

**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

1.1. Product identifier

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

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

Use of the substance/preparation Man over board signal.

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
Tel 0581-871 00
Fax 0581-872 00
E-mail info.ikaros@nammo.com
Website <http://www.hansson-pyrotech.se/>
Enterprise no. 556249-6835

1.4. Emergency telephone number

Emergency telephone Emergency call:+46 581 87 111 (Available 24 hours)

Identification comments Ask for officer on duty at Nammo LIAB AB.

SECTION 2: Hazards identification**2.1. Classification of 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 SE3; 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. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P101 If medical advice is needed, have product container or label at hand. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P501 Dispose of contents / container to
Special supplemental label info 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 EC no.: 201-368-7 Index no.: 01-2119971261-41		= 37,6 %
Potassium chlorate	CAS no.: 3811-04-9 EC no.: 223-289-7 Index no.: 017-004-00-3 Registration number: 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.
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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
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Improper extinguishing media lit up, it is very difficult to extinguish.
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

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.

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

Other Information about threshold limit values No exposure limits.

DNEL / PNEC

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.

Respiratory protection

Respiratory protection Upon dust formation, use a particle filter EN143 Type P or EN149 type FFP-S.

Recommended type of equipment Particle filter EN143 Type P or EN149 type FFP-S.

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 toxicological effects

Toxicological Information:

Other toxicological data No data available for the product itself. The data below is based on individual ingredients of the product.

Toxicological data for substances

Substance Solvent Orange 86

LD50 oral **Value:** > 5000 mg/kg

Animal test species: Rat

Comments: Non-acute toxic.

Other toxicological information for the substance Possibly carcinogenic in man (IARC group 2B).

Substance Potassium chlorate

LD50 oral **Value:** = 1870 kg/mg

Animal test species: Rat

Comments: Acute toxic when ingested.

LD50 dermal **Value:** > 2000 mg/kg

Animal test species: Rabbit

Comments: Non-acute toxic.

Other toxicological information for the substance Chlorates in the body lead to formation of methaemoglobin in the blood, and destruction of the red blood corpuscles. The liver and kidneys may also suffer injuries.

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)

Potential acute effects

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.

Aspiration hazard No aspiration hazard known.

Delayed effects / repeated exposure

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.

General respiratory or skin sensitisation Irritating to the respiratory system.

STOT-repeated exposure Not known.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity No known carcinogenicity.

Germ Cell Mutagenicity, human experience No known mutagenicity.

Reproductive toxicity	No known reproductive toxicity.
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SECTION 12: Ecological information

12.1. Toxicity

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.
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Toxicological data for substances

Substance	Solvent Orange 86
Bioaccumulation	Log Pow: 2,34 No bioaccumulation expected.

Bioconcentration factor (BCF)	Value: = 30,9 Comments: No bioaccumulation expected.
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Substance	Potassium chlorate
Acute aquatic, fish	Value: = 1,75 mg/l Method of testing: LC50 Species: Oncorhynchus mykiss Duration: 96h Remarks: Toxic to aquatic organisms.

Bioaccumulation	Log Pow: < 0. No bioaccumulation expected.
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12.2. Persistence and degradability

Persistence and degradability	Not applicable. Contains inorganic materials and is in solid form.
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12.3. Bioaccumulative potential

Bioaccumulative potential	Not expected to bioaccumulate.
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12.4. Mobility in soil

Mobility	None – product in form of solid article.
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Comments, Water solubility	Insoluble.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	Does not fulfil the criteria for classification as PBT.
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vPvB evaluation results	Does not fulfil the criteria for classification pub.
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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!
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Relevant waste regulation	Waste regulation, SFS 2011:927.
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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.
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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.
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Product classified as hazardous waste	Yes
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Packaging classified as hazardous waste	Yes
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EWC waste code	EWC: 160402 fireworks wastes
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Other Information	Contaminated packing may burn rapidly.
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SECTION 14: Transport information

14.1. UN number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR / RID / ADN	1.4G
RID	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

EmS	F-B, S-X
Special safety precautions for user	See P-statements in Section 2.2.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information.

Additional information.	UN-number: 0197 Smoke signals Packaging in cardboard 1.4G. Packaging instructions: P135. Article number: 345185 UN-number: 0507 Smoke signals Packaging in cardboard : 1.4S (not USA) Packaging instructions: P135. Article number: 345105
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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)
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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

CLP Classification, Comments	Classification and labelling are based on CLP (Regulation 1272/2008/EC and Regulation 830/2015/EC)
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 SE3; H335; Aquatic Chronic 2; H411;
List of relevant H-phrases (Section	H302 Harmful if swallowed.

2 and 3).

H315 Causes skin irritation.
H335 May cause respiratory irritation.
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H204 Fire or projection hazard.
H271 May cause fire or explosion; strong oxidiser.
H411 Toxic to aquatic life with long lasting effects.
H319 Causes serious eye irritation.

Version

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Responsible for safety data sheet

Nammo Sweden AB