SAFETY DATA SHEET

LOW TEMPERATURE CATALYST

Compilation date: 16/04/2015

Revision date: 08/08/2019

Revision No: 10

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: LOW TEMPERATURE CATALYST

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

Use of substance / mixture: PC21: Laboratory chemicals.

1.3. Details of the supplier of the safety data sheet

Company name: Elemental Microanalysis Ltd

1 Hameldown Road Okehampton

Okehampton

Devon

EX20 1UB

United Kingdom

Tel: 44(0)183754446

Fax: 44(0)183754544

Email: info@microanalysis.co.uk

1.4. Emergency telephone number

Emergency tel: +44 (0) 7990 767375

(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Aquatic Acute 1: H400; Aquatic Chronic 1: H410

Most important adverse effects: Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements:

Hazard statements: H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Hazard pictograms: GHS09: Environmental

Signal words: Warning

Precautionary statements: P273: Avoid release to the environment.

P391: Collect spillage.

P501: Dispose of contents/container to hazardous or special waste collection point.

[cont...]

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

ALUMINIUM OXIDE - REACH registered number(s): 01-2119529248-35-XXXX

EINECS	CAS	PBT / WEL	CLP Classification	Percent
215-691-6	1344-28-1	Substance with a Community workplace exposure limit.	-	70-90%

CHROMIUM (III) OXIDE.

215-160-9	1308-38-9	Substance with a Community workplace exposure limit.	-	1-10%

COPPER (II) OXIDE.

215-269-1	1317-38-0	-	Acute Tox. 4: H302; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-10%

VANADIUM PENTOXIDE

215-239-8	1314-62-1	-	Muta. 2: H341; Repr. 2: H361d; STOT RE 1: H372; Acute Tox. 4: H332; Acute Tox. 4: H302; STOT SE 3: H335; Aquatic Chronic 2: H411	<1%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

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

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used.

[cont...]

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Wash hands after working with substance.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

ALUMINIUM OXIDE

Workplace exposure limits: **Respirable dust:**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
EU	10mg/m3	-	4mg/m3	-

[cont...]

CHROMIUM (III) OXIDE.

EU	2mg/m3	-	-	-

COPPER (II) OXIDE.

EU	0.1mg/m3	-	-	-

DNEL/PNEC Values

Hazardous ingredients:

COPPER (II) OXIDE.

Type	Exposure	Value	Population	Effect
PNEC	Fresh water	7.8	-	-
PNEC	Marine water	5.2	-	-
PNEC	Microorganisms in sewage treatment	230	-	-

8.2. Exposure controls

Respiratory protection: Respiratory protective device with particle filter.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Granules

Colour: Green

Odour: Odourless

Evaporation rate: No data available.

Oxidising: No data available.

Solubility in water: Insoluble

Viscosity: No data available.

Boiling point/range°C: No data available.

Melting point/range°C: >1300

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: No data available.

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: No data available.

Relative density: No data available.

pH: No data available.

VOC g/l: No data available.

9.2. Other information

Other information: No data available.

[cont...]

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.
Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

ALUMINIUM OXIDE

ORAL	RAT	LD50	10000	mg/kg

CHROMIUM (III) OXIDE.

ORAL	RAT	LD50	10000	mg/kg

COPPER (II) OXIDE.

ORAL	RAT	LD50	470	mg/kg

VANADIUM PENTOXIDE

IPR	RAT	LD50	12	mg/kg
ORL	MUS	LD50	5	mg/kg
ORL	RAT	LD50	10	mg/kg

Toxicity values: No data available.

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

[cont...]

Ingestion: There may be irritation of the throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

COPPER (II) OXIDE.

Daphnia magna	48H EC50	0.0110	mg/l
FISH	96H LC50	25.4	mg/l

12.2. Persistence and degradability

Persistence and degradability: Not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation potential.

12.4. Mobility in soil

Mobility: Insoluble in water.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms. Toxic to soil organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3077

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3. Transport hazard class(es)

Transport class: 9

[cont...]

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes **Marine pollutant:** No

14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: E

Transport category: 3

Section 15: Regulatory information

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

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

This safety data sheet is prepared in accordance with Commission Regulation (EC) No 1272/2008.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H302: Harmful if swallowed.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

H341: Suspected of causing genetic defects.

H361d: Suspected of damaging the unborn child.

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.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.