros Linethrower Rocket



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

1.1. Product identifier

Product name Ikaros Linethrower Rocket
 Chemical name 2 g ignition composition, 220 g composite propellant
 Article no. 346200 (order number 346200, 346280)

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

Use of the substance/preparation Linethrowing rocket

1.3. Details of the supplier of the safety data sheet

Company name Nammo Sweden AB
 Postal address PO Box 54
 Postcode SE-711 22
 City Lindesberg
 Country Sweden
 Tel 0581-871 00
 Fax 0581-872 00
 E-mail info.ikaros@nammo.com
 Website <http://www.hansson-pyrotech.se/>
 Enterprise no. 556249-6835

1.4. Emergency telephone number

Emergency telephone Emergency call:+46 581 87 111 (Available 24 hours)

Identification comments Ask for officer on duty at Nammo LIAB AB.

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Expl. 1.3; H203
 Regulation (EC) No 1272/2008 Acute tox. 4; H302
 [CLP/GHS]

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:= 72,34 %
Signal word	Danger
Hazard statements	H203 Explosive; fire, blast or projection hazard. H302 Harmful if swallowed.
Precautionary statements	P102 Keep out of reach of children. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P501 Dispose of contents / container to
Special supplemental label info mixtures	Contains: Potassium perchlorate .

2.3. Other hazards

Description of hazard	Contact with burning product can cause severe burns.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Potassium perchlorate	CAS no.: 7778-74-7 EC no.: 231-912-9 Index no.: 017-008-00-5 Registration number: 01-2120021000-89	Ox. Sol. 1; H271 Acute tox. 4; H302	= 72,34 %
Potassium nitrate	CAS no.: 7757-79-1 EC no.: 231-818-8 Registration number: 01-2119488224-35	Ox. Sol. 3; H272 Aquatic Acute 1; H400	= 0,68 %
Sulphur	CAS no.: 7704-34-9 EC no.: 231-722-6 Index no.: 016-094-00-1 Registration number: 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.
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4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	None other than the one listed above.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use foam, dry chemical, CO ₂ 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.
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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.
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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.
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6.2. Environmental precautions

Environmental precautionary measures	Prevent discharge into sewers or the local environment/streams. Contact emergency services upon greater emissions.
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6.3. Methods and material for containment and cleaning up

Cleaning method	Collect with tools that do not give rise to ignition. The waste is placed in closed containers and disposed of as hazardous waste in accordance with section 13.
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6.4. Reference to other sections

Other instructions	See sections 8 and 13 for information about protection and waste management.
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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.
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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.
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7.3. Specific end use(s)

Specific use(s)	Linethrowing rocket.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Information about threshold limit values	No exposure limits.
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DNEL / PNEC

Control parameters comments	PNEC/DNEL are not available.
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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.
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Respiratory protection

Respiratory protection	Upon dust formation, use a particle filter EN143 Type P or EN149 type FFP-S.
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Recommended type of equipment Particle filter EN143 Type P or EN149 type FFP-S.

Hand protection

Hand protection Leather gloves or the like.

Eye / face protection

Eye protection Shatterproof goggles or visors.

Skin protection

Skin protection (except hands) Normal industrial hygiene.

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 Metal coloured tube with metal coloured nozzle and transparent label.

Colour See under "Physical state".

Odour None.

Comments, pH (as supplied) No information available.

Comments, pH (aqueous solution) No information available.

Comments, Melting point / melting range No information available.

Comments, Boiling point / boiling range No information available.

Comments, Flash point No information available.

Comments, Evaporation rate No information available.

Flammability (solid, gas) The contents are flammable.

Comments, Explosion limit No information available.

Comments, Vapour pressure No information available.

Comments, Vapour density No information available.

Comments, Specific gravity No information available.

Solubility in water Insoluble.

Spontaneous combustibility **Value:** > 250 °C

Method of testing: Ignition temperature

Comments, Viscosity 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

Toxicological Information:

Other toxicological data No data available for the product itself. The data below is based on individual ingredients of the product.

Toxicological data for substances

Substance	Potassium perchlorate
Other toxicological information for the substance	This substance irritates eyes, skin and mucous membranes. Absorption in the blood may cause formation of methaemoglobin and kidney damage.
Substance	Potassium nitrate
LD50 oral	Value: = 3750 mg/kg Animal test species: Rat
Other toxicological information for the substance	Nitrates may be hazardous, if swallowed in large amounts, or in low doses over a longer period.
Substance	Sulphur
LD50 oral	Value: > 3000 mg/kg Animal test species: Rat Comments: Not hazardous if swallowed.
LD50 dermal	Value: > 2000 mg/kg Animal test species: Rabbit Comments: Not hazardous in case of skin contact.

Other information regarding health hazards

General Hazardous ingredients: Potassium perchlorate, Potassium nitrate and Sulphur .
Calculated ATE: 691 mg/kg (classified as harmful)

Potential acute effects

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	Harmful if swallowed. May cause irritation of the gastrointestinal tract with nausea and vomiting as a result.
Aspiration hazard	No aspiration hazard known.

Delayed effects / repeated exposure

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.
General respiratory or skin sensitisation	No known sensitizing effect.
STOT-repeated exposure	Not known.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity	No known carcinogenicity.
Germ Cell Mutagenicity, human experience	No known mutagenicity.
Reproductive toxicity	No known reproductive toxicity.

SECTION 12: Ecological information

12.1. Toxicity

waste

EWC waste code

EWC: 160402 fireworks wastes

Other Information

Contaminated packing may burn rapidly.

SECTION 14: Transport information

14.1. UN number

ADR / RID / ADN

0453

RID

0453

IMDG

0453

ICAO/IATA

0453

Comments

Article Number: 346280

14.2. UN proper shipping name

ADR

ROCKETS, LINE-THROWING

RID

ROCKETS, LINE-THROWING

IMDG

ROCKETS, LINE-THROWING

ICAO/IATA

ROCKETS, LINE-THROWING

14.3. Transport hazard class(es)

ADR / RID / ADN

1.4G

RID

1.4G

IMDG

1.4G

ICAO/IATA

1.4G

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

EmS

F-B, S-X

Special safety precautions for user

See P-statements in Section 2.2.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information.

Additional information.

UN-number: 0240 Rockets, line-throwing. Packaging in cardboard 1.3G (not USA). Packaging instructions: P130

UN-number: 0453 Rockets, line-throwing. Packaging in steel cage + cardboard: 1.4G. Packaging instructions: P130. Order article number: 346280

IMDG / ICAO / IATA Other information

IMDG Other information

Swedish Rescue Service Agency Cert. No.: 2015-3834 (9-10)

EX-nr (DOT/USA): EX2008100144 (UN-nr 0453)

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

CLP Classification, Comments

Classification and labelling are based on CLP (Regulation 1272/2008/EC and Regulation 830/2015/EC)

Classification according to

Expl. 1.3; H203;

Regulation (EC) No 1272/2008 [CLP/GHS]	Acute tox. 4; H302;
List of relevant H-phrases (Section 2 and 3).	H302 Harmful if swallowed. H400 Very toxic to aquatic life. H315 Causes skin irritation. H203 Explosive; fire, blast or projection hazard. H272 May intensify fire; oxidiser. H271 May cause fire or explosion; strong oxidiser.
Version	2
Responsible for safety data sheet	Nammo Sweden AB