

## 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	24.11.2017

**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
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**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
Telephone number	0581-871 00
Fax	0581-872 00
Email	<a href="mailto:info.ikaros@nammo.com">info.ikaros@nammo.com</a>
Website	<a href="http://www.hansson-pyrotech.se/">http://www.hansson-pyrotech.se/</a>
Enterprise No.	556249-6835

**1.4. Emergency telephone number**

Emergency telephone	Telephone number: +46 581 87 111 (Available 24 hours) Description: Emergency call
Identification, comments	Ask for officer on duty at Nammo LIAB AB.

## 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  
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 = 72,34 %

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. P230 Keep wetted with P234 Keep only in original container. P240 Ground / 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.

Special supplemental label information mixtures

Contains: Potassium perchlorate .

### 2.3. Other hazards

Description of hazard

Contact with burning product can cause severe burns.

## 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 REACH Reg. No.: 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 REACH Reg. No.:	Ox. Sol. 3; H272 Aquatic Acute 1; H400	= 0,68 %

	01-2119488224-35		
Sulphur	CAS No.: 7704-34-9	Skin Irrit. 2; H315	= 0,14 %
	EC No.: 231-722-6		
	Index No.: 016-094-00-1		
	REACH Reg. No.:		
	01-2119487295-27		

## 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 <sub>2</sub> 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.
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.
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#### Eye / face protection

Eye protection	Shatterproof goggles or visors.
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## Hand protection

Hand protection                      Leather gloves or the like.

## Skin protection

Skin protection (except hands)      Normal industrial hygiene.

## Respiratory protection

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

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 Comments: No information available.
	Status: In aqueous solution 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 (solid, gas)	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 in water	Insoluble.
Spontaneous combustability	Value: > 250 °C Method: Ignition temperature
Viscosity	Comments: No information available.
Explosive properties	The product is explosive.

Oxidising properties	Content is oxidizing.
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## 9.2. Other information

### Other physical and chemical properties

Comments	These are typical values and do not constitute an exact product specification.
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	Stable product under recommended storage and handling conditions.
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### 10.2. Chemical stability

Stability	Stable product under recommended storage and handling conditions.
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### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Stable product under recommended storage and handling conditions.
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### 10.4. Conditions to avoid

Conditions to avoid	Avoids temperatures above 75°C.
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### 10.5. Incompatible materials

Materials to avoid	Not applicable.
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### 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.
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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

Substance	Sulphur
Acute toxicity	<b>Type of toxicity:</b> Acute <b>Effect tested:</b> LD50 <b>Route of exposure:</b> Oral <b>Value:</b> > 3000 mg/kg <b>Animal test species:</b> Rat <b>Comments:</b> Not hazardous if swallowed.

**Type of toxicity:** Acute  
**Effect tested:** LD50  
**Route of exposure:** Dermal  
**Value:** > 2000 mg/kg  
**Animal test species:** Rabbit  
**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	Hazardous ingredients: Potassium perchlorate, Potassium nitrate and Sulphur . Calculated ATE: 691 mg/kg (classified as harmful)
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.
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.
STOT-repeated exposure	Not known.
Aspiration hazard	No aspiration hazard known.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Potassium perchlorate
Acute aquatic, fish	<b>Value:</b> = 2511 mg/l <b>Test duration:</b> 96h <b>Method:</b> LC50 <b>Comments:</b> Not hazardous to aquatic organisms.
Substance	Sulphur
Acute aquatic, fish	<b>Value:</b> = 866 mg/l <b>Test duration:</b> 96h <b>Species:</b> Brachydanio rerio <b>Method:</b> LC50

Substance	Potassium nitrate
Acute aquatic, algae	<b>Comments:</b> Not hazardous to aquatic organisms. <b>Value:</b> = 0,14 mg/l <b>Test duration:</b> 72h <b>Method:</b> IC50 <b>Comments:</b> Very toxic to aquatic organisms.
Substance	Sulphur
Acute aquatic, Daphnia	<b>Value:</b> > 5000 mg/l <b>Test duration:</b> 48h <b>Species:</b> D.magna <b>Method:</b> EC50 <b>Comments:</b> Not hazardous to aquatic organisms.
Ecotoxicity	Product has not been tested. The data below is based on individual ingredients of the product.

## 12.2. Persistence and degradability

Persistence and degradability, comments	Not applicable. Contains inorganic materials and is in solid form.
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## 12.3. Bioaccumulative potential

Bioaccumulative potential	Not expected to bioaccumulate.
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## 12.4. Mobility in soil

Mobility	None – product in form of solid article.
Water solubility	Comments: Insoluble.

## 12.5. Results of PBT and vPvB assessment

PBT assessment results	Does not fulfil the criteria for classification as PBT.
vPvB evaluation results	Does not fulfil the criteria for classification pub.

## 12.6. Other adverse effects

Environmental details, summation	Not classified as toxic to water (the IMDG-code).
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# SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

Specify the appropriate methods of disposal	Waste should be collected in a separate container. NO SMOKING!
Relevant waste regulation	Waste regulation, SFS 2011:927.
Hazardous waste product	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.
Hazardous waste packing	Used product treated as ordinary plastic / metallic waste. DO NOT TRY TO DISASSEMBLE UNUSED PRODUCT! Contaminated packaging may pose a fire



	hazard.
Product classified as hazardous waste	Yes
Packaging classified as hazardous waste	Yes
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	0240
IMDG	0240
ICAO / IATA	0240
Comments	Article Number: 346100

### 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. Transport in bulk according to Annex II of Marpol and the IBC Code

### Additional information

Additional information	UN-number: 0240 Rockets, line-throwing. Packaging in cardboard 1.3G. Packaging instructions: P130 Order article number: 346100
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### IMDG / ICAO / IATA Other information

IMDG Other information	Swedish Rescue Service Agency Cert. No.: 2015-3834 (8) EX-nr (DOT/USA): EX1999040089
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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.  
 H271 May cause fire or explosion; strong oxidiser.  
 H272 May intensify fire; oxidiser.  
 H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H400 Very toxic to aquatic life.

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

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

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