

IKAROS Day & Night Signal

Safety Data Sheet



Issue date: 12/22/2025 Revision date: 01/22/2026 Supersedes version of: 12/22/2025 Version: 1.1

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

1.1. Product identifier

Trade name : IKAROS Day & Night Signal
Product code : 343200

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

Relevant identified uses

Main use category : Professional use, Consumer use
Use of the substance/mixture : Pyrotechnic day and night signal

1.3. Details of the supplier of the safety data sheet

Hansson PyroTech AB
Köpingsvägen 35
SE-711 31 Lindesberg
Sweden
Phone +46 58187250
E-mail info@hansson-pyrotech.com
Website www.hansson-pyrotech.com

1.4. Emergency telephone number

Organisation	Emergency telephone number	Opening hours
Hansson PyroTech AB, Köpingsvägen 35 SE-711 31 Lindesberg, Sweden	+46 581 87111	24-hour emergency contact

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GHS

Expl. 1.4 H204
Acute Tox. 4 (oral) H302
Eye Dam. 1 H318
Aquatic Chronic 2 H411

Adverse physicochemical, human health and environmental effects

Fire or projection hazard. Harmful if swallowed. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to GHS

Hazard pictograms :



GHS01

Signal word : Warning
Contains : Strontium nitrate, potassium chlorate
Hazard statements : H204 - Fire or projection hazard.

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Precautionary statements : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 - Keep only in original container.
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 local regulations on explosives.
P501 - Dispose of contents / container to authorised waste disposal facility.

2.3. Other hazards

The mixture does not contain substance(s) having endocrine disrupting properties to human or to the environment in concentrations equal to or greater than 0,1 %.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification
Strontium nitrate	CAS No.: 10042-76-9	32.5	Ox. Sol. 1, H271 Acute Tox. 5 (Oral), H303 Eye Dam. 1, H318
1-Aminoanthraquinone	CAS No.: 82-45-1	≤ 21.2	Aquatic Chronic 2, H411
Magnesium powder	CAS No: 7439-95-4	13.6	Flam. Sol. 1, H228 Water-react. 2, H261 Self-heat. 1, H252
Potassium chlorate	CAS No: 3811-04-9	10.6	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 (ATE=100 mg/kg bodyweight)

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Contact with burning product can cause severe burns.
May cause nausea and vomiting if swallowed.
Causes serious eye damage, unless prompt medical treatment is provided.
May be mildly irritating to the skin and respiratory system.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

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| Suitable extinguishing media | : Use foam, dry chemical, CO2 or mist early in the fire. |
| Unsuitable extinguishing media | : Once the product is lit up, it is very difficult to extinguish with any extinguishing media. |

5.2. Special hazards arising from the substance or mixture

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| Fire or explosion hazard | : Hazard class Expl. 1.4
Fire or projection hazard. |
| Hazardous decomposition products in case of fire | : Large quantities of explosion gases and heat. |

5.3. Advice for firefighters

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| Firefighting instructions | : Evacuate area. Move containers away from the fire area if this can be done without risk. Remove all sources of ignition. Do not fight fire when fire reaches explosives. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |
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For non-emergency personnel

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|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. |

For emergency responders

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|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. |

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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|-------------------------|---|
| For containment | : Using a clean shovel, put the material in a dry container and cover without compressing it. |
| Methods for cleaning up | : Mechanically recover the product. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

See also sections 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Do not subject to grinding, shock, friction. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in accordance with local regulations on explosives.

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The product does not contain any substances with established occupational exposure limits for respiratory tract exposure.
Reference: Occupational Safety and Health Administration

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation.

Personal protection equipment

The personal protective equipment must follow the OSHA regulations found in 29 CFR 1910.132 and should be selected on advice from the supplier of such equipment. The protective equipment recommended below are only suggestions, and should be selected on advice from the supplier of such equipment. The protection equipment's suitability and durability will depend on application.

Eye and face protection

Wear safety goggles if there is a risk of splash.

Type	Standard
Safety glasses, Face shield	ANSI/ISEA Z87.1-2020: American National Standard For Occupational And Educational Personal Eye And Face Protection Devices

Skin protection

Wear suitable protective clothing

Hand protection

Protective gloves

Type	Material	Thickness (mm)	Standard
Disposable gloves, Reusable gloves	Leather or similar	No data available	ANSI/ISEA 105-2016 American National Standard For Hand Protection Classification

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Respiratory protection

Device	Filter type	Condition	Standard
Mask with dust filter	Filter type P2	If dust is produced	type N95

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Hermetically sealed plastic containers with red and yellow label : Green cap for smoke composition and red cap with tactile marking for illuminating composition
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not applicable
Boiling point	: Not available
Flammability	: The contents are flammable
Explosive properties	: Fire or projection hazard
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: > 190 °C (374 °F)
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble in water
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Avoid temperature above 75 °C.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

None under normal conditions. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GHS

Acute toxicity (oral)	: Harmful if swallowed. ATE _{mixture} > 300 ≤ 2000 mg/kg
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met) ATE _{mixture} > 5000 mg/kg
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Strontium nitrate (CAS No 10042-76-9)

LD50 oral rat	2750 mg/kg
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1-Aminoanthraquinone (CAS 82-45-1)

LD50 oral rat	>1600 mg/kg
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Potassium chlorate (CAS No. 3811-04-9)

LD50 oral rat	100 mg/kg
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Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

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Viscosity, kinematic	Not applicable
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11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) having endocrine disrupting properties to human in concentrations equal to or greater than 0,1 %.

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SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

1-Aminoanthraquinone (CAS 82-45-1)

EC50 48h - Crustacea [1]	1.52 mg/l Daphnia magna
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IC50 72h - Algae [1]	18.9 mg/l
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12.2. Persistence and degradability

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Persistence and degradability	Data is missing for the mixture.
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12.3. Bioaccumulative potential

Strontium nitrate (CAS No 10042-76-9)

Partition coefficient n-octanol/water (Log Pow)	0.19
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1-Aminoanthraquinone (CAS 82-45-1)

Partition coefficient n-octanol/water (Log Pow)	2.1
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12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

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The criteria for PBT/vPvB are not relevant for inorganic substances.

PBT: Persistent Bioaccumulative Toxic

vPvB: Very Persistent and Very Bioaccumulative

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) having endocrine disrupting properties to the environment in concentrations equal to or greater than 0,1 %.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to 40 Code of Federal Regulations (CFR) Part 261.

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Waste treatment methods	: Hazardous waste as regulated under RCRA - Resource Conservation and Recovery Authorization Act Hazardous waste. Waste fireworks may be RCRA hazardous waste due to their ignitability, toxicity, and/or reactive nature. The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specifically designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.
Additional information	: Do not re-use empty containers.
EPA Hazardous Waste Number	: D001 (Ignitable)

SECTION 14: Transport information

Department of Transportation Reference number: EX2010101256

Packaging in cardboard may be transported with UN 0191: Swedish Civil Contingencies Agency (MSB) Cert No: 2025-05129

Hazmat Table (49 CFR 172.101) Road / Rail	IMDG Sea	IATA Air
14.1. UN number or ID number		
UN 0191	UN 0191	UN 0191
14.2. UN proper shipping name		
SIGNAL DEVICES, HAND	SIGNAL DEVICES, HAND	SIGNAL DEVICES, HAND
Transport document description		
UN 0191 SIGNAL DEVICES, HAND, 1.4G, ENVIRONMENTALLY HAZARDOUS	UN 0191 SIGNAL DEVICES, HAND, 1.4G, ENVIRONMENTALLY HAZARDOUS	UN 0191 SIGNAL DEVICES, HAND, 1.4G, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)		
1.4G	1.4G	1.4G
		
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment: Yes	Marine pollutant: Yes EmS-No. (Fire): F-B EmS-No. (Spillage): S-X	Dangerous for the environment: Yes

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14.6. Special precautions for user

See Precautionary statements in Section 2.2

Overland transport

Response Guide 112

Packing instructions : P135

Transport by sea

Packing instructions (IMDG) : P135

Stowage category (IMDG) : 03

Stowage and handling (IMDG) : SW1

Properties and observations (IMDG) : See glossary of terms in appendix B.

Air transport

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) : Forbidden

PCA limited quantity max net quantity (IATA) : Forbidden

PCA packing instructions (IATA) : Forbidden

PCA max net quantity (IATA) : Forbidden

CAO packing instructions (IATA) : 135

CAO max net quantity (IATA) : 75kg

Special provisions (IATA) : A802

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

US FEDERAL

TSCA:

CAS No 10042-76-9 Nitric acid, strontium salt (2:1) is listed on the TSCA inventory list, Active
CAS No 82-45-1 9,10-Anthracenedione, 1-amino- is listed on the TSCA inventory list, Active
CAS No 7439-95-4 Magnesium is listed on the TSCA inventory list, Active
CAS No 3811-04-9 Chloric acid, potassium salt (1:1) is listed on the TSCA inventory list, Active

NFPA rating

Flammability (NFPA rating; red): 2 (Materials that must be moderately heated before ignition can occur)
Health (NFPA rating; blue): 2 (Materials that can cause incapacitation or residual injury, during intense or continued exposure, unless prompt medical treatment is provided)
Instability–reactivity (NFPA rating; yellow): 1 (Normally stable, even under fire exposure conditions, and is not reactive with water)

15.2. Chemical safety assessment

Not applicable (out of EU-REACH scope).

SECTION 16: Other information

Indication of changes		
Section	Changed item	Comments
	Revision date	Added
1.4	Emergency telephone number	Modified

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Abbreviations and acronyms:	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS No.	Chemical Abstract Service number
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Expl. 1.4	Explosives, Division 1.4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Sol. 1	Flammable Solids, Category 1

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Full text of H-statements:	
Ox. Sol. 1	Oxidising Solids, Category 1
Self-heat. 2	Self-heating substances and mixtures, Category 2
Water-react. 2	Water-reactive - emits flammable gases, Category 2
H204	Fire or projection hazard.
H228	Flammable solid.
H252	Self-heating in large quantities: may catch fire.
H261	May cause fire or explosion; strong oxidiser.
H271	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H411	Very toxic to aquatic life.

Classification and procedure used to derive the classification for the mixture		
Expl. 1.4	H204	Tested
Acute Tox. 4 (Oral)	H302	Calculation method
Eye Dam. 1	H318	Calculation method
Aquatic Chronic 2	H411	Calculation method

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.