



Safety Data Sheet

Issued by Atp	Department R&D	Date 24 October 2014	Page no 1 (9)
Product denomination Ikaros Line Replacement Rocket		Document no. SDS Ikaros Line Replacement Rocket	Edition no. 4

Supersedes: Version 3, dated 12 September 2011

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name	Ikaros Line Replacement Rocket
Article Nos. (Order article Nos.)	346200 (346200 and 346270)
Chemical name	2 g of black powder and 220 g of propellant
Document number	SDS Ikaros Line Replacement Rocket – ed4

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

Use	Rocket for use with pilot line for cables and ropes in rescue operations at sea.
Uses advised against	None specified

1.3. Details of the supplier of the safety data sheet

Company/Manufacturer	Hansson PyroTech AB / Nammo LIAB AB
Company address	P O Box 154, SE-711 23 Lindesberg, Sweden
E-mail, internet	info@hansson-pyrotech.com www.hansson-pyrotech.com
Telephone number	+46 581 871 00
Telefax number	+46 581 872 51

1.4. Emergency telephone number

Emergency telephone number	+46 581 87 111 (Available 24 hours)
Contact person	Ask for officer on duty at Nammo LIAB AB

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Main health hazard	Hazards refer to contents of rocket
Inhalation	May be mildly irritating to respiratory system
Skin contact	May be mildly irritating to skin. Contact with exhaust flame can cause severe burns.
Eye contact	May be mildly irritating to eyes
Ingestion	Harmful if swallowed
Fire and explosive hazards	Risk of explosion by shock, friction, fire or other sources of ignition.
Environmental hazards	Not classified as hazardous to the environment



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CLP Classification Explosive Division 1.3 – H203 Acute Toxic Category 4 – H302 For full wording of Hazard statements see Section 16	DPD Classification Explosive – R2 Harmful –R22 For full wording of Risk phrases see Section 16
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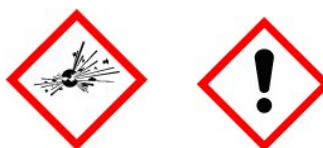
2.2. Label elements

WARNING

Contains: Potassium perchlorate

H203 – Explosive; fire, blast or projection hazard.

H302 – Harmful if swallowed.



P102 - Keep out of reach of children.

P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P501 – Dispose of contents / container to authorised waste disposal facility.

P370+P378 - In case of fire: Use water for extinction.

P309+P311 - If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards

Contact with exhaust gases can cause burns.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous component(s)

Under CLP EC1272/2008

Substances	CAS No.	REACH Registration No.	%	Gram	CLP Hazard Category & H Statements
Potassium perchlorate	7778-74-7	01-2120021000-89	72.34	160.6	Oxidising Solid Cat 1 – H271 Acute Toxic Cat 4 – H302
Potassium nitrate	7757-79-1	01-2119488224-35	0.68	1.5	Oxidising Solid Cat 3 – H272
Sulphur	7704-34-9	01-2119487295-27	0.14	0.3	Skin Irritant Cat 2 – H315

Under DPD EC1999/45

Substances	CAS No.	EC No.	%	Gram	Symbol & Risk phrases
Potassium perchlorate	7778-74-7	231-912-9	72.34	160.6	O, Xn: R9-22
Potassium nitrate	7757-79-1	231-818-8	0.68	1.5	O, N: R8-50
Sulphur	7704-34-9	231-722-6	0.14	0.3	Xi: R36/37/38 52/53

For full wording of H-statements and R-phrases see Section 16.



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SECTION 4 FIRST-AID MEASURES

4.1. Description of first aid measures

After inhalation	Move patient to fresh air.
After skin contact	If burned, wash with plenty of water for at least 20 min.
After eye contact	Keep eyelids apart. Wash with a lot of water. If needed visit physician.
After ingestion	Contact a physician.

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

Contact with exhaust flame can cause burns. Harmful if ingested.

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

None other than above.

SECTION 5 FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Suitable extinguishing media	Use any fire extinguishing media at early stages of fire. Once the product has ignited it cannot be extinguished.
- Not to be used	No restriction.

5.2. Special hazards arising from the substance or mixture

Product is explosive, evolving large quantities of gases and emitting large quantities of heat radiation if involved in fire.

5.3. Advice for fire-fighters

Normal equipment.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Normal industrial hygiene, use protective gloves.
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6.2. Environmental precautions

Do not let waste reach drains, sewers and bodies of water or leak into ground.

6.3. Methods and material for containment and cleaning up

Collect using non-sparking tools, reuse if undamaged. Otherwise, keep for disposal by experts.

6.4. Reference to other sections

See Sections 8 & 13.



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SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid dropping the signal on hard surfaces.

7.2. Conditions for safe storage, including any incompatibilities

Storage Temperature should not exceed +75° C

7.3. Specific end use(s)

Distress signal

SECTION 8 PERSONAL PROTECTION/EXPOSURE CONTROLS

8.1. Control parameters

None set

8.2. Exposure controls

Recommended engineering controls No fire, sparks or welding close to the items. If cleaning up spillage, use tools which can not strike sparks.

Personal protective equipment Normally none needed. But in case of spillage:

- Respiratory protection In case of dust use particle filter mask such as EN143 Type P or EN149 Type FFP-S.

- Hand protection Leather or similar protective gloves.

- Eye protection Shatter-proof glasses or goggles.

- Skin protection Normal industrial hygiene

Specific hygiene measures No smoking.

Further information Always check applicability with your supplier of protective equipment.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance Metal coloured tube with metal coloured nozzle in one end and transparent label

Odour None

Odour threshold value Not applicable

pH (concentrated product) Not applicable

Melting point (°C) Not determined

Boiling point/range (°C) Not applicable

Flash point (°C) Not applicable

Evaporation rate Not applicable

Flammability Contents are flammable



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Explosive properties	Intrinsically explosive. Rocket motor burns with flame and strong impulse if ignited.
Vapour pressure (mbar at 25°C)	Not applicable
Vapour density	Not applicable
Density at 20°C (g/cm ³)	Not determined
Solubility in water (% by weight)	Insoluble
Solubility in solvents	Not determined
Partition coefficient (log Pow)	Not applicable
Autoignition temperature (°C)	> 250
Decomposition temperature (°C)	Not determined
Viscosity	Not applicable
Oxidising properties	Contents have oxidising properties

9.2. Other information

Note: These are typical values and do not constitute a specification

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity

Stable product under recommended storage and handling conditions.

10.2. Chemical stability

Stable product under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

Stable product under recommended storage and handling conditions.

10.4. Conditions to avoid

High temperatures, above 75 °C

10.5. Incompatible materials

Not applicable.

10.6. Hazardous decomposition products

Product is explosive, evolving large quantities of gases if involved in fire.



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SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No data available on mixture. Data based on individual components shown below.

Hazardous ingredients	Potassium perchlorate, Potassium nitrate, and Sulphur.
(a) acute toxicity	Calculated product ATE = 691 mg/kg Harmful if swallowed
(b) skin corrosion/irritation	Powders may be mildly irritating to the skin.
(c) serious eye damage/irritation	Powders may be mildly irritating to the eyes.
(d) respiratory or skin sensitisation	No deleterious effects known.
(e) germ cell mutagenicity	No deleterious effects known.
(f) carcinogenicity	No deleterious effects known.
(g) reproductive toxicity	No deleterious effects known.
(h) STOT-single exposure	Powders may be mildly irritating to the respiratory tract.
(i) STOT-repeated exposure	No deleterious effects known.
(j) aspiration hazard	No deleterious effects known.
Likely routes of exposure	Contact with skin
Symptoms related to the physical, chemical and toxicological characteristics	Powders can be mildly irritating to the skin, eyes and respiratory tract. May cause gastric irritation, nausea and vomiting.
Delayed and immediate effects as well as chronic effects from short and long-term exposure	No deleterious effects known.
Other information	None

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

No data available on mixture. Data based on individual components shown below.

Potassium perchlorate EC₅₀ Daphnia magna 24h: 670mg/l Not harmful.

12.2. Persistence and degradability

Not applicable – contains inorganic materials and is in form of solid article.

12.3. Bioaccumulative potential

Mobility No test data on product.

12.4. Mobility in soil

None – product in form of solid article.

12.5. Results of PBT and vPvB assessment



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Does not fulfil the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

Not a Marine pollutant (IMDG Code).

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of waste materials

Waste should be kept in separate container.

NO SMOKING!

Destruction must only be done by experts. Used product may be disposed as ordinary plastic/metallic waste.

DO NOT TRY TO DISMANTLE THE PRODUCT!

Contaminated packing

May burn rapidly.

SECTION 14 TRANSPORT INFORMATION

14.1. UN numbers

See table below

14.2. UN proper shipping name

See table below

14.3. Transport hazard class(es)

See table below

14.4. Packing group

Not applicable

14.5. Environmental hazards

None

14.6. Special 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

Not applicable

Transport Classification	Non US markets	USA market and others
	In Fibre Board Box	In Steel Cage + Fibre Board Box
Article Number (Order article Nos.)	346200 (346200)	346200 (346270)
- UN No.	0240	0453
- Proper shipping name	Rockets, line-throwing	Rockets, line-throwing
- Transport Class	1.3G	1.4G
- Packing Instruction	P130	P130
Label	1	1.4

IMO-IMDG code



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- EMS code	F-B, S-X	F-B, S-X
EX number (DOT/USA)	N/A	2008100144
Swedish Rescue Service Agency Cert. No.	2009-4270	2009-4270

Comment Not classified as Marine Pollutants

SECTION 15 REGULATORY INFORMATION

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

None specified

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out on this mixture.

SECTION 16 OTHER INFORMATION

Inventories - All ingredients listed in EINECS.

Sources of data used in this SDS

In-house data files
Literature such as Sax's Dangerous Properties of Industrial Materials, the RSC Dictionary of Substances and their Effects, RTECS
CLP Annex VI Tables 3.1 & 3.2
Sources of key data used
Suppliers' Safety Data Sheets
RTECS, EU ESIS web site

Version number 4
Date prepared 24.10.14
Supersedes Version 3 dated 12.09.11
Nature of revision New emergency telephone number, REACH registration numbers introduced for potassium perchlorate, potassium nitrate and sulphur.

Mixture classified under CLP (EC1272/2008) by calculation based on ingredient information.

R-phrases used in document

R2 Risk of explosion by shock, friction, fire or other sources of ignition
R8 Contact with combustible material may cause fire
R9 Explosive when mixed with combustible material
R22 Harmful if swallowed



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R36/37/38	Irritating to eyes, respiratory system and skin
R50	Very toxic to aquatic organisms
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

H-statements used in document

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

Based on EU Regulation 1907/2006 as amended by 453/2010

The current Material Safety Data Sheet was defined by Hansson PyroTech AB on the basis of knowledge of the product at the date of issue.

Therefore, data provided in this form can not be considered as exhaustive.

It is the duty of the operator

- to develop under his own responsibility, the safety dispositions regarding the operation of the product taking into account the data from this form
- to pass to all users and operators the appropriate safety data and warning regarding the risks mentioned in the documentation relative to the utilisation of the product
- to be cautious of possible risks faced when the product is used for other utilisation than those for which it has been designed