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

<table>
<thead>
<tr>
<th>Date issued</th>
<th>23.11.2016</th>
</tr>
</thead>
</table>

**1.1. Product identifier**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Ikaros Parachute Rocket, Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td>6,5 g ignition composition, 50 g composite propellant and 95 g red illuminating composition</td>
</tr>
<tr>
<td>Article no.</td>
<td>340100 (order number 340100, 340170, 340180)</td>
</tr>
</tbody>
</table>

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

| Use of the substance/preparation | Pyrotechnic distress rocket. |

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

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

**1.4. Emergency telephone number**

<table>
<thead>
<tr>
<th>Emergency telephone</th>
<th>Emergency call:+46 581 87 111 (Available 24 hours)</th>
</tr>
</thead>
</table>

**Identification comments**

Ask for officer on duty at Nammo LIAB AB.

**SECTION 2: Hazards identification**

**2.1. Classification of substance or mixture**

<table>
<thead>
<tr>
<th>Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]</th>
<th>Expl. 1.3; H203; Acute tox. 4; H302; Eye Irrit. 2; H319</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance / mixture hazardous properties</td>
<td>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: Causes serious eye irritation. 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.</td>
</tr>
</tbody>
</table>

**2.2. Label elements**

**Hazard Pictograms (CLP)**
Composition on the label: Strontium nitrate: 31.25%, Potassium perchlorate: 24.09%
Signal word: Danger
Hazard statements: H203 Explosive; fire, blast or projection hazard. H302 Harmful if swallowed. H319 Causes serious eye irritation.
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

2.3. Other hazards
Description of hazard: Contact with burning product can cause severe burns.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Identification</th>
<th>Classification</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strontium nitrate</td>
<td>CAS no.: 10042-76-9</td>
<td>Ox. Sol. 3; H272</td>
<td>= 31.25%</td>
</tr>
<tr>
<td></td>
<td>EC no.: 233-131-9</td>
<td>Acute tox. 4; H302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Registration number: 01-2120007501-75</td>
<td>Eye Irrit. 2; H319</td>
<td></td>
</tr>
<tr>
<td>Potassium perchlorate</td>
<td>CAS no.: 7778-74-7</td>
<td>Ox. Sol. 1; H271</td>
<td>= 24.09%</td>
</tr>
<tr>
<td></td>
<td>EC no.: 231-912-9</td>
<td>Acute tox. 4; H302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index no.: 017-008-00-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Registration number: 01-2120021000-89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>CAS no.: 7757-79-1</td>
<td>Ox. Sol. 3; H272</td>
<td>= 3.17%</td>
</tr>
<tr>
<td></td>
<td>EC no.: 231-818-8</td>
<td>Aquatic Acute 1; H400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Registration number: 01-2119488224-35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulphur</td>
<td>CAS no.: 7704-34-9</td>
<td>Skin Irrit. 2; H315</td>
<td>= 0.46%</td>
</tr>
<tr>
<td></td>
<td>EC no.: 231-722-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index no.: 016-094-00-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Registration number: 01-2119487295-27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 soft, lukewarm water or eye wash liquid for at least five 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. Causes serious eye irritation. May be mildly...
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
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.

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)
Distress rocket.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Other Information about threshold limit values
No exposure limits.

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

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.

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
Dark red plastic pipes with red plastic lid and orange 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 combustability
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
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.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information:
No data available for the product itself. The data below is based on individual ingredients of the product.

Toxicological data for substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Strontium nitrate</th>
<th>Value: 1892 mg/kg</th>
<th>Animal test species: Rat</th>
<th>Comments: Hazardous if ingested.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other toxicological information for the substance
For strontium compounds the health hazards are mainly related to the anion, here nitrate. Nitrates may be hazardous, if swallowed in large amounts, or in low doses for a long period.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Potassium perchlorate</th>
<th>Other toxicological information for the substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral</td>
<td>Value: 3750 mg/kg</td>
<td>This substance irritates eyes, skin and mucous membranes. Absorption in the blood may cause formation of methaemoglobin and kidney damage.</td>
</tr>
<tr>
<td>Animal test species: Rat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Potassium nitrate</th>
<th>Value: 3750 mg/kg</th>
<th>Animal test species: Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other toxicological information for the substance
Nitrates may be hazardous, if swallowed in large amounts, or in low doses over a longer period.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Sulphur</th>
<th>Value: &gt; 3000 mg/kg</th>
<th>Animal test species: Rat</th>
<th>Comments: Not hazardous if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal test species: Rabbit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>sulphur</th>
<th>Value: &gt; 2000 mg/kg</th>
<th>Animal test species: Rabbit</th>
<th>Comments: Not hazardous in case of skin contact.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other information regarding health hazards
General
Hazardous ingredients: potassium perchlorate, sulphur and strontium nitrate.
Calculated ATE: 901 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
Causes serious eye irritation.

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 Causes serious eye irritation.
Ingestion May cause nausea and vomiting.
General respiratory or skin sensitisation No known sensitizing effect.
STOT-repeated exposure Not known.

**Carcinogenic, Mutagenic or Reprotoxic**

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>No known carcinogenicity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Cell Mutagenicity, human experience</td>
<td>No known mutagenicity.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No known reproductive toxicity.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecotoxicity**

Produced has not been tested. The data below is based on individual ingredients of the product.

**Toxicological data for substances**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulation</th>
<th>Method of testing: LC50</th>
<th>Duration: 96h</th>
<th>Remarks: Not hazardous to aquatic organisms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strontium nitrate</td>
<td>Log Pow: 0.19.</td>
<td>No bioaccumulation expected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium perchlorate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Acute aquatic, fish**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value: = 2511 mg/l</th>
<th>Method of testing: LC50</th>
<th>Duration: 96h</th>
<th>Remarks: Not hazardous to aquatic organisms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Acute aquatic, algae**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value: = 0.14 mg/l</th>
<th>Method of testing: IC50</th>
<th>Duration: 72h</th>
<th>Remarks: Very toxic to aquatic organisms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bioaccumulation**

Log Pow: < 0. No bioaccumulation expected.

**Acute aquatic, fish**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value: = 866 mg/l</th>
<th>Method of testing: LC50</th>
<th>Duration: 96h</th>
<th>Remarks: Not hazardous to aquatic organisms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphur</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Acute aquatic, Daphnia**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value: &gt; 5000 mg/l</th>
<th>Method of testing: EC50</th>
<th>Duration: 48h</th>
<th>Remarks: Not hazardous to aquatic organisms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachydanio rerio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bioaccumulation**

Log Pow: 5.7. Bioaccumulation is expected.

#### 12.2. Persistence and degradability

Persistence and degradability Not applicable. Contains inorganic materials and is in solid form.

#### 12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

#### 12.4. Mobility in soil

**Mobility**

None – product in form of solid article.

**Comments, Water solubility**

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).
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
RID
IMDG
ICAO/IATA
Comments
0403
0403
0403
0403
Article Number: 340180

14.2. UN proper shipping name
ADR
RID
IMDG
ICAO/IATA
FLARES, AERIAL
FLARES, AERIAL
FLARES, AERIAL
FLARES, AERIAL

14.3. Transport hazard class(es)
ADR / RID / ADN
RID
IMDG
ICAO/IATA
1.4G
1.4G
1.4G
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: 0403 Flares, aerial. Packaging in steel cage + cardboard: 1.4G.
P135.
Order article number: 340180
UN-number: 0506 Signals, distress, ship. Packaging in steel cage + cardboard: 1.4S (not USA). Packaging instructions: P135. Order article number: 340170
UN-number: 0195 Signals, distress. Packaging in cardboard : 1.3G (not USA). Packaging instructions: P135. Article number: 340100

IMDG / ICAO / IATA Other information
### 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.

### 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 Regulation (EC) No 1272/2008 [CLP/GHS]**

Expl. 1.3; H203; Acute tox. 4; H302; Eye Irrit. 2; H319;

**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. H319 Causes serious eye irritation.

**Version**

2

** Responsible for safety data sheet**

Nammo Sweden AB