SAFETY DATA SHEET

IKAROS Day & Night Signal

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	21.11.2016
Revision date	20.12.2023

1.1. Product identifier

Product name	IKAROS Day & Night Signal
Article no.	343200
Product definition	8 g ignition/primer composition, 32 g red illuminating composition and 25 g orange smoke composition Net Explosive Weight: 65 g ± 7%.

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

Use of the substance / preparation	Pyrotechnic day and night signal

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) 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. 1.4; H204 Flam. Gas 1; H318 Aquatic Chronic 2; H411
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: Causes serious eye damage. Ingestion: May cause nausea and vomiting. Fire and explosion hazard: Risk of explosion if the product is exposed to electric shock, friction, fire or other sources of ignition. Environmental hazard: Toxic to aquatic life with long-lasting effects.

2.2. Label elements

Hazard pictograms (CLP)

Composition on the label	Strontium nitrate, 1-Aminoanthraquinone
Signal word	Warning
Hazard statements	H204 Fire 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. P370+P380+P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. 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: (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. 1.3.5 Explosives placed on the market with a view to obtaining an explosive or pyrotechnic effect. 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
Strontium nitrate	CAS No.: 10042-76-9 EC No.: 233-131-9 REACH Reg. No.: 01-2120007501-75	Ox. Sol. 1; H271 Eye Dam. 1; H318	= 32,5 %	
1-Aminoanthraquinone	CAS No.: 82-45-1 EC No.: 201-423-5	Aquatic Chronic 2; H411	≤ 21,2 %	
Magnesium powder (pyrophoric)	CAS No.: 7439-95-4 EC No.: 231-104-6 Index No.: 012-001-00-3	Water-react. 1; H260; Pyr. Sol. 1; H250; CLP classification, notes: T	= 13,6 %	
Potassium chlorate	CAS No.: 3811-04-9 EC No.: 223-289-7 Index No.: 017-004-00-3	Ox. Sol. 1; H271; Acute tox. 4; H332; Acute tox. 4; H302; Aquatic Chronic 2; H411;	= 10,6 %	

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 lukewarm water for at least ten minutes. Remove contact lenses. Consult a doctor if symptoms persist. Immediately call a POISON CENTER or doctor/physician.
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. May be mildly irritating to the skin and respiratory system. Causes serious eye damage.

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)	Day and night signal.

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	Hermetically sealed plastic containers with red and yellow label.
Colour	Green cap for smoke composition and red cap with tactile marking for illuminating composition.
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	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: > 190 °C Method: Ignition temperature
Viscosity	Comments: No information available.
Explosive properties	The product is explosive.
Oxidising properties	Content is oxidizing.

9.2. Other information

9.2.2. Other safety characteristics

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	Strontium nitrate
Acute toxicity	**Effect tested:** LD50

	Route of exposure: Oral **Value:** = 2750 mg/kg bw **Animal test species:** Rat **Comments:** Non-acute toxic
Substance	1-Aminoanthraquinone
Acute toxicity	**Effect tested:** LD50 **Route of exposure:** Oral **Value:** > 1600 mg/kg bw **Animal test species:** Rat **Comments:** Hazardous if ingested.
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	Causes serious eye irritation.
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	Nausea and vomiting.
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	Causes serious damage to eyes.

11.2 Other information

SECTION 12: Ecological information

12.1. Toxicity

Substance	1-Aminoanthraquinone
Aquatic toxicity, crustacean	**Toxicity type:** Acute **Value:** = 1,52 mg/l **Effect dose concentration:** EC50 **Exposure time:** 48 hour(s) **Species:** Daphnia **Comments:** Toxic
Ecotoxicity	Producted has not been tested. The data below is based on individual ingredients

of the product. The product is toxic to aquatic life with long-lasting effects.

12.2. Persistence and degradability

Persistence and degradability description/evaluation	Not applicable. Contains inorganic materials and is in solid form.
Substance	1-Aminoanthraquinone
Biodegradability	**Value:** = 0 % **Test reference:** OECD 301D **Comments:** Not readily biodegradable **Test period:** 20 day(s)

12.3. Bioaccumulative potential

Substance	1-Aminoanthraquinone
Bioconcentration factor (BCF)	**Value:** = 21,88
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. Endocrine disrupting properties

12.7. Other adverse effects

Additional ecological information	Toxic to aquatic life with long lasting effects.

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 Classified as hazardous waste: Yes
Other information	Contaminated packing may burn rapidly.

SECTION 14: Transport information

Dangerous goods	Yes

14.1. UN number

ADR/RID/ADN	0191
IMDG	0191
ICAO/IATA	0191
Comments	US Department of Transportation Reference number: EX2010101256 Swedish Civil Contingencies Agency (MSB) Cert No: 2018-06533

14.2. UN proper shipping name

ADR/RID/ADN	SIGNAL DEVICES, HAND
IMDG	SIGNAL DEVICES, HAND
ICAO/IATA	SIGNAL DEVICES, HAND

14.3. Transport hazard class(es)

ADR/RID/ADN	1.4G
Classificaton code ADR/RID/ADN	1.4 G
Subsidiary risk ADR/RID/ADN	1.4 G
IMDG	1.4G
Classificaton code IMDG	1.4 G
ICAO/IATA	1.4G
Classificaton code ICAO	1.4 G

14.4. Packing group

14.5. Environmental hazards

IMDG Marine pollutant	Yes

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

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H204 Fire or projection hazard. H250 Catches fire spontaneously if exposed to air. H260 In contact with water releases flammable gases which may ignite spontaneously. H271 May cause fire or explosion; strong oxidiser. H302 Harmful if swallowed. H318 Causes serious eye damage. H332 Harmful if inhaled. H411 Toxic to aquatic life with long lasting effects.
CLP classification, comments	Classification and labelling are based on CLP (Regulation 1272/2008/EC and Regulation 830/2015/EC)
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