

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 22/12/2025 Version: 1.0



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

Land/region	Organisation	Address	Emergency phone	Comment
UK	National Health Service (NHS) in England		111	24 hours a day, 7 days a week

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

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 Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS01

Signal word (CLP)

: Warning

Contains

: Strontium nitrate, potassium chlorate

Hazard statements (CLP)

: H204 - Fire or projection hazard.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Precautionary statements (CLP) : 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

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Strontium nitrate	CAS No.: 10042-76-9 EC No.: 233-131-9 REACH No: 01-2120007501-75	32.5	Ox. Sol. 1, H271 Eye Dam. 1, H318
1-Aminoanthraquinone	CAS No.: 82-45-1 ECNo.: 201-423-5	≤ 21.2	Aquatic Chronic 2, H411
Magnesium powder	CAS No: 7439-95-4 EC No: 231-104-6 Index No: 012-002-00-9	13.6	Flam. Sol. 1, H228 Water-react. 2, H261 Self-heat. 1, H252
Potassium chlorate	CAS No: 3811-04-9 EC No: 223-289-7 Index No: 017-004-00-3 REACH No: 01-2119494917-18	10.6	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 (ATE=100 mg/kg bodyweight)

Full text of H- and EUH-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.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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.
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.
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 or explosion hazard : Fire or projection hazard. Explosion risk in case of fire.
Hazardous decomposition products in case of fire : Large quantities of gas 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.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

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 occupational exposure limits for respiratory tract exposure.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation.

Personal protection equipment

Wear recommended personal protective equipment. The personal protective equipment must be UKCA-marked and the latest version of the standards shall be used. The protective equipment and the specified standards 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

Type	Field of application	Standard
Safety glasses, Face shield	Wear safety goggles if there is a risk of splash.	EN ISO 16321-1:2022

Skin protection

Wear suitable protective clothing.

Hand protection

Type	Material	Thickness (mm)	Standard
Disposable gloves, Reusable gloves	Leather or similar	No data available	EN 21420:2020

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Respiratory protection

Device	Filter type	Condition	Standard
Mask with dust filter	Filter type P2	If dust is produced	EN 143

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
	Hermetically sealed plastic containers with red and yellow label
Appearance	: 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
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.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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 Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
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)

IKAROS Day & Night Signal

Viscosity, kinematic	Not applicable
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IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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 - Crustacea [1]	1,52 mg/l Daphnia magna
IC50 72h - Algae [1]	18.9 mg/l

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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Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII.

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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 official regulations.
Waste treatment methods	: Disposed of as hazardous waste by approved contractor. The waste code (EWC) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
Sewage disposal recommendations	: Disposal must be done according to official regulations. Do not discharge into drains or rivers.
Product/Packaging disposal recommendations	: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
HP Code	: HP 1 - Explosive waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included. HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.
EWC	16 04 02* fireworks wastes

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 0191	UN 0191	UN 0191	UN 0191	UN 0191
14.2. UN proper shipping name				
SIGNAL DEVICES, HAND	SIGNAL DEVICES, HAND	Signal devices, hand	SIGNAL DEVICES, HAND	SIGNAL DEVICES, HAND
Transport document description				
UN 0191 SIGNAL DEVICES, HAND, 1.4G, (E), ENVIRONMENTALLY HAZARDOUS	UN 0191 SIGNAL DEVICES, HAND, 1.4G, MARINE POLLUTANT/ ENVIRONMENTALLY HAZARDOUS	UN 0191 Signal devices, hand, 1.4G, ENVIRONMENTALLY HAZARDOUS	UN 0191 SIGNAL DEVICES, HAND, 1.4G (1.4G), ENVIRONMENTALLY HAZARDOUS	UN 0191 SIGNAL DEVICES, HAND, 1.4G (1.4G), ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
1.4G	1.4G	1.4G	1.4G	1.4G
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes EmS-No. (Fire): F-B EmS-No. (Spillage): S-X	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes

14.6. Special precautions for user

Overland transport

Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P135
Mixed packing provisions (ADR)	: MP23, MP24
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV1, CV2, CV3
Special provisions for carriage - Operation (ADR)	: S1
Tunnel restriction code (ADR)	: (E)

Transport by sea

Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P135
Stowage category (IMDG)	: 02
Stowage and handling (IMDG)	: SW1

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)	: 1 L

Inland waterway transport

Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP
Provisions prior to loading (ADN)	: LO01
Provisions for handling and stowage of the cargo (ADN)	: HA01, HA03

Rail transport

Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Packing instructions (RID)	: P135
Mixed packing provisions (RID)	: MP23, MP24
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW1

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals): potassium chlorate (CAS 3811-04-9)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains magnesium, the substance is subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).
The Carriage of Dangerous Goods.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
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
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

IKAROS Day & Night Signal

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:	
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
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 mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Expl. 1.4	H204	Tested
Acute Tox. 4 (Oral)	H302	Calculation method
Eye Dam. 1	H318	Calculation method
Aquatic Chronic 2	H411	Calculation method

Safety Data Sheet (SDS), EU

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.