SAFETY DATA SHEET

1. Identification

Product identifier: AEROSIL® MOX 80

Other means of identification

Recommended use: Paper
Dispersion

Recommended restrictions: Not determined.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Operations GmbH
Rellinghauser Str. 1-11
45128 Essen
Germany

Telephone : +49 6181 59 4787

E-mail : sds-hu@evonik.com

Emergency telephone number:

24-Hour Health Emergency : +49 7623 919191

2. Hazard(s) identification

Classification according to GHS

Not classified

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements Not applicable

Other hazards: No data available.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No data available.	112945-52-5	
Aluminium oxide	No data available.	1344-28-1	

* 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: Wash off with plenty of water and soap.

Eye contact: Possible discomfort is due to foreign substance effect. Rinse thoroughly with plenty of water keeping eyelid open. In case of persistent discomfort: Consult an ophthalmologist.

Ingestion: Clean mouth with water and drink afterwards plenty of water. After absorbing large amounts of substance / In case of discomfort: Supply with medical care.

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

Most important symptoms and effects, both acute and delayed

Symptoms: None known.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

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:	Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters:	No data available.

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:	Do not allow entrance in sewage water, soil stretches of water, groundwater, drainage systems.

7. Handling and storage

Handling

Technical measures:	No data available.
Local/Total ventilation:	No data available.
Safe handling advice:	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 workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used.If necessary: Local ventilation.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Keep in a dry place.Take precautionary measures against

static discharges.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Observe national threshold limit values.

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

General information: No data available.

Eye/face protection: Safety glasses with side shields If dust occurs: basket-shaped glasses

Hand Protection: Additional Information: Wear protective gloves made of the following materials: material, rubber, leather.
Additional Information: The data about break through time/strength of material is not valid for undissolved solids/dust.

Other: No special protective equipment required.

Respiratory Protection: No special protective equipment required. If dust occurs: Dust mask with P2 particle filter

Hygiene measures: When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care. Wash contaminated clothing before reuse.

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

	1.700 °C/3.092 °F
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
Auto-ignition temperature:	Not applicable
Decomposition Temperature:	> 2.000 °C/> 3.632 °F
pH:	3,6 - 4,5 40 g/l 20 °C/68 °F Suspension
Viscosity	
Dynamic viscosity:	Not applicable solid
Kinematic viscosity:	Not applicable solid
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	Difficult to dissolve
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable
Vapor pressure:	Not applicable
Relative density:	No data available.
Density:	Approximate 2,2 g/cm3 20 °C/68 °F
Bulk density:	No data available.
Vapor density (air=1):	No data available.

Other information

Explosive properties:	not to be expected, given the composition employed
Oxidizing properties:	not to be expected, given the composition employed
Pyrophoric properties:	Not applicable
Peroxides:	Not applicable
Evaporation Rate:	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:	No data available.
Incompatible Materials:	No further information available
Hazardous Decomposition Products:	None known. Stable under normal conditions. Product will not undergo hazardous polymerization.

11. Toxicological information

General information: Silicosis or other product specific illnesses of the respiratory tract were not observed in association with the product. 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:	ATEmix, > 5.000 mg/kg, Based on available data, the classification criteria are not met. Not classified for acute toxicity based on available data.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	LD 50, Rat, Female, Male, > 5.000 mg/kg, OECD 401
Aluminium oxide	LD 50, Rat, Female, Male, > 10.000 mg/kg, OECD 401

Dermal

Product:	ATEmix, > 5.000 mg/kg, Based on available data, the classification criteria are not met. Not classified for acute toxicity based on available data.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	LD 50, Rabbit, > 5.000 mg/kg
Aluminium oxide	Not toxic after single exposure, Not classified for acute toxicity based on available data.

Inhalation

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

Not classified for acute toxicity based on available data.

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	LC 50, Rat, Female, Male, 4 h, > 5,01 mg/l, Dust and mist, OECD 436 Vapour, Not toxic after single exposure, Not applicable
Aluminium oxide	Dust and mist, Not toxic after single exposure, No classification Vapour, Not toxic after single exposure, Not applicable

Repeated dose toxicity

Product: No negative effects.
No irreversible changes and no indication of silicosis.

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	NOAEL Rat, Male, Oral, 28 day, 7 days a week, >= 1.000 mg/kg, No negative effects.
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 irritating, Not irritating, Based on available data, the classification criteria are not met.

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Not irritating, OECD 404, Rabbit
Aluminium oxide	Not irritating, OECD 404, Rabbit

Serious Eye Damage/Eye Irritation

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

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Not irritating, analogous OECD method, Rabbit
Aluminium oxide	Not irritating, OECD 405, Rabbit

Respiratory or Skin Sensitization

Product: Not known.

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Local Lymph Node Assay (LLNA), OECD 429, Mouse, Not a skin sensitizer. Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.
Aluminium oxide	Draize-test, Guinea Pig, Not a skin sensitizer. Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Carcinogenicity

Product: No data available.

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No evidence that cancer may be caused.

Aluminium oxide	No evidence that cancer may be caused.

Germ Cell Mutagenicity
no evidence of mutagenic effects

In vitro

Product:	no evidence of mutagenic effects Literature tested substance: Silicon dioxide, derived from chemical synthesis

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	gene mutation test, OECD 471: , negative gene mutation test, OECD 490: , negative Chromosomal aberration, OECD 473: , negative
Aluminium oxide	gene mutation test, OECD 471: , negative gene mutation test, OECD 476: , negative, (analogy)

In vivo

Product:	no evidence of mutagenic effects Literature tested substance: Silicon dioxide, derived from chemical synthesis

Components:

Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Chromosomal aberration, OECD 475, Oral, Rat, Male, negative
Aluminium oxide	Micronucleus test, OECD 474, Oral, Rat, Male, negative, (analogy)

Reproductive toxicity

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	no evidence of reproductiontoxic properties
Aluminium oxide	no evidence of reproductiontoxic properties

Specific Target Organ Toxicity - Single Exposure

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	no evidence for hazardous properties
Aluminium oxide	no evidence for hazardous properties

Specific Target Organ Toxicity - Repeated Exposure

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	no evidence for hazardous properties
Aluminium oxide	no evidence for hazardous properties

Aspiration Hazard

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Not applicable
Aluminium oxide	Not applicable

Information on health hazards

Other hazards

Product:	No toxicological tests are available on the product.; An Expert Judgment stated that no classification is necessary based on present knowledge.;

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	LC 50, (Brachydanio rerio), 96 h, > 10.000 mg/l OECD 203, The reported toxic effects relate to the nominal concentration.
Aluminium oxide	LC 50, Salmo trutta, 96 h, > 100 mg/l, Literature

Aquatic Invertebrates

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	EC 50, Daphnia magna, 24 h, > 1.000 mg/l OECD 202, The reported toxic effects relate to the nominal concentration.
Aluminium oxide	EC 50, Daphnia magna, 48 h, > 100 mg/l, Literature

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 173 mg/l (OECD 201)
Aluminium oxide	EC 50 (Algae (Pseudokirchneriella subcapitata), 72 h): > 100 mg/l Literature

Toxicity to microorganisms

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	EC 50, local activated sludge, 3 h, > 2.500 mg/l, OECD 209
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

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No data available.
Aluminium oxide	No data available.

Aquatic Invertebrates

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No data available.
Aluminium oxide	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No data available.
Aluminium oxide	No data available.

Toxicity to microorganisms

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	EC 50, local activated sludge, 3 h, > 2.500 mg/l, OECD 209
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

Persistence and Degradability

Biodegradation

Product:	The methods for determining biodegradability are not applicable to inorganic substances.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	The methods for determining biodegradability are not applicable to inorganic substances.
Aluminium oxide	The methods for determining biodegradability are not applicable to inorganic substances.

BOD/COD Ratio

Product:	No data available.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No data available.
Aluminium oxide	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	Not to be expected.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	Not to be expected.
Aluminium oxide	Not to be expected.

Partition Coefficient n-octanol / water (log Kow)

Product:	Not applicable
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	, Not applicable
Aluminium oxide	, Not applicable

Mobility in soil:

Product	No remarkable mobility in soil is to be expected.
Components:	
Silicon dioxide, chemically prepared (CAS 112945-52-5 resp. 7631-86-9)	No remarkable mobility in soil is to be expected.
Aluminium oxide	No remarkable mobility in soil is to be expected.

Other adverse effects:

Other hazards

Product:	No data available.

13. Disposal considerations

Disposal methods:	Review all local, state and federal regulations concerning health and pollution for appropriate disposal procedures.
Contaminated Packaging:	Offer rinsed packaging material to local recycling facilities. Other countries: observe the national regulations.

14. Transport information

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

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable
Not applicable

Kyoto protocol
Not applicable

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

Issue Date: 05.02.2020

Version #: 1.3

Abbreviations and acronyms:

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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