

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## Opte-Man Lightning

Version	Revision Date:	SDS Number:	Date of last issue: -
2.2	29.06.2022	50001103	Date of first issue: 01.08.2018

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

#### 1.1 Product identifier

**Product name** Opte-Man Lightning

#### Other means of identification

**Product code** 50001103

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

Use of the Sub-  
stance/Mixture : A fertilizer with micronutrients for use in agriculture and horti-  
culture

Recommended restrictions : Use as recommended by the label.  
on use

#### 1.3 Details of the supplier of the safety data sheet

**Supplier Address**  
FMC Agro Limited  
Rectors Lane, Pentre  
CH5 2DH  
United Kingdom

Telephone: Tel: + 44 1244 537370  
Telefax: +44(0)1244 532097  
E-mail address: SDS-Info@fmc.com (E-Mail General Infor-  
mation)

#### 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:  
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:  
England and Wales: 111  
Scotland: 84 54 24 2424

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK  
SI 2019/720, and UK SI 2020/1567)**

Acute toxicity, Category 4

H302: Harmful if swallowed.

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Skin corrosion, Category 1	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**

- P260 Do not breathe mist or vapours.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

**Response:**

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
- P391 Collect spillage.

Hazardous components which must be listed on the label:  
manganese dinitrate

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### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
manganese dinitrate	10377-66-9 233-828-8 01-2119487993-17-0002	Ox. Sol. 3; H272 Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 STOT RE 2; H373 Aquatic Chronic 1; H410  M-Factor (Chronic aquatic toxicity): 1	>= 30 - < 50

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- |                         |  |
|-------------------------|--|
| General advice          | : Move out of dangerous area.<br>Consult a physician.<br>Show this safety data sheet to the doctor in attendance.<br>Do not leave the victim unattended.   |
| If inhaled              | : If unconscious, place in recovery position and seek medical advice.<br>If symptoms persist, call a physician.  |
| In case of skin contact | : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes. |
| In case of eye contact  | : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.<br>In the case of contact with eyes, rinse immediately with plenty  |

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of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

### 4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed.  
Causes serious eye damage.  
May cause damage to organs through prolonged or repeated exposure.  
Causes severe burns.

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

Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No hazardous combustion products are known

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must

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be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Never return spills in original containers for re-use.  
Mark the contaminated area with signs and prevent access to unauthorized personnel.  
For disposal considerations see section 13.

#### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Neutralize with chalk, alkali solution or ammonia.  
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Keep away from combustible material.

Hygiene measures : When using do not eat or drink. When using do not smoke.

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Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : Do not store near acids.

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
manganese dini- trate	10377-66-9	TWA (Inhalable)	0.2 mg/m <sup>3</sup> (Manganese)	GB EH40
		TWA (Respirable fraction)	0.05 mg/m <sup>3</sup> (Manganese)	GB EH40
		TWA (inhalable fraction)	0.2 mg/m <sup>3</sup> (Manganese)	2017/164/EU
Further information	Indicative			
		TWA (Respirable fraction)	0.05 mg/m <sup>3</sup> (Manganese)	2017/164/EU
Further information	Indicative			

### 8.2 Exposure controls

#### Personal protective equipment

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concen-

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tration of the dangerous substance at the work place.

Respiratory protection	:	No personal respiratory protective equipment normally required.
Protective measures	:	Plan first aid action before beginning work with this product. Wear suitable protective equipment. Ensure that eye flushing systems and safety showers are located close to the working place.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	red brown
Odour	:	Faint odour
Odour Threshold	:	No data available
pH	:	1.6 - 2.0 (10% solution in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.53 - 1.57
Solubility(ies) Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available

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Decomposition temperature : Heating can release hazardous gases.

### Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : The product is not oxidizing.

Method: The test is conducted according to the method described in the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Test O.2.  
GLP: yes  
The substance or mixture is not classified as oxidizing.

## 9.2 Other information

Particle size : No data available

Particle Size Distribution : No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

Conditions to avoid : Heat

### 10.5 Incompatible materials

Materials to avoid : Strong bases

Strong oxidizing agents

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Harmful if swallowed.

##### Product:

Acute oral toxicity : Remarks: Harmful if swallowed.

Acute toxicity estimate: 1,158 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Remarks: Harmful by inhalation.

Acute dermal toxicity : Remarks: Harmful in contact with skin.

##### Components:

##### manganese dinitrate:

Acute oral toxicity : LD50 Oral (Rat, female): > 300 mg/kg  
Method: OECD Test Guideline 420

##### Skin corrosion/irritation

Causes severe burns.

##### Product:

Remarks : Extremely corrosive and destructive to tissue.

##### Components:

##### manganese dinitrate:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Corrosive after 1 to 4 hours of exposure

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Product:

Remarks : May cause irreversible eye damage.

##### Components:

##### manganese dinitrate:

Species : Bovine cornea  
Result : Irreversible effects on the eye

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### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Product:

Remarks : No data is available on the product itself.

#### Components:

##### manganese dinitrate:

Test Type	: Local lymph node assay (LLNA)
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: Does not cause skin sensitisation.

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### manganese dinitrate:

Genotoxicity in vitro	: Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
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Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Genotoxicity in vivo	: Test Type: In vivo micronucleus test Species: Mouse (female) Application Route: Oral Method: OECD Test Guideline 474 Result: negative
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Germ cell mutagenicity- Assessment	: Weight of evidence does not support classification as a germ cell mutagen.
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### Carcinogenicity

Not classified based on available information.

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### Components:

#### **manganese dinitrate:**

Species	:	Rat, male
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	60, 200, 615 mg/kg body weight
	:	615 mg/kg body weight
Result	:	negative
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

### **Reproductive toxicity**

Not classified based on available information.

### Components:

#### **manganese dinitrate:**

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: inhalation (dust/mist/fume) Dose: 0, 5, 10, 20 µg/L General Toxicity - Parent: NOEC: 0.020 mg/l General Toxicity F1: NOAEC: 0.020 mg/l Method: OECD Test Guideline 416 Result: negative
Effects on foetal development	:	Species: Rat Application Route: inhalation (dust/mist/fume) General Toxicity Maternal: NOAEL: 0.005 mg/l Embryo-foetal toxicity: NOAEL: 0.015 mg/l Method: OECD Test Guideline 414

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

### Components:

#### **manganese dinitrate:**

Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
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### **Repeated dose toxicity**

### Components:

#### **manganese dinitrate:**

Species	:	Rat, male
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NOAEL	:	1700 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	13weeks
Dose	:	110 to 1700 mg/kg
Species	:	Rat, male and female
NOAEL	:	20 µg/L air
Application Route	:	inhalation (dust/mist/fume)
Dose	:	5, 10, 20 µg/L air
Method	:	OPPTS 870.3800

### Aspiration toxicity

Not classified based on available information.

### Further information

#### Product:

Remarks : No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### **manganese dinitrate:**

Toxicity to fish	:	LC50 (Fish): 55.26 - 67.71 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	LOEC (Lemna minor (duckweed)): 64.94 mg/l Exposure time: 7 d Method: OECD Test Guideline 221 Remarks: Based on data from similar materials  EC10 (Lemna minor (duckweed)): 23.37 mg/l Exposure time: 7 d Method: OECD Test Guideline 221 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	NOEC (activated sludge): 560 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	see user defined free text: 2.9 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)

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Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.02 mg/l  
Exposure time: 20 d  
Species: Daphnia magna (Water flea)  
Test Type: static test

M-Factor (Chronic aquatic toxicity) : 1

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

#### Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life.  
Very toxic to aquatic life with long lasting effects.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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### SECTION 14: Transport information

#### 14.1 UN number

ADN	: UN 3264
ADR	: UN 3264
RID	: UN 3264
IMDG	: UN 3264
IATA	: UN 3264

#### 14.2 UN proper shipping name

ADN	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (manganese dinitrate)
ADR	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (manganese dinitrate)
RID	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (manganese dinitrate)
IMDG	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (manganese dinitrate)
IATA	: Corrosive liquid, acidic, inorganic, n.o.s. (manganese dinitrate)

#### 14.3 Transport hazard class(es)

ADN	: 8
ADR	: 8
RID	: 8
IMDG	: 8
IATA	: 8

#### 14.4 Packing group

ADN	
Packing group	: III
Classification Code	: C1
Hazard Identification Number	: 80
Labels	: 8
ADR	
Packing group	: III
Classification Code	: C1
Hazard Identification Number	: 80
Labels	: 8
Tunnel restriction code	: (E)
RID	
Packing group	: III
Classification Code	: C1

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Hazard Identification Number : 80  
Labels : 8

### IMDG

Packing group : III  
Labels : 8  
EmS Code : F-A, S-B

### IATA (Cargo)

Packing instruction (cargo aircraft) : 856  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

### IATA (Passenger)

Packing instruction (passenger aircraft) : 852  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosive

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

## 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High : Not applicable

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Concern for Authorisation (Article 59).

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

UK REACH List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P8 OXIDIZING LIQUIDS AND SOLIDS

E1 ENVIRONMENTAL HAZARDS

### The components of this product are reported in the following inventories:

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.  Sodium metabisulfite emulsion of silicone
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory



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### 15.2 Chemical safety assessment

#### SECTION 16: Other information

##### Full text of H-Statements

H272	: May intensify fire; oxidizer.
H302	: Harmful if swallowed.
H314	: Causes severe skin burns and eye damage.
H318	: Causes serious eye damage.
H373	: May cause damage to organs through prolonged or repeated exposure.
H410	: Very toxic to aquatic life with long lasting effects.

##### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Ox. Sol.	: Oxidizing solids
Skin Corr.	: Skin corrosion
STOT RE	: Specific target organ toxicity - repeated exposure
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2017/164/EU / TWA	: Limit Value - eight hours
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758



## Opte-Man Lightning

Version	Revision Date:	SDS Number:	Date of last issue: -
2.2	29.06.2022	50001103	Date of first issue: 01.08.2018

Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Classification of the mixture:

Acute Tox. 4	H302
Skin Corr. 1	H314
Eye Dam. 1	H318
STOT RE 2	H373
Aquatic Chronic 1	H410

### Classification procedure:

Calculation method
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method

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