IKAROS Parachute Rocket Red

Safety Data Sheet

Issue date: 11/8/2024 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Trade name : IKAROS Parachute Rocket Red
Product code : 340100

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 distress signals, Pyrotechnic distress rocket

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

Region	Organisation	Emergency phone	Opening hours
US	American Association of Poison Control Centers - connects anyone in the US to their local poison center:	1-800-222-1222	Staffed 24 hours a day, 7 days a week

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GHS

Expl. 1.3	H203
Acute Tox. 5 (Oral)	H303
Eye Dam. 1	H318

Adverse physicochemical, human health and environmental effects

Explosive; fire, blast or projection hazard. May be harmful if swallowed. Causes serious eye damage.

2.2. Label elements

Labelling according to GHS

Hazard pictograms :

GHS01

Signal word : Danger
Contains : Strontium nitrate
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.

P234 - Keep only in original container.
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.
P401 - Store in accordance with local regulations on explosives.
P503 - Refer to manufacturer/supplier for information on disposal/recovery/recycling.

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	31.25	Ox. Sol. 1, H271 Acute Tox. 5 (Oral), H303 Eye Dam. 1, H318
Potassium perchlorate	CAS No.: 7778-74-7	24.09	Ox. Sol. 1, H271 Acute Tox. 4 (Oral), H302
Potassium nitrate	CAS No.: 7757-79-1	3.17	Ox. Sol. 2, H272 Acute Tox. 5 (Oral), H303 Aquatic Acute 1, H400
Sulfur	CAS No.: 7704-34-9	0.46	Skin Irrit. 2, H315 Aquatic Chronic 3, H412

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.

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.

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

Fire hazard : No fire hazard, but explosion risk in case of fire.

Explosion hazard : Hazard class Expl. 1.3
Explosive; fire, blast or projection hazard.

Hazardous decomposition products in case of fire : Large quantities of explosion gases and heat.

5.3. Advice for firefighters

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

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

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

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

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.

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

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Keep cool. Protect from sunlight.

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

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
Colour	:	Not available
Appearance	:	Dark red plastic pipes with red plastic lid and orange label.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not applicable
Boiling point	:	Not available
Flammability	:	Not available
Explosive properties	:	Explosive; fire, blast or projection hazard.
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	> 250 °C
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

Explosive; fire, blast or projection hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid temperature above 75 °C. Avoid contact with hot surfaces, heat, flames, sparks. Eliminate all sources of ignition.

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) : May be harmful if swallowed.
$ATE_{mixture}$ > 2000 ≤ 5000 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

Potassium nitrate (CAS No 7757-79-1)	
LD50 oral rat	3750 mg/kg

Sulfur (CAS No 7704-34-9)	
LD50 oral rat	> 3000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

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)

IKAROS Parachute Rocket Red	
Viscosity, kinematic	Not applicable

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 %.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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) : Not classified (Based on available data, the classification criteria are not met)

Potassium perchlorate (CAS No 7778-74-7)	
LC50 - Fish [1]	2511 mg/l

Potassium nitrate (CAS No 7757-79-1)	
LC50 - Fish [1]	22.5 mg/l Gambusia affinis
EC50 - Crustacea [1]	5.4 mg/l Daphnia magna
EC50 72h - Algae [1]	0.14 mg/l

Sulfur (CAS No 7704-34-9)	
LC50 - Fish [1]	866 mg/l Brachydanio rerio
EC50 - Crustacea [1]	> 5000 mg/l D. magna
EC50 72h - Algae [1]	12 mg/l

12.2. Persistence and degradability

IKAROS Parachute Rocket Red	
Persistence and degradability	Biodegradability determining methods are not relevant for inorganic substances

12.3. Bioaccumulative potential

Strontium nitrate (CAS No 10042-76-9)	
Partition coefficient n-octanol/water (Log Pow)	0.19

Potassium nitrate (CAS No 7757-79-1)	
Partition coefficient n-octanol/water (Log Pow)	< 0

Sulfur (CAS No 7704-34-9)	
Partition coefficient n-octanol/water (Log Pow)	5.7

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

IKAROS Parachute Rocket Red

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.

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

US Department of Transportation Reference number: EX2007050373 (Ex-no (DOT/USA)
Packaging of inner packaging of steel cage and outer packaging of fibreboard box may be transported with full permit under UN 0403: Swedish Civil Contingencies Agency (MSB) Cert No: 2025-05109

Hazmat Table (49 CFR 172.101) Road / Rail	IMDG Sea	IATA Air
14.1. UN number or ID number		
UN 0403	UN 0403	UN 0403
14.2. UN proper shipping name		
FLARES, AERIAL	FLARES, AERIAL	FLARES, AERIAL

Hazmat Table (49 CFR 172.101) Road / Rail	IMDG Sea	IATA Air
Transport document description		
UN 0403 FLARES, AERIAL, 1.4G	UN 0403 FLARES, AERIAL, 1.4G	UN 0403 FLARES, AERIAL, 1.4G
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: No	Marine pollutant: No EmS-No. (Fire): F-B EmS-No. (Spillage): S-X	Dangerous for the environment: No

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

ERG code (IATA) : 1L

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 7778-74-7 Perchloric acid, potassium salt (1:1) is listed on the TSCA inventory list, Active
CAS No 7757-79-1 Nitric acid potassium salt (1:1) is listed on the TSCA inventory list, Active
CAS No 7704-34-9 Sulfur 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

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

Abbreviations and acronyms:	
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. 4 (Oral)	Acute toxicity (oral), Category 4
Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Expl. 1.3	Explosives, Division 1.3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H203	Explosive; fire, blast or projection hazard.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
Ox. Sol. 1	Oxidising Solids, Category 1
Ox. Sol. 2	Oxidising Solids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2

Classification and procedure used to derive the classification for the mixture		
Expl. 1.3	H203	
Acute Tox. 5 (Oral)	H303	Calculation method
Eye Dam. 1	H318	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.