SAFETY DATA SHEET

IKAROS MOB Smoke Signal MKIV

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	22.11.2016
Revision date	20.12.2023

1.1. Product identifier

Product name	IKAROS MOB Smoke Signal MKIV
Article no.	345205
Product definition	50 g ignition composition, 1300 g orange smoke composition Net Explosive Weight: 1350 g ± 5%.

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

Use of the substance / mixture	Man over board 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 58187250
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 Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Chronic 2; H411
Substance / mixture hazardous properties	Main health hazard: Pyrotechnic product. Inhalation: Respiratory irritant. Contact with skin: Irritating to the skin. May cause an allergic skin reaction. Contact with burning product can cause severe burns. Contact with eyes: Causes serious eye irritation. 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	Solvent Orange 86, Potassium chlorate
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
Solvent Orange 86	CAS No.: 81-64-1 EC No.: 201-368-7 REACH Reg. No.: 01-2119971261-41	Skin Sens. 1; H317 Eye Irrit. 2; H319 Skin Irrit. 2; H315 STOT SE3; H335	= 37,6 %	
Potassium chlorate	CAS No.: 3811-04-9 EC No.: 223-289-7 Index No.: 017-004-00-3 REACH Reg. No.: 01-2119494917-18	Ox. Sol. 1; H271 Acute tox. 4; H332 Acute tox. 4; H302 Aquatic Chronic 2; H411	= 26,5 %	

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. Causes serious eye irritation. Irritating to the skin. May cause an allergic skin reaction. Irritating to the respiratory system.

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)	Man over board 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	Yellow aluminium tube inserted in a yellow floating body made of plastic with an orange ribbon. Orange label. Black igniter.
Colour	See under "Physical state".
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: > 200 °C Method: Ignition temperature
Viscosity	Comments: No information available.
Explosive properties	The product is explosive. Emits smoke.
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. Risk of explosion in contact with sulfuric acid.

10.4. Conditions to avoid

Conditions to avoid	Avoids temperatures above 75°C.

10.5. Incompatible materials

Materials to avoid	Sulfuric acid.

10.6. Hazardous decomposition products

Hazardous decomposition products	Pyrotechnic products, emit large amounts of smoke and gets hot (about 200 ° C).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Substance	Solvent Orange 86

Acute toxicity	**Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Oral **Value:** > 5000 mg/kg **Animal test species:** Rat **Comments:** Non-acute toxic.
Substance	Potassium chlorate
Acute toxicity	**Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Oral **Value:** = 1870 kg/mg **Animal test species:** Rat **Comments:** Acute toxic when ingested. **Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Dermal **Value:** > 2000 mg/kg **Animal test species:** Rabbit **Comments:** Non-acute toxic.
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	Irritating to the respiratory system.
Inhalation	Powder may be irritating to the respiratory system.
Skin contact	Irritating to the skin.
Eye contact	Causes serious eye irritation.
Ingestion	May cause nausea and vomiting.
Sensitisation	May cause an allergic skin reaction.
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	May cause irritation of the gastrointestinal tract with nausea and vomiting as a result.
In case of skin contact	Irritating. May cause an allergic skin reaction.
In case of inhalation	Irritation of nose and throat.
In case of eye contact	Causes serious eye irritation.

11.2 Other information

SECTION 12: Ecological information

12.1. Toxicity

Substance	Potassium chlorate
Aquatic toxicity, fish	**Value:** = 1,75 mg/l **Test duration:** 96h **Species:** Oncorhynchus mykiss **Method:** LC50 **Comments:** Toxic to aquatic organisms.
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.

12.3. Bioaccumulative potential

Substance	Solvent Orange 86
Bioconcentration factor (BCF)	**Value:** = 30,9 **Comments:** No bioaccumulation expected.
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

SECTION 14: Transport information

Dangerous goods	Yes

14.1. UN number

ADR/RID/ADN	0507
IMDG	0507
ICAO/IATA	0507
Comments	Packaging in cardboard : 1.4S UN-number: UN 0507 SIGNALS, SMOKE Packaging instructions: P135 Packaging in cardboard : 1.4G UN-number: UN 0197 SIGNALS, SMOKE Packaging instructions: P135 Swedish Civil Contingencies Agency (MSB) Cert No: 2018-06533

14.2. UN proper shipping name

Proper shipping name English ADR/RID/ADN	SIGNALS, SMOKE
ADR/RID/ADN	SIGNALS, SMOKE
IMDG	SIGNALS, SMOKE
ICAO/IATA	SIGNALS, SMOKE

14.3. Transport hazard class(es)

ADR/RID/ADN	1.4S
Classificaton code ADR/RID/ADN	1.4S
IMDG	1.4S
ICAO/IATA	1.4S

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

Product name	SIGNALS, SMOKE

Additional information

Hazard label ADR/RID/ADN	1.4S
Hazard label IMDG	1.4S

Hazard label ICAO/IATA	1.4S

ADR/RID Other information

Tunnel restriction code	E
Transport category	4

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. H271 May cause fire or explosion; strong oxidiser. H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. 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)
Last update date	20.12.2023
Version	8