

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)
(This safety data sheet is for information only as it does not comply with the official language requirements of Article 31 (5) of REACH nor does it provide the national information in sections 8 and 15 as specified in Annex II of REACH.)

Aluminium Oxide

Version number: 2.0
Replaces version of: 2023-03-15 (1)

Revision: 2026-02-11
First version: 2023-01-30

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

1.1 Product identifier

Identification of the substance	aluminium oxide
Trade name	<u>Aluminium Oxide</u>
Product number	FLX-139
Registration number (REACH)	01-2119529248-35-xxxx
EC number	215-691-6
CAS number	1344-28-1

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

Relevant identified uses	Laboratory and analytical use
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1.3 Details of the supplier of the safety data sheet

FLUXANA® GmbH & Co. KG Borschelstraße 3 D-47551 Bedburg-Hau Germany	Telephone: +49 (0) 2821 - 48011-10 Telefax: +49 (0) 2821 - 48011-99 e-mail: info@fluxana.de Website: www.fluxana.de
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e-mail (competent person) sdb@csb-compliance.com

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact FLUXANA® GmbH & Co. KG.

1.4 Emergency telephone number

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 Label elements

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Labelling according to Regulation (EC) No 1272/2008 (CLP)

Not required.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Not listed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	aluminium oxide
Identifiers	
REACH Reg. No	01-2119529248-35-xxxx
CAS No	1344-28-1
EC No	215-691-6
Molecular formula	Al ₂ O ₃
Molar mass	102 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Self-protection of the first aider.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ventilate affected area.

Do not breathe dust.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe dust.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Removal of dust deposits.

Measures to protect the environment

Avoid release to the environment.

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

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Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	3 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	3 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects

Environmental values

Relevant PNECs and other threshold levels		
Endpoint	Threshold level	Environmental compartment
PNEC	20 mg/l	sewage treatment plant (STP)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. (EN 166)

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,11 mm	>480 minutes (permeation: level 6)
NR: natural rubber, latex	≥ 0,6 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing for use against solid particulates.

(EN 13832, EN 340, EN 13034, EN 14605).

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

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Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid (powder)
Colour	white
Odour	odourless
Melting point/freezing point	2,050 °C
Boiling point or initial boiling point and boiling range	2,920 – 3,040 °C
Flammability	non-combustible
Lower and upper explosion limit	not applicable (solid)
Flash point	not applicable
Auto-ignition temperature	not applicable (solid)
Decomposition temperature	not relevant
pH (value)	not applicable
Viscosity	not relevant (solid)
Solubility(ies)	
Water solubility	0 g/l at 20 °C
Partition coefficient n-octanol/water (log value)	not relevant (inorganic)
Vapour pressure	<0.001 kPa at 20 °C
Density and/or relative density	
Density	3.97 g/cm ³ at 20 °C
Relative vapour density	not relevant (solid)
Bulk density	500 – 900 g/cm ³
Particle characteristics	no data available

9.2 Other information

Information with regard to physical hazard hazard classes acc. to GHS (physical hazards):

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classes	not relevant
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Control of dust.

10.5 Incompatible materials

caustic solutions

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

SECTION 11: Toxicological information

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

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgement (weight of evidence determination).

Classification according to GHS (1272/2008/EC, CLP)

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

Shall not be classified as acutely toxic (oral).

Exposure route	Endpoint	Value	Species	Method	Source
oral	LDO	>10,000 mg/kg	rat	OECD Guideline 401	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Skin sensitisation

Shall not be classified as a skin sensitiser.

Respiratory sensitisation

Shall not be classified as a respiratory sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Endocrine disruptor for human health

Shall not be classified as an endocrine disruptor for human health.

11.2 Information on other hazards**Endocrine disrupting properties**

Not listed.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic toxicity (acute)**

No data available.

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
EC50	8 d	45 mg/l	Ceriodaphnia dubia (water flea)	EPA Method 1002	ECHA
growth (EbCx) 10%	3 h	1,000 mg/l	A mixed population of active sewage sludge microorganisms	OECD Guideline 209	ECHA

12.2 Persistence and degradability**Biodegradation**

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The study does not need to be conducted because the substance is inorganic.

Persistence

The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

n-octanol/water (log KOW)	not relevant (inorganic)
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12.4 Mobility in soil

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine disrupting properties

Shall not be classified as an endocrine disruptor for the environment.

12.7 Other adverse effects

Results of PMT and vPvM assessment

According to the results of its assessment, this substance is not a PMT or a vPvM.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): Nwg.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Relevant provisions relating to waste

Directive 2008/98/EC on wastes:

The hazard-related properties were determined for the unused product.
Non-hazardous waste.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number or ID number	not subject to transport regulations
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14.2 UN proper shipping name	-
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14.3	Transport hazard class(es)	-
14.4	Packing group	-
14.5	Environmental hazards	-
14.6	Special precautions for user	-
14.7	Maritime transport in bulk according to IMO instruments	-

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Not listed.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Not listed.

Seveso Directive

Not assigned.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

Not listed.

Regulation on the marketing and use of explosives precursors

Not listed.

Regulation on drug precursors

Not listed.

Regulation on substances that deplete the ozone layer (ODS)

Not listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

Not listed.

Regulation on persistent organic pollutants (POP)

Not listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
3.1	-	REACH Reg. No: 01-2119529248-35-xxxx
8.2	-	Protective gloves: change in the listing (table)
8.2	-	Body protection: Protective clothing for use against solid particulates. (EN 13832, EN 340, EN 13034, EN 14605).
14.1	UN number or ID number: not assigned	UN number or ID number: not subject to transport regulations

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LD0	Lethal dose 0%: LD0 is the dose of a tested substance that causes no deaths in the test population.
NLP	No-Longer Polymer

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Abbr.	Descriptions of used abbreviations
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, Version 2023/707/EU.

Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.