

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

### 1.1. Product identifier

Product form	: Mixture
Product name	: LOW TEMPERATURE CATALYST
Product code	: B1302
Product group	: End product

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

#### 1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: Laboratory chemicals
Function or use category	: Laboratory chemicals

#### 1.2.2. Uses advised against

No additional information available

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

Elemental Microanalysis Ltd  
1 Hameldown Road  
Okehampton – Devon EX20 1UB  
GB United Kingdom  
T +44 1837 54446  
[enquiries@microanalysis.co.uk](mailto:enquiries@microanalysis.co.uk) - <https://www.elementalmicroanalysis.com/>

### 1.4. Emergency telephone number

Emergency number : +44 (0) 7990 767375

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Acute toxicity (inhalation:dust,mist) Category 4	H332
Carcinogenicity, Category 1B	H350
Reproductive toxicity, Additional category, Effects on or via lactation	H362
Specific target organ toxicity – Repeated exposure, Category 1	H372
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

Full text of H- and EUH-statements: see section 16

#### Adverse physicochemical, human health and environmental effects

May cause cancer. May cause harm to breast-fed children. Causes damage to organs through prolonged or repeated exposure. Harmful if inhaled. Very toxic to aquatic life with long lasting effects.

### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS08

GHS09

Signal word (CLP)	: Danger
Contains	: ALUMINA GRANULES AND PELLETS; VANADIUM PENTOXIDE
Hazard statements (CLP)	: H332 - Harmful if inhaled. H350 - May cause cancer.

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Precautionary statements (CLP)	H362 - May cause harm to breast-fed children. H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects. : P201 - Obtain special instructions before use. P261 - Avoid breathing dust. P263 - Avoid contact during pregnancy and while nursing. P280 - Wear eye protection, protective clothing, protective gloves. P308+P313 - IF exposed or concerned: Get medical advice/attention. P391 - Collect spillage.
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### 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

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ALUMINA GRANULES AND PELLETS substance with national workplace exposure limit(s) (AT, BE, DK, EE, ES, FR, GB, GR, HR, HU, IE, LV, PL, RO, SK, IS, NO, CH)	CAS-No.: 1344-28-1 EC-No.: 215-691-6 REACH-no: 01-2119529248-35	80	Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=1.5 mg/l/4h) STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
CHROMIUM (III) OXIDE substance with national workplace exposure limit(s) (LV)	CAS-No.: 1308-38-9 EC-No.: 215-160-9	10	Aquatic Chronic 1, H410
COPPER (II) OXIDE substance with national workplace exposure limit(s) (FI); substance with a Community workplace exposure limit	CAS-No.: 1317-38-0 EC-No.: 215-269-1 EC Index-No.: 029-016-00-6	7	Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=10)
TITANIUM DIOXIDE substance with national workplace exposure limit(s) (AT, BE, BG, DK, EE, ES, FR, GB, GR, HR, IE, LT, LV, PL, PT, RO, SE, SK, IS, NO, CH)	CAS-No.: 13463-67-7 EC-No.: 236-675-5 EC Index-No.: 022-006-00-2	0.6	Carc. 2, H351
VANADIUM PENTOXIDE substance with national workplace exposure limit(s) (AT, BG, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, LT, LV, PL, PT, RO, SE, SK, IS, MK, CH)	CAS-No.: 1314-62-1 EC-No.: 215-239-8 EC Index-No.: 023-001-00-8	0.4	Muta. 2, H341 Carc. 1B, H350 Repr. 2, H361fd Lact., H362 Acute Tox. 3 (Oral), H301 (ATE=220 mg/kg bodyweight) Acute Tox. 2 (Inhalation), H330 (ATE=0.05 mg/l) STOT SE 3, H335 STOT RE 1, H372 Aquatic Chronic 2, H411

Full text of H- and EUH-statements: see section 16

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### SECTION 4: First aid measures

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#### 4.1. Description of first aid measures

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First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

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No additional information available

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

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Treat symptomatically.

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### SECTION 5: Firefighting measures

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#### 5.1. Extinguishing media

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Suitable extinguishing media : Water spray. Dry powder. Foam.

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

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Hazardous decomposition products in case of fire : Toxic fumes may be released.

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#### 5.3. Advice for firefighters

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Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

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

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##### 6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

##### 6.1.2. 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".

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#### 6.2. Environmental precautions

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Avoid release to the environment. Notify authorities if product enters sewers or public waters.

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

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For containment	: Collect spillage.
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.

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#### 6.4. Reference to other sections

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For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact during pregnancy/while nursing. Do not breathe dust/fume/gas/mist/vapours/spray.
Hygiene measures	: Separate working clothes from town clothes. Launder separately. 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 locked up. Store in a well-ventilated place. Keep cool.
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#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

#### TITANIUM DIOXIDE (13463-67-7)

##### United Kingdom - Occupational Exposure Limits

Local name	Titanium dioxide
WEL TWA (OEL TWA) [1]	4 mg/m <sup>3</sup> respirable 10 mg/m <sup>3</sup> total inhalable
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

#### ALUMINA GRANULES AND PELLETS (1344-28-1)

##### United Kingdom - Occupational Exposure Limits

Local name	Aluminium oxides
WEL TWA (OEL TWA) [1]	10 mg/m <sup>3</sup> inhalable dust 4 mg/m <sup>3</sup> respirable dust
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

#### COPPER (II) OXIDE (1317-38-0)

##### EU - Indicative Occupational Exposure Limit (IOEL)

Local name	Copper(II) oxide
IOEL TWA	0.01 mg/m <sup>3</sup> (respirable fraction)
Remark	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations

#### VANADIUM PENTOXIDE (1314-62-1)

##### United Kingdom - Occupational Exposure Limits

Local name	Vanadium pentoxide
WEL TWA (OEL TWA) [1]	0.05 mg/m <sup>3</sup>

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### VANADIUM PENTOXIDE (1314-62-1)

Regulatory reference

EH40/2005 (Fourth edition, 2020). HSE

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### Personal protective equipment symbol(s):



##### 8.2.2.1. Eye and face protection

###### Eye protection:

Safety glasses

##### 8.2.2.2. Skin protection

###### Skin and body protection:

Wear suitable protective clothing

###### Hand protection:

Protective gloves

##### 8.2.2.3. Respiratory protection

###### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

##### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

##### 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
Colour	: Green.
Odour	: odourless.
Odour threshold	: Not available
Melting point	: >1300
Freezing point	: Not applicable
Boiling point	: Not available

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Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: No data available.
Decomposition temperature	: Not available
pH	: No data available.
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Not available
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	: No data available.
Relative vapour density at 20°C	: No data available.
Particle size	: Not available

## 9.2. Other information

### 9.2.1. Information with regard to physical hazard classes

No additional information available

### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.

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ATE CLP (dust,mist)	1.63 mg/l/4h
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TITANIUM DIOXIDE (13463-67-7)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 6.82 mg/l Source: ECHA
CHROMIUM (III) OXIDE (1308-38-9)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 (Acute Toxicity (Oral)), Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LC50 Inhalation - Rat	> 5.41 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 5.41 mg/l Source: ECHA
ALUMINA GRANULES AND PELLETS (1344-28-1)	
LD50 oral rat	> 10000 mg/kg Source: ECHA
LC50 Inhalation - Rat (Dust/Mist)	> 2.3 mg/l Source: ECHA
COPPER (II) OXIDE (1317-38-0)	
LD50 oral rat	> 2500 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 2000 mg/kg
VANADIUM PENTOXIDE (1314-62-1)	
LD50 oral rat	221.1 mg/kg Source: ECHA
LD50 dermal rat	> 2500 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat (Vapours)	4.29 mg/l Source: ECHA
Skin corrosion/irritation	: Not classified pH: No data available.
TITANIUM DIOXIDE (13463-67-7)	
pH	7 Source: ECHA
ALUMINA GRANULES AND PELLETS (1344-28-1)	
pH	9.4-10.1
COPPER (II) OXIDE (1317-38-0)	
pH	7 Source: GESTIS
Serious eye damage/irritation	: Not classified pH: No data available.
TITANIUM DIOXIDE (13463-67-7)	
pH	7 Source: ECHA
ALUMINA GRANULES AND PELLETS (1344-28-1)	
pH	9.4-10.1
COPPER (II) OXIDE (1317-38-0)	
pH	7 Source: GESTIS
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity : May cause cancer.

### TITANIUM DIOXIDE (13463-67-7)

IARC group : 2B - Possibly carcinogenic to humans

### CHROMIUM (III) OXIDE (1308-38-9)

IARC group : 3 - Not classifiable

### VANADIUM PENTOXIDE (1314-62-1)

IARC group : 2B - Possibly carcinogenic to humans

Reproductive toxicity : May cause harm to breast-fed children.

### ALUMINA GRANULES AND PELLETS (1344-28-1)

NOAEL (animal/male, F0/P) : 1000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure : Not classified

### VANADIUM PENTOXIDE (1314-62-1)

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

### ALUMINA GRANULES AND PELLETS (1344-28-1)

LOAEC (inhalation, rat, dust/mist/fume, 90 days) : 0.015 mg/l air Animal: rat, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

### VANADIUM PENTOXIDE (1314-62-1)

NOAEL (oral, rat, 90 days) : 16.9 mg/kg bodyweight Animal: rat, Animal sex: male

STOT-repeated exposure : Causes damage to organs (respiratory tract) through prolonged or repeated exposure (inhalation).

Aspiration hazard : Not classified

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Viscosity, kinematic : Not applicable

### ALUMINA GRANULES AND PELLETS (1344-28-1)

Viscosity, kinematic : Not applicable

## 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

Not rapidly degradable

### TITANIUM DIOXIDE (13463-67-7)

LC50 - Fish [1] : > 100 mg/l

EC50 - Other aquatic organisms [1] : > 100 mg/l Test organisms (species):



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<b>TITANIUM DIOXIDE (13463-67-7)</b>	
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
LOEC (chronic)	5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
<b>CHROMIUM (III) OXIDE (1308-38-9)</b>	
LC50 - Fish [1]	25.9 mg/l Source: ECHA
EC50 - Crustacea [1]	14.1 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	≥ 0.0144 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 0.018 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '30 d'
<b>ALUMINA GRANULES AND PELLETS (1344-28-1)</b>	
LC50 - Fish [1]	0.078 – 0.108 mg/l Source: ECHA
EC50 72h - Algae [1]	1.05 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.2 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	> 0.024 mg/l Source: ECHA
<b>COPPER (II) OXIDE (1317-38-0)</b>	
LC50 - Fish [1]	25.4 mg/l
EC50 - Crustacea [1]	0.0926 mg/l Source: ECHA
EC50 - Other aquatic organisms [1]	0.011 mg/l
<b>VANADIUM PENTOXIDE (1314-62-1)</b>	
LC50 - Fish [1]	0.693 mg/l Source: ECHA
EC50 72h - Algae [1]	2.907 mg/l Source: ECHA

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

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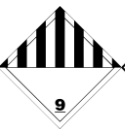
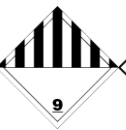
### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
HP Code	: HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP7 - "Carcinogenic:" waste which induces cancer or increases its incidence HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE)	Environmentally hazardous substance, solid, n.o.s. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE)
<b>Transport document description</b>				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS : ALUMINA GRANULES AND PELLETS ; COPPER (II) OXIDE), 9, III
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				


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### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: M7
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P002, IBC08, LP02, R001
Special packing provisions (ADR)	: PP12, B3
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAV, LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V13
Special provisions for carriage - Bulk (ADR)	: VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	: 
Tunnel restriction code (ADR)	: -
EAC code	: 2Z

#### Transport by sea

Special provisions (IMDG)	: 274, 335, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23

#### Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provisions (IATA)	: A97, A158, A179, A197, A215
ERG code (IATA)	: 9L

#### Inland waterway transport

Classification code (ADN)	: M7
Special provisions (ADN)	: 274, 335, 375, 601
Limited quantities (ADN)	: 5 kg
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T* B**
Equipment required (ADN)	: PP, A***
Number of blue cones/lights (ADN)	: 0

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Additional requirements/Remarks (ADN) : \* Only in the molten state. \*\* For carriage in bulk see also 7.1.4.1. \*\*\* Only in the case of transport in bulk.

### Rail transport

Classification code (RID) : M7  
Special provisions (RID) : 274, 335, 375, 601  
Limited quantities (RID) : 5kg  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P002, IBC08, LP02, R001  
Special packing provisions (RID) : PP12, B3  
Mixed packing provisions (RID) : MP10  
Portable tank and bulk container instructions (RID) : T1, BK1, BK2, BK3  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAV, LGBV  
Transport category (RID) : 3  
Special provisions for carriage – Packages (RID) : W13  
Special provisions for carriage – Bulk (RID) : VC1, VC2  
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31  
Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 90

### 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

#### 15.1.1. 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 no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### 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)

##### 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)

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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### 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
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
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
SDS	Safety Data Sheet
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 disrupting properties

#### Full text of H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
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Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
H301	Toxic if swallowed.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
Lact.	Reproductive toxicity, Additional category, Effects on or via lactation
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

The classification complies with : ATP 12

Safety Data Sheet (SDS)\_EMAL, 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.