

## SAFETY DATA SHEET



## Ikaros MOB Light and Smoke



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	05.03.2019

**1.1. Product identifier**

Product name	Ikaros MOB Light and Smoke
Article no.	345105, 345185
Product definition	50 g ignition composition, 1300 g orange smoke composition and lithium battery

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

Use of the substance / preparation	Man over board signal.
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**1.3. Details of the supplier of the safety data sheet**

Company name	Nammo Sweden AB
Postal address	PO Box 54
Postcode	SE-711 22
City	Lindesberg
Country	Sweden
Telephone number	0581-871 00
Fax	0581-872 00
Email	<a href="mailto:info.ikaros@nammo.com">info.ikaros@nammo.com</a>
Website	<a href="http://www.hansson-pyrotech.se/">http://www.hansson-pyrotech.se/</a>
Enterprise No.	556249-6835

**1.4. Emergency telephone number**

Emergency telephone	Telephone number: +46 581 87 111 (Available 24 hours) Description: Emergency call
Identification, comments	Ask for officer on duty at Nammo LIAB AB.

## 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 = 37,6 %, Potassium chlorate = 26,5 %
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.
Special supplemental label information mixtures	Contains: Potassium Chlorate and 1,4-dihydroxyanthraquinone

### 2.3. Other hazards

Description of hazard	Contact with burning product can cause severe burns.
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## SECTION 3: Composition / information on ingredients

### 3.2. Mixtures

Substance	Identification	Classification	Contents
Solvent Orange 86	CAS No.: 81-64-1	Skin Sens. 1; H317	= 37,6 %

Potassium chlorate	EC No.: 201-368-7	Eye Irrit. 2; H319	
	REACH Reg. No.: 01-2119971261-41	Skin Irrit. 2; H315	
	CAS No.: 3811-04-9	STOT SE3; H335	
	EC No.: 223-289-7	Ox. Sol. 1; H271	= 26,5 %
	Index No.: 017-004-00-3	Acute tox. 4; H332	
	REACH Reg. No.: 01-2119494917-18	Acute tox. 4; H302	
		Aquatic Chronic 2; H411	

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

Medical treatment	None other than the one listed above.
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## 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.
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### 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.
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## 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.
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### 6.2. Environmental precautions

Environmental precautionary measures	Prevent discharge into sewers or the local environment/streams. Contact emergency services upon greater emissions.
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### 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.
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### 6.4. Reference to other sections

Other instructions	See sections 8 and 13 for information about protection and waste management.
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## 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.
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### 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.
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### 7.3. Specific end use(s)

Specific use(s)	Man over board signal.
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## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

Other Information about threshold limit values	No exposure limits.
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.
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#### Eye / face protection

Eye protection	Shatterproof goggles or visors.
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## Hand protection

Hand protection	Leather gloves or the like.
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## Skin protection

Skin protection (except hands)	Normal industrial hygiene.
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## Respiratory protection

Respiratory protection	Upon dust formation, use a particle filter EN143 Type P or EN149 type FFP-S.
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Recommended type of equipment	Particle filter EN143 Type P or EN149 type FFP-S.
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## Hygiene / environmental

Personal protection equipment, comments	Contact your protective equipment supplier for more information.
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Specific hygiene measures	No smoking.
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## 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 and two chimneys. 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 (solid, gas)	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 in water	Insoluble.
Spontaneous combustability	Value: > 200 °C Method: Ignition temperature

Viscosity	Comments: No information available.
Explosive properties	The product is explosive. Emits smoke. Also contains a lithium battery.
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.
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	Stable product under recommended storage and handling conditions.
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### 10.2. Chemical stability

Stability	Stable product under recommended storage and handling conditions.
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### 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.
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### 10.4. Conditions to avoid

Conditions to avoid	Avoids temperatures above 75°C.
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### 10.5. Incompatible materials

Materials to avoid	Sulfuric acid.
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### 10.6. Hazardous decomposition products

Hazardous decomposition products	Pyrotechnic products, emit large amounts of smoke and gets hot (about 200 ° C).
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Substance	Solvent Orange 86
Acute toxicity	<b>Type of toxicity:</b> Acute <b>Effect tested:</b> LD50 <b>Route of exposure:</b> Oral <b>Value:</b> > 5000 mg/kg <b>Animal test species:</b> Rat <b>Comments:</b> Non-acute toxic.
Substance	Potassium chlorate
Acute toxicity	<b>Type of toxicity:</b> Acute <b>Effect tested:</b> 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	Hazardous ingredients: potassium chlorate and 1,4-dihydroxyanthraquinone . Calculated ATE by ingestion: 7057 mg/kg (not classified as harmful) Calculated ATE by inhalation: 5,4 (dust) mg/mg (not classified as harmful)
Inhalation	May be irritating to the respiratory system.
Skin contact	Irritating to the skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause irritation of the gastrointestinal tract with nausea and vomiting as a result.
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.
STOT-repeated exposure	Not known.
Aspiration hazard	No aspiration hazard known.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Potassium chlorate
Acute aquatic, fish	<b>Value:</b> = 1,75 mg/l <b>Test duration:</b> 96h <b>Species:</b> Oncorhynchus mykiss

	<b>Method:</b> LC50
	<b>Comments:</b> Toxic to aquatic organisms.
Ecotoxicity	Product 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, comments	Not applicable. Contains inorganic materials and is in solid form.
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## 12.3. Bioaccumulative potential

Bioaccumulative potential	Not expected to bioaccumulate.
Substance	Solvent Orange 86
Bioconcentration factor (BCF)	<b>Value:</b> = 30,9 <b>Comments:</b> No bioaccumulation expected.

## 12.4. Mobility in soil

Mobility	None – product in form of solid article.
Water solubility	Comments: 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	The product is toxic to aquatic life with long-lasting effects.
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# 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.
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## SECTION 14: Transport information

### 14.1. UN number

ADR / RID / ADN	0197
IMDG	0197
ICAO / IATA	0197
Comments	Article Number: 345185

### 14.2. UN proper shipping name

ADR / RID / ADN	SIGNALS, SMOKE
IMDG	SIGNALS, SMOKE
ICAO / IATA	SIGNALS, SMOKE

### 14.3. Transport hazard class(es)

ADR / RID / ADN	1.4G
IMDG	1.4G
ICAO / IATA	1.4G

### 14.4. Packing group

### 14.5. Environmental hazards

IMDG Marine pollutant	Yes
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### 14.6. Special precautions for user

Special safety precautions for user	See P-statements in Section 2.2.
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### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

### Additional information

Additional information	Article No. 345185: UN-number 0197 Smoke signals Packaging in cardboard 1.4G. Packaging instructions P135.
	Article No. 345105: UN-number 0507 Smoke signals Packaging in cardboard 1.4S (not USA). Packaging instructions P135.

### IMDG / ICAO / IATA Other information

IMDG Other information	Swedish Rescue Service Agency Cert. No.: 2015-3834 (16 och 18) EX-nr (DOT/USA): EX2005040230 (UN-nr 0197)
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.
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### 15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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## 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.
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CLP classification, comments	Classification and labelling are based on CLP (Regulation 1272/2008/EC and Regulation 830/2015/EC)
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