SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: AEROXIDE® Alu C

Other means of identification

CAS Number: 1344-28-1

Recommended restrictions

Recommended use: Antiblocking agents
Paper

Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 2 Turner Place Piscataway, NJ 08854 USA
Telephone	:	+1 732 981 5000
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24 Hour Emergency Telephone	:	+1 800 424 9300 (CHEMTREC - US & CANADA) 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazards for the product as supplied

Not classified

Hazard(s) not otherwise classified (HNOC): None.

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS No./Unique ID	Content in percent (%)*	Trade Secret
Aluminium oxide		1344-28-1*	80 - 100%	TSC

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret
* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

Inhalation: In case product dust is released: Possible discomfort: cough, sneezing Move to fresh air.

Skin Contact: Gently wash with plenty of soap and water.

Eye contact: In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion: If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

Personal Protection for First-aid Responders: No data available.

Most important symptoms and effects, both acute and delayed

Symptoms: No data available.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: After absorbing large amounts of substance: Administration of activated charcoal: Acceleration of gastrointestinal passage.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, CO2, dry powder. Adapt fire-extinguishing measures to surroundings

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture: None known.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid dust formation.
Accidental release measures:	No data available.
Methods and material for containment and cleaning up:	Sweep up or vacuum up spillage and collect in suitable container for disposal.
Environmental Precautions:	Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

7. Handling and storage

Handling

Technical measures:	Ensure suitable suction/aeration at the work place and with operational machinery.
Local/Total ventilation:	No data available.
Safe handling advice:	Avoid dust formation.Take precautionary measures against static discharges.Use with adequate ventilation. Minimize the escape of dust from process equipment and ventilation systems.Handle in accordance with good industrial hygiene and safety practice. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. If the workplace threshold limit value is exceeded and/or the substance is released, use appropriate respiratory protection.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Take precautionary measures against static discharges.Keep containers tightly sealed and store in a dry, cool placeStore in accordance with local/regional/national/international regulations.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Components	Type	Form of exposure	Exposure Limit Values		Source
Aluminium oxide	TWA	Respirable fraction.		1 mg/m3	ACGIH (03 2016)
	PEL	Respirable fraction.		5 mg/m3	OSHA Z1 (03 2016)
	PEL	Total dust.		15 mg/m3	OSHA Z1 (03 2016)
	TWA	Respirable fraction.		15 millions of particles per cubic foot of air	Z3 (03 2016)
	TWA	Respirable fraction.		5 mg/m3	Z3 (03 2016)
	TWA	Total dust.		15 mg/m3	Z3 (03 2016)
	TWA	Total dust.		50 millions of particles per cubic foot of air	Z3 (03 2016)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls Ensure suitable suction/aeration at the work place and with operationalmachinery.Local ventilation if necessary. see also section 7.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection: Wear safety glasses with side shields. In case dusts are formed, wear close fitting protective goggles.

Skin Protection

Hand Protection: Additional Information: Protective gloves, nitrile rubber (NBR), butyl rubber, PVCAdditional Information: The data about break through time/strength of material is not valid for undissolved solids/dust., Selection of protective gloves to meet the requirements of specific workplaces., The suitability for a specific workplace should be discussed with the producers of the protective gloves.Additional Information: The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use., Use impermeable gloves.

Skin and Body Protection: Safety showers and eye showers should be easily accessible. In order to determine further specifications applicable to the personal protection equipment, a hazard assessment according to the OSHA standards (29 CFR 1910.132) for personal protection equipment (PPE) is recommended before the product is used.

Respiratory Protection:	A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.
Hygiene measures:	When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Avoid clothing from being contaminated with the product. Wash contaminated clothing after use. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:	solid
Form:	Powder
Color:	White
Odor:	Odorless
Odor Threshold:	Not applicable
Melting Point:	Approximate 3,722 °F/ 2,050 °C
Boiling Point:	No data available.
Flammability:	Not applicable

Upper/lower limit on flammability or explosive limits

Explosive limit - upper:	Not applicable
Explosive limit - lower:	Not applicable
Flash Point:	Not applicable (solid)
Auto-ignition temperature:	Not applicable
Decomposition Temperature:	> 3,632 °F/> 2,000 °C
pH:	4 - 6 (68 °F/20 °C) Method: DIN / ISO 787 / 9 Concentration: 40 g/l Suspension

Viscosity

Dynamic viscosity:	Not applicable (solid)
Kinematic viscosity:	Not applicable (solid)
Flow Time:	No data available.

Solubility(ies)

Solubility in Water:	hardly soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable

Vapor pressure:	Not applicable
Relative density:	No data available.
Density:	Approximate 3.27 g/cm3 (68 °F/20 °C)
Bulk density:	No data available.
Vapor density (air=1):	No data available.
Particle characteristics:	No data available.

Other information

Explosive properties:	Not to be expected in view of the structure
Oxidizing properties:	Not to be expected in view of the structure
Self-ignition:	Not applicable
Peroxides:	Not applicable
Dust explosion properties:	Not dust explosive
Evaporation Rate:	Not applicable
Minimum ignition energy:	Not applicable

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No hazardous reactions are known if properly handled and stored.
Conditions to avoid:	Avoid dust formation.
Incompatible Materials:	Strong acids and strong bases
Hazardous Decomposition Products:	Exothermic reactions of aluminum oxide above 200°C with halocarbon vapors produces toxic HCl and phosgene.

11. Toxicological information

General information: If the recommended workplace concentration of the product is exceeded the respiratory tract may be mechanically overcharged as with other fine dusts.

Information on likely routes of exposure

Inhalation:	Information on effects are given below.
Skin Contact:	Information on effects are given below.
Eye contact:	Information on effects are given below.
Ingestion:	Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50, Rat, Female, Male, > 10,000 mg/kg, OECD 401
Not classified for acute toxicity based on available data.

Components:

Aluminium oxide: LD 50, Rat, Female, Male, > 10,000 mg/kg, OECD 401

Dermal

Product: Not classified for acute toxicity based on available data.

Components:

Aluminium oxide: Not toxic after single exposure, Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Components:

Aluminium oxide: Dust and mist, Not toxic after single exposure, No classification
Vapour, Not toxic after single exposure, Not applicable

Repeated dose toxicity

Product: NOAEL Rat, Female, Male, Oral, 90 d, daily, 1,000 mg/kg, LOAEL Rat, Female, Male, Oral, 90 d, daily, 1,000 mg/kg, (analogy)
NOAEC, Rat, Inhalation - dust and mist, 90 d, 5 days/weeks, 6 hours/day, 70 mg/m³, Target Organ(s): lungs / sediments in the lungs, lungs / no evidence of fibrosis, no pathological changes

Components:

Aluminium oxide: NOAEL Rat, Female, Male, Oral, 90 d, daily, 1,000 mg/kg, LOAEL Rat, Female, Male, Oral, 90 d, daily, 1,000 mg/kg, (analogy)
NOAEC, Rat, Inhalation - dust and mist, 90 d, 5 days/weeks, 6 hours/day, 70 mg/m³, Target Organ(s): lungs / sediments in the lungs, lungs / no evidence of fibrosis, no pathological changes

Skin Corrosion/Irritation

Product: Not irritant, OECD 404, (Rabbit), Based on available data, the classification criteria are not met.

Components:

Aluminium oxide: Not irritating, OECD 404, Rabbit

Serious Eye Damage/Eye Irritation

Product: Not irritant, OECD 405, Rabbit, Based on available data, the classification criteria are not met.

Components:

Aluminium oxide: Not irritating, OECD 405, Rabbit

Respiratory or Skin Sensitization

Product: Draize-test, Guinea Pig
Maximization Test, OECD 406, Guinea Pig, Based on available data, the classification criteria are not met.

Components:

Aluminium oxide	Draize-test, Guinea Pig, Not a skin sensitizer. Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Carcinogenicity

Product:	No evidence that cancer may be caused.
Components:	
Aluminium oxide	No evidence that cancer may be caused.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:
No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity
no evidence of mutagenic effects

In vitro

Product:	gene mutation test, OECD 471: , negative gene mutation test, OECD 476: , negative, (analogy)
Components:	
Aluminium oxide	gene mutation test, OECD 471: , negative gene mutation test, OECD 476: , negative, (analogy)

In vivo

Product:	Micronucleus test, OECD 474, Oral, Rat, Male, negative, (analogy)
Components:	
Aluminium oxide	Micronucleus test, OECD 474, Oral, Rat, Male, negative, (analogy)

Reproductive toxicity
Effects on fertility

Product:	Remarks: no evidence of reproductiontoxic properties
Components:	
Aluminium oxide	Remarks: no evidence of reproductiontoxic properties

Effects on fetal development
Not classified based on available data.

Reproductive toxicity - Assessment

Product:	Reproductive toxicity: no evidence of reproductiontoxic properties
Components:	
Aluminium oxide	Reproductive toxicity: no evidence of reproductiontoxic properties

Specific Target Organ Toxicity - Single Exposure

Product:	no evidence for hazardous properties
Components:	
Aluminium oxide	no evidence for hazardous properties

Specific Target Organ Toxicity - Repeated Exposure

Product:	no evidence for hazardous properties
Components:	
Aluminium oxide	no evidence for hazardous properties

Aspiration Hazard

Product:	Not applicable
Components:	
Aluminium oxide	Not applicable

Information on health hazards

Other hazards

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

12. Ecological information

Ecotoxicity:

Toxicity to Aquatic Plants

Product:	EC 50, Algae (Pseudokirchneriella subcapitata), 72 h, > 100 mg/l, Literature
Components:	
Aluminium oxide	EC 50, Algae (Pseudokirchneriella subcapitata), 72 h, > 100 mg/l, Literature

Toxicity to microorganisms

Product:	EC 10, activated sludge, 3 h, 1,000 mg/l, OECD 209, (analogy) EC 10, activated sludge, 3 h, > 200 mg/l, OECD 209
Components:	
Aluminium oxide	EC 10, activated sludge, 3 h, 1,000 mg/l, OECD 209, (analogy) EC 10, activated sludge, 3 h, > 200 mg/l, OECD 209

Acute hazards to the aquatic environment:

Fish

Product:	LC 50, Salmo trutta, 96 h, > 100 mg/l, Literature
Components:	
Aluminium oxide	LC 50, Salmo trutta, 96 h, > 100 mg/l, Literature

Aquatic Invertebrates

Product:	EC 50, Daphnia magna, 48 h, > 100 mg/l, Literature
Components:	
Aluminium oxide	EC 50, Daphnia magna, 48 h, > 100 mg/l, Literature

Chronic hazards to the aquatic environment:

Fish

No data available.

Aquatic Invertebrates

No data available.

Persistence and Degradability

Biodegradation

Product:	The methods for determining biodegradability are not applicable to inorganic substances.
Components:	
Aluminium oxide	The methods for determining biodegradability are not applicable to inorganic substances.

BOD/COD Ratio
No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	Not to be expected.
Components:	
Aluminium oxide	Not to be expected.

Partition Coefficient n-octanol / water (log Kow)

Product:	Not applicable
Components:	
Aluminium oxide	Not applicable

Mobility in soil:

Product:	No remarkable mobility in soil is to be expected.
Components:	
Aluminium oxide	No remarkable mobility in soil is to be expected.

Results of PBT and vPvB assessment:
No data available.

Other adverse effects:

Additional ecological information

Product:	The data we have at our disposal do not necessitate identification concerning environmental hazard.

13. Disposal considerations

Disposal methods:	Waste must be disposed of in accordance with federal, state, provincial and local regulations.
Contaminated Packaging:	Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

Domestic regulation

49 CFR
Not regulated as a dangerous good
Remarks : Not dangerous according to transport regulations.

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721 and 725, Subpt E)
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US. EPCRA (SARA Title III) Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US State Regulations

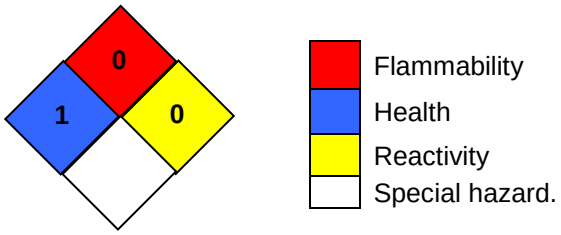
US. California Proposition 65
No ingredient requiring a warning under CA Prop 65.

Inventory Status:

Australia Industrial Chem. Act (AIIC):	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory Pre-registration is requested for specific importer.
US TSCA Inventory:	On or in compliance with the inventory Commercial Status: Active
Switzerland New Subs Notified/Registered:	On or in compliance with the inventory
Vietnam National Chemical Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory EU-REACH compliant for Evonik Operations GmbH and its affiliates as EU manufacturer/EU importer.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Version #: 2.0

Revision Date: 09/02/2025

Date of first report version: 05/29/2019

Abbreviations and acronyms:

ACGIH:	US. ACGIH Threshold Limit Values, as amended
OSHA_TRANS:	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
Z3:	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended
ACGIH / TWA:	Time Weighted Average (TWA):
OSHA_TRANS / PEL:	Permissible exposure limit:
Z3 / TWA:	Time Weighted Average (TWA):

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate

associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further Information: No data available.

Revision Information Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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