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

2. Hazard(s) identification

Hazard Classification
Not classified

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements

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

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Aluminium oxide		1344-28-1	80 - 100%

* 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.
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 operationalmachinery.Local ventilation if necessary. see also section 7.
Local/Total ventilation:	No data available.
Safe handling advice:	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 place
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

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

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.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 at 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 at 68 °F/20 °C
Bulk density:	No data available.
Vapor density (air=1):	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.

Acute toxicity (list all possible routes of exposure)

Oral

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

Dermal

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

Inhalation
Product: LC 50, Rat, Female, Male, 4 h, > 2.3 mg/l, OECD 403, Not toxic after single exposure, No deaths observed., Dust and mist

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

Skin Corrosion/Irritation
Product: OECD 404, (Rabbit), Not irritating

Serious Eye Damage/Eye Irritation
Product: OECD 405, Rabbit, Not irritating

Respiratory or Skin Sensitization
Product: Draize-test, Guinea Pig, Not a skin sensitizer.
Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Carcinogenicity
Product: Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA. 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)

In vivo
Product: Micronucleus test, OECD 474, Oral, Rat, Male, negative, (analogy)

Reproductive toxicity
Product: no evidence of reproductiontoxic properties

Specific Target Organ Toxicity - Single Exposure
Product: no evidence for hazardous properties

Specific Target Organ Toxicity - Repeated Exposure

Product: no evidence for hazardous properties

Aspiration Hazard
Product: Not applicable

Information on health hazards

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

12. Ecological information

Ecotoxicity:
Acute hazards to the aquatic environment:

Fish
Product: LC 50, Salmo trutta, 96 h, > 100 mg/l, Literature

Aquatic Invertebrates
Product: EC 50, Daphnia magna, 48 h, > 100 mg/l, Literature

Toxicity to Aquatic Plants
Product: 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

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

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

Persistence and Degradability

Biodegradation

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

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: Not to be expected.

Partition Coefficient n-octanol / water (log Kow)
Product: , Not applicable

Mobility in soil:

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

Results of PBT and vPvB assessment:

Product: No data available.

Other adverse effects:

Other hazards
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.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

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.

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

Chemical Identity	% by weight
Aluminum oxide (fibrous forms) (Alumina)	1.0%

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

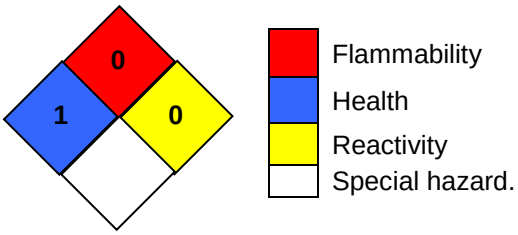
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

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

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 #: 1.2

Generation date: 10/18/2023

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 Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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