

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

1.1. Product identifier

Product form : Mixture
Product name : Aluminum Oxide Powder
Product code : 40-6425-400-080, 40-6430-600-080, 40-6603-030-080, 40-6605-050-080, 40-6609-095-080, 40-6612-125-080

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

Restrictions on use : Not determined

1.3. Details of the supplier of the safety data sheet

Supplier

Buehler
41 Waukegan Rd
60044 Lake Bluff – IL
T 1-847-295-6500
custserv@buehler.com

Only Representative

ITW Test & Measurement GmbH
Meisenweg 35
70771 Leinfelden-Echterdingen
Germany
T +49 0 711 4904690-0
lab.eu@buehler.com

1.4. Emergency telephone number

Emergency number : Global Access Code: 334545; Americas" +1 760 476 3962; Middle East/Africa: +1 760 476 3959; Asia Pacific +1 760 476 3960; Europe +1 760 476 3961

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GB CLP (SI 2019:720 as amended)

Carcinogenicity, Category 2 H351
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Suspected of causing cancer.

2.2. Label elements

Labelling according to GB CLP (SI 2019:720 as amended)

Hazard pictograms (GB CLP) :



GHS08

Signal word (GB CLP) : Warning
Contains : Titanium dioxide
Hazard statements (GB CLP) : H351 - Suspected of causing cancer.
Precautionary statements (GB CLP) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.
P308+P313 - IF exposed or concerned: Get medical advice or attention.
P405 - Store locked up.

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

P501 - Dispose of contents and container to a hazardous or special waste collection point, in accordance with local, regional, national and international regulations.

2.3. Other hazards

Component	
Substance(s) not meeting the PBT criteria of UK REACH regulation, in accordance with Annex XIII	Titanium dioxide (13463-67-7), Iron oxide (Fe2O3) (1309-37-1), Calcium oxide (1305-78-8), Magnesium oxide (MgO) (1309-48-4)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	Titanium dioxide (13463-67-7), Iron oxide (Fe2O3) (1309-37-1), Calcium oxide (1305-78-8), Magnesium oxide (MgO) (1309-48-4)
Component	
Substance(s) not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP	Titanium dioxide(13463-67-7), Iron oxide (Fe2O3)(1309-37-1), Calcium oxide(1305-78-8), Magnesium oxide (MgO)(1309-48-4)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
Titanium dioxide	CAS-No.: 13463-67-7 EC-No.: 236-675-5	< 6	Carc. 2, H351
Iron oxide (Fe2O3)	CAS-No.: 1309-37-1 EC-No.: 215-168-2	< 5	Not classified.
Calcium oxide	CAS-No.: 1305-78-8 EC-No.: 215-138-9	< 0.6	Skin Corr. 1, H314 Eye Dam. 1, H318
Magnesium oxide (MgO)	CAS-No.: 1309-48-4 EC-No.: 215-171-9	< 0.5	Not classified.

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 exposed or concerned: Get medical advice/attention.
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 eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure.
Symptoms/effects after skin contact	: Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

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	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. 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.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area.

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".
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.
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

For further information refer to section 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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

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

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store locked up.

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	
WEL TWA (OEL TWA)	10 mg/m³ (total inhalable) 4 mg/m³ (respirable)
WEL STEL (OEL STEL)	30 mg/m³ (calculated-total inhalable) 12 mg/m³ (calculated-respirable)
Iron oxide (Fe2O3) (1309-37-1)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	5 mg/m³ (fume) 10 mg/m³ (total inhalable) 4 mg/m³ (respirable)
WEL STEL (OEL STEL)	10 mg/m³ (fume) 30 mg/m³ (calculated-total inhalable) 12 mg/m³ (calculated-respirable)
Calcium oxide (1305-78-8)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	1 mg/m³ (respirable fraction) 2 mg/m³
WEL STEL (OEL STEL)	4 mg/m³ (respirable fraction) 6 mg/m³ (calculated)
Magnesium oxide (MgO) (1309-48-4)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	10 mg/m³ (inhalable dust; fume) 4 mg/m³ (respirable dust)
WEL STEL (OEL STEL)	30 mg/m³ (calculated-inhalable dust) 12 mg/m³ (calculated-fume and respirable dust)

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

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

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:

Wear recommended personal protective 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 insufficient ventilation, wear suitable respiratory equipment

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
Appearance	: Powder.
Colour	: Brown. Grey.
Odour	: Odourless.
Odour threshold	: Not available
pH	: Not available
pH solution	: Not available
Melting point	: > 2000 °C
Freezing point	: Not applicable
Boiling point	: > 2900 °C
Flash point	: Not applicable
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: Not applicable
Relative density	: Not available

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Density	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
Viscosity, kinematic	: Not applicable
Explosive properties	: Not available

9.2. Other information

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

Strong oxidizing agents.

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 toxicological effects

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

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg (Source: IUCLID)
LC50 Inhalation - Rat	5.09 mg/l/4h
Iron oxide (Fe2O3) (1309-37-1)	
LD50 oral rat	> 10000 mg/kg (Source: IUCLID)
Calcium oxide (1305-78-8)	
LC50 Inhalation - Rat	> 6.04 mg/l/4h
Magnesium oxide (MgO) (1309-48-4)	
LD50 oral rat	3870 mg/kg (Source: NLM_HSDB)
LD50 oral	3870 mg/kg

Skin corrosion/irritation	: Not classified. (Based on available data, the classification criteria are not met)
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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Calcium oxide (1305-78-8)	
pH	12.5 (saturated solution)
Magnesium oxide (MgO) (1309-48-4)	
pH	10.3 (saturated aqueous solution)
Serious eye damage/irritation	: Not classified. (Based on available data, the classification criteria are not met)
Calcium oxide (1305-78-8)	
pH	12.5 (saturated solution)
Magnesium oxide (MgO) (1309-48-4)	
pH	10.3 (saturated aqueous solution)
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	: Suspected of causing cancer.
Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans
Iron oxide (Fe ₂ O ₃) (1309-37-1)	
IARC group	3 - Not classifiable
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)
Aluminum Oxide Powder	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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)	: Not classified. (Based on available data, the classification criteria are not met)

Iron oxide (Fe ₂ O ₃) (1309-37-1)	
LC50 - Fish [1]	100000 mg/l (Exposure time: 96 h - Species: Danio rerio [static] Source: ECHA)
Calcium oxide (1305-78-8)	
LC50 - Fish [1]	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static] Source: IUCLID)

12.2. Persistence and degradability

Aluminum Oxide Powder	
Persistence and degradability	Not rapidly degradable

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Titanium dioxide (13463-67-7)	
Persistence and degradability	Not rapidly degradable
Iron oxide (Fe2O3) (1309-37-1)	
Persistence and degradability	Not rapidly degradable
Calcium oxide (1305-78-8)	
Persistence and degradability	Not rapidly degradable
Magnesium oxide (MgO) (1309-48-4)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Calcium oxide (1305-78-8)	
BCF - Fish [1]	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Titanium dioxide (13463-67-7)	This product does not contain substances at ≥0.1% that meet the PBT criteria of UK REACH regulation, annex XIII This product does not contain substances at ≥0.1% that meet the vPvB criteria of UK REACH regulation, annex XIII
Iron oxide (Fe2O3) (1309-37-1)	This product does not contain substances at ≥0.1% that meet the PBT criteria of UK REACH regulation, annex XIII This product does not contain substances at ≥0.1% that meet the vPvB criteria of UK REACH regulation, annex XIII
Calcium oxide (1305-78-8)	This product does not contain substances at ≥0.1% that meet the PBT criteria of UK REACH regulation, annex XIII This product does not contain substances at ≥0.1% that meet the vPvB criteria of UK REACH regulation, annex XIII
Magnesium oxide (MgO) (1309-48-4)	This product does not contain substances at ≥0.1% that meet the PBT criteria of UK REACH regulation, annex XIII This product does not contain substances at ≥0.1% that meet the vPvB criteria of UK REACH regulation, annex XIII

12.6. 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	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
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.

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Transport document description				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

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

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

UK REACH Annex XVII (Restriction List)

This product contains no substance(s) listed on UK REACH Annex XVII (Restriction List) equal to or above the level of SDS disclosure

UK REACH Annex XIV (Authorisation List)

This product contains no substance(s) listed on UK REACH Annex XIV (Authorisation List) equal to or above the 0.1% level of disclosure

UK REACH Candidate List (SVHC)

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

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

GB PIC regulation (Prior Informed Conset)

This product contains no substance(s) listed on the GB PIC List equal to or above the level of SDS disclosure

POP Regulation (Persistent Organic Pollutants)

This product contains no substance(s) listed on the GB POP List equal to or above the level of SDS disclosure

Ozone Regulation (S.I. No. 168 of 2015)

This product contains no substance(s) listed on the GB Ozone Depletion List equal to or above the level of SDS disclosure

Control of Poisons and Explosives Precursors Act

This product contains no substance(s) listed as a reportable poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a reportable explosive precursor on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This substance is not listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations

Drug Precursors Regulation (273/2004)

This product contains no substance(s) listed on the GB Drug Precursors List equal to or above the level of SDS disclosure

15.1.2. Other Information

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Carc. 2	Carcinogenicity, Category 2
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.
H351	Suspected of causing cancer.

Safety Data Sheet (SDS), UK

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.