



Optical Aloxite

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1 – Identification of the substance

Product Name: Aloxite Optical
Synonym: Aluminum oxide, alumina
Product Code:
REACH Registration n°: 01-2119529248-35-0043

2 – Composition / Information on ingredients

Chemical characterization

Component	CAS #	EC #	Concentration %	Classification	R-phrase
Aluminum oxide (non fibrous)	1344-28-1	215-691-6	> 95	--	--

Additional info:
 Usual packaging: Usually supplied to customers in bulk or big bags.

3 – Hazards Identification

Classification: Not classified.

Information concerning particular hazards for human and environment:

Does not pose any health hazard under normal conditions of use and as delivered.
 High dust concentration may cause mechanical irritation of the eyes, skin and respiratory tract.

4 – First Aid Measures

General information:

First aide personnel: pay attention to self-protection.

- **After inhalation:** In case of dust inhalation remove to ventilated area and keep calm. In case of ongoing discomfort consult a physician.
- **After skin contact:** In case of large exposures wash with soap and water.
- **After eye contact:** If particles come into contact with eyes treatment for mechanical irritation or injury may be required; flush thoroughly with water, in case of ongoing discomfort consult a physician.

- After swallowing: Wash mouth with water.

Notes to physician: None.

5 – Fire Fighting Measures

Not flammable.

Suitable extinguishing agents: Use extinguishing agents appropriate for surrounding materials.

Unsuitable extinguishing agents: None.

Special hazards caused by the substance, its products of combustion or resulting gases: None.

Protective equipment: Fire fighters should wear approved personal protective equipment for the surrounding fired material.

Additional hints: None.

6 – Accidental Release Measures

Person- related safety precautions: See protection measures listed in section 8.

Environmental protection measures: Avoid dispersal of spilled material and runoff. Avoid creating dusty conditions and prevent wind dispersal. Collect material for recycling if possible.

Measures for cleaning: Use vacuum cleaner if possible.

Additional hints: See section 13.

7- Handling and Storage

Handling: Ensure good ventilation/local exhaust at the workplace in the case of operations generating dust. Avoid creating dusty conditions. Avoid inhalation and skin and eye contact.
Wear appropriate personal protective equipment. Do not add wet alumina to electrolysis cells.

Storage: Store in dry area.

Additional hints: None.

8 – Exposure Controls / Personal Protection

Exposure limits:

Occupational exposure limits (air): generally same as for nuisance dust.

	Germany	Great Britain	USA	EU countries (include national OEL if this exists)
Inhalable dust	10 mg/m ³	10 mg/m ³	OSHA :15 mg/m ³ (total dust)	10 mg/m ³
Respirable dust	3 mg/m ³	4 mg/m ³	5 mg/m ³ TWA (respirable fraction)	

Exposure controls: Ensure good ventilation/local exhaust at the workplace in the case of operations generating dust. Avoid work practices which generate dust. Avoid inhalation and particles entering the eyes.

Personal protective equipment: Respiratory equipment: not required under recommended conditions of use. In case dust is generated, use personal protective equipment, dust filter P2 or the fine particles P3.
Use protective goggles and gloves when handling the substance and appropriate work clothes.

Environmental exposure control: Avoid creating dusty conditions and prevent wind dispersal and dust emissions.

9 – Physical and Chemical Properties

Physical state	Solid powder	Flash point	Not relevant
Color	White, brown, pink	Flammability	Not relevant
Odor	Odorless	Explosive properties	Not relevant

pH	Not relevant	Density at 20 °C	3,99 g/cm ³
Melting point/melting range	Approx. 2030 °C	Solubility in water at 20 °C	Insoluble
Boiling point/boiling range	Not relevant	Other properties	Not relevant

10 – Stability and Reactivity

Stable under normal conditions of use, storage, and transport.

Conditions to be avoided: None.

Materials to be avoided: None.

Dangerous decomposition products: None.

11 – Toxicological Information

Toxicokinetics, metabolism and distribution:

Oral uptake < 0.1%, nearly insoluble in lung fluids, most absorbed aluminum oxide is rapidly excreted through urine, main deposit in body is in bone structure.

Acute effects (acute toxicity, irritation and corrosivity): No acute effects.

- Acute toxicity:

LD50 (oral): > 5000 mg/kg bwt (rats)

LD50 (dermal): No effect

LC 50 (inhalation): > 5 mg/l (rats)

- Specific symptoms in animals tests:

After swallowing: None

After skin contact: None

After inhalation: None

- Irritation and Corrosive effects:

Irritant effects on skin: No effects

Irritant effects on eyes: No effects apart from mechanical irritation.

Sensitization:

After skin contact: None

After inhalation: None

Remarks: None

Toxicity after repeated intake (sub acute, sub chronic, chronic):

Sub acute oral Toxicity: None, calculated DNEL 6,2 mg/kg bwt/day

Sub acute inhalation Toxicity: None see occupational exposure limits, calculated DNEL 15,6 mg/m³ respirable

Assessment: None.

CMR-effects (carcinogenic, mutagenic and reproductive effects)

Carcinogenicity: None

Mutagenicity: None

Reproductive toxicity: None

Assessment of CMR properties: Not classified for CMR

Product components not listed under IARC/NTP/ACGIH (ingredient carcinogenicity)

Practical experience:

Observations relevant for classification: None

Other observations: None

12 – Ecological information

Ecotoxicity:

Product/ingredient name	Test	Result	Species	Exposure
Aluminum oxide	Fish - OECD TG 203	>100 mg/l	Salmo trutta	pH 8
Aluminum oxide	Daphnia - OECD TG 202	>100 mg/l	Daphnia Magna	pH 8
Aluminum oxide	Algae - OECD TG 201	> 100 mg/l	Selenastrum Capricornutum	pH 8

Mobility:	Not mobile under normal environmental conditions. May be leached from the ground at low pH (<5.5) or high pH (>8.5).
Persistence and degradability:	
- Persistence:	Not relevant for metals.
- Biological degradability:	Not degradable.
Bioaccumulative potential:	Not bioaccumulative.
Long term ecotoxicity:	Not classified for ecotoxicity
Results of PBT assessment:	Not relevant for metals.
Other adverse effects:	No.
Final assessment:	No acute or chronic classification is appropriate for Al metal massive based on non toxic results below the Ecotoxicity Reference Value (ERV) of test with aluminum metal, oxide and hydroxide at loadings of 100 mg/L at pH 8-8.5 (maximum solubility of Al expected). All aluminum in soil or the aquatic environment comes from natural sources. Local sources have an insignificant contribution and impact on environment.

13 – Disposal Considerations

Disposal / waste product:	Dispose wastes and residues in accordance with local waste regulations.
Packaging:	Not relevant.

14 – Transport information

Not regulated.

15 – Regulatory information

No classification or special regulations. Follow general rules for handling, transport and waste management. Chemical Safety Assessment carried out.

16 – Other Information

In dealing with chemicals the national laws and regulation must be observed and applied.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Recommended limitations of use by manufacturer: For industrial use and as component in consumer product.

Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienist
CAS	Chemical Abstracts Service
CIRC	"Centre international de Recherche sur le Cancer"
LC50	"Concentration Létale", 50%
LD50	"Dose Létale", 50%
DNEL	Derived No Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
NTP	National Toxicology Program
OHSA	Occupational Safety and Health Administration (USA)
PBT	Persistence, Bio accumulative and Toxic
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
TWA	Time Weighted Average