

# MATERIAL SAFETY DATA SHEET (MSDS)

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## Section 1. Chemical product & company Identification

PRODUCT NAME:	WHITE ALUMINIUM OXIDE
PRODUCT NAME/SYNONYMS:	WHITE FUSED ALUMINA
MOLECULAR FORMULA	Al <sub>2</sub> O <sub>3</sub>
HMIS	HEALTH 1
	FLAMMABILITY 0
	PHYSICAL HAZARD 0
	Personal Protection E
PREPARATION/REVISION DATE:	01.2024

## Section 2. Composition/information on ingredients

CHEMICAL NAME:	Aluminum Oxide (non-fibrous)
CAS NO.	1344-28-1
EINECS	215-691-6
% BY WEIGHT OSHA	99.75
PEL CHEMICAL NAME:	Total (TWA) 15 mg/m <sup>3</sup>
	Respirable (TWA) 5 mg/m <sup>3</sup>
% BY WEIGHT	IMPURITIES
NA2O	0.25
CAS NO.	1313-59-3
EINECS	215-208-9

## Section 3. Hazard Identification/Potential Health Effects

Emergency Overview: Dust irritating to eyes and respiratory tract

EYE	Mechanical eye irritant. May cause tearing and redness.
SKIN	Mechanical skin irritant. Prolonged contact may cause skin abrasion, redness, itching.
SENSITIZATION	No data available
INGESTION	May cause nausea and vomiting. No long-term health effects are anticipated.
INHALATION	Dust may be slightly irritating to respiratory tract. May cause coughing or shortness of breath.
TARGET ORGANS	Eyes, skin, respiratory system
ACUTE EFFECTS of EXPOSURE	Exposure may include persistent cough, shortness of breath.
CHRONIC EFFECTS of EXPOSURE	N/A
SIGNS & SYMPTOMS of EXPOSURE	Coughing, shortness of breath

#### **Section 4. First Aid Measures**

EYES	Flush eyes with large amounts of water. If signs/symptoms persist, seek medical attention.
SKIN	Wash affected area with soap and water. If signs/symptoms persist, seek medical attention.
INHALATION	Remove person to fresh air. If signs/symptoms develop, seek medical attention.
INGESTION	Ingestion is an unlikely route of exposure. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.

#### **Section 5. Fire Fighting Measures**

COMBUSTIBLE PROPERTIES	None
EXTINGUISHING MEDIA	Extinguisher suitable for ordinary combustible materials. Class A extinguishing agents.
SPECIAL FIRE FIGHTING PROCEDURES	In fire conditions, fire-fighters should wear appropriate respiratory protection and full protective gear.
FIRE & EXPLOSION HAZARDS	Not applicable. None inherent in this product.

#### **Section 6. Accidental Release Measures**

PERSONAL SAFETY PRECAUTIONS	Avoid creating dust. Avoid contact with skin and eyes.
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ENVIRONMENTAL PRECAUTIONS  
CLEANUP MEASURES

Use with adequate ventilation.

Ensure material is properly disposed of.  
Collect spilled material mechanically and place in a suitable, compatible, properly labeled container. Avoid creating any dust. Ensure adequate ventilation and dispose of material in accordance with all applicable local, state and federal laws.

**Section 7. Handling & Storage**

HANDLING

Avoid contact with skin and eyes. Wash hands before eating. Prevent the formation of dust. Handle with adequate ventilation.

STORAGE

Normal Storage: Store in the original container in a cool, dry well ventilated area. Keep containers tightly sealed.

**Section 8. Handling & Storage**

ENGINEERING CONTROLS

Provide sufficient mechanical ventilation to reduce airborne concentrations and minimize exposure. Maintain employee exposure below applicable permissible exposure limits.

HYGIENIC MEASURES

Do not inhale dust/smoke/mist. Avoid contact with skin and eyes. Wash hands before eating.

RESPIRATORY PROTECTION

Avoid breathing dust. Assess exposure concentrations of all materials involved in the workplace. If concentrations exceed the exposure limits listed in Section 2, Exposure Guidelines, or irritation or other symptoms are experienced, follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard 149 approved respirator.

EYE PROTECTION

Avoid eye contact. To minimize the risk of injury to eyes, always wear appropriate protective safety glasses or chemical safety goggles.

SKIN PROTECTION

Avoid skin contact. Wear appropriate protective clothing to minimize risk of injury to skin from contact with dust or physical abrasion.

## Section 9. Physical & Chemical Properties

FORMULA	Al <sub>2</sub> O <sub>3</sub>
PHYSICAL STATE	Solid-granular
BOILING POINT	N/A
MELTING POINT	2100° C
pH at 20°	N/A
APPEARANCE	WHITE
ODOR	Odorless
FLASH POINT	N/A
DECOMPOSITION TEMPERATURE	N/A
VAPOR PRESSURE	N/A
VAPOR DENSITY	N/A
EXPLOSIVE PROPERTIES	None
SOLUBILITY	Insoluble
OXIDIZING PROPERTIES	N/A
SPECIFIC GRAVITY	3.85
BULK DENSITY	N/A

## Section 10. Stability & Reactivity

THERMAL DECOMPOSITION	N/A
INCOMPATIBILITY	N/A
CONDITIONS TO AVOID	None known
HAZARDOUS DECOMPOSITION PRODUCTS	None expected
DANGEROUS REACTIONS	None known
HAZARDOUS POLYMERIZATION	Will not occur

## Section 11. Toxological Information

CAS # 1344-28-1	
COMPONENT ANALYSIS LD50/LC50	
CARCINOGENICITY	
EPIDEMIOLOGY	Data Not Available
TERATOGENICITY	
NEUROTOXICITY	
MUTAGENICITY	
REPRODUCTIVE EFFECTS	

## Section 12. Ecological Information

ECOTOXICITY

Not Available

## Section 13. Disposal Considerations

Solid or chemical waste generators must determine whether a discarded waste is classified as a hazardous waste. U.S. EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local waste regulations to ensure complete and accurate classification.

## Section 14. Transportation Information

DOT

This product is not regulated by USDOT as a Hazardous Material (49 CFR 172.101). No UN code assigned. No placard required for transportation.

IMDG

Not regulated as a Hazardous Material.

ACAO/IATA

Not regulated as a Hazardous Material.

EU (ADR, RID)

Not regulated as a Hazardous Material.

## Section 15. Regulatory Information

TSCA

Aluminum Oxide is listed on the TSCA inventory under CAS# 1344-28-1

RCRA

Aluminum Oxide is not classified as a hazardous material under RCRA or its regulations, 40 CFR 261.

CERCLA

Aluminum Oxide is not classified as a hazardous substance under CERCLA regulations, 40 CFR 302.

SARA

Aluminum Oxide is not an extremely hazardous substance in Section 302 and is not a toxic chemical subject to the requirements of 313.

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

- 【1】** CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】** ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】** ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】** eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【5】** ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】** Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】** HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】** IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】** IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】** Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

### Other Information

There is a different and hard crystalline form of aluminium oxide which occurs abundantly in nature under the name corundum (CAS 1302-74-5). Other melting points: 2015 °C (corundum). Occurs also as the minerals: bauxite, bayerite, boehmite, diaspore, gibbsite.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.