



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### SILICON DIOXIDE

#### SECTION 1: IDENTIFICATION

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**Product Name:** Degussa Evonik Acematt TS100

**CAS Number:** 112945-52-5

**Chemical Name:** Amorphous Silicon Dioxide

**Synonyms:** Silicon Dioxide; Fumed Silica; Hydrophilic Fumed Silica

**Company**

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**Business Contact**

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**24 Hour Emergency Contact**

Infotrac 800-535-5053  
Outside USA & Canada 352-323-3500

#### SECTION 2: HAZARD IDENTIFICATION

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**Hazards classifications**

**HMIS rating (product as packaged):**

Health: 1      Fire: 0      Reactivity: 0      PPE: E

Note: Respiratory protection is only recommended in the event that ventilation or engineering controls are unable to maintain exposures below recommended levels; or in the event of a spill or other emergency response situation. Hazardous Materials Identification System and HMIS are registered trademarks of the National Paint and Coatings Association. (HMIS codes are based on contact with the product as packaged and any hydrolysis by-products, if present.)

**Canadian WHMIS Classification:** None.

**Emergency overview and potential hazards**

**Physical Hazards:**

Nuisance dust.

**Acute health effects**



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**Route of entry or possible contact:**

eyes, skin, inhalation

**Eye contact:**

No acute toxic effects are expected. Slight irritation by mechanical effects is possible.

**Skin contact:**

No acute toxic skin effects are expected. Temporary discomfort like feeling of dryness on the skin.

**Inhalation:**

No acute toxic respiratory tract effects are expected. May cause physical discomfort to the respiratory tract.

**Ingestion:**

Not expected in industrial use.

**Additional information on acute health effects:**

Re Sect. 11.2 "Toxicological data", LC50 (inhalative): no mortalities at highest technical achievable concentration (rat) .

**Further information:**

**Chronic health effects:**

Not mutagenic in different in-vitro and in-vivo test systems. A long term exposure exceeding TLV can lead to damaging effect as a result of mechanical overloading of the respiratory tract. Chronic respiratory exposure: Changes in respiratory organs observed in animal experiments (inflammatory processes) were reversible; no indication of silicosis. Animal tests have shown no indication to carcinogenic or to reproduction effects.

**Medical conditions which may be aggravated by exposure:**

unknown

**Carcinogens/Reproductive toxins:**

This material does not contain any reportable carcinogenic ingredients. This material does not contain any reproductive toxins at or above OSHA or WHMIS reportable levels.

See Section 11 for Toxicological Information, if any.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

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**Composition:**



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<u>CAS No.</u>	<u>Chemical Name</u>	<u>% by Weight</u>
112945-52-5	Amorphous silicon dioxide (SiO <sub>2</sub> )	≥ 99.8%

#### SECTION 4: FIRST AID MEASURES

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**General information:**

Get medical attention if irritation occurs or if breathing becomes difficult.

**After inhalation:**

If inhaled, remove to fresh air.

**After contact with the skin:**

If contact with skin, wash skin with plenty of water or with water and soap.

**After contact with the eyes:**

If contact with eyes, immediately flush eyes with plenty of water.

**After swallowing:**

Drink plenty of water. Get medical attention if symptoms occur. Show label if possible.

#### SECTION 5: FIRE FIGHTING MEASURES

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**Flammable properties:**

**Flash point:** not applicable

**Boiling point / boiling range:** not applicable

**Lower explosion limit (LEL):** not applicable

**Upper explosion limit (UEL):** not applicable

**Ignition temperature:** not applicable

**Fire and explosion hazards:** Material does not burn. Electrostatic charging is possible.

**Recommended extinguishing media:** Use extinguishing measures appropriate to the source of fire.

**Unsuitable extinguishing media:** not applicable

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** not applicable



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**Fire fighting procedures:** Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Precautions:** Avoid dust formation. Do not breathe dust. Wear personal protection equipment (see section 8).

**HAZWOPER PPE Level:** D

**Containment:**

Cover any spilled material in accordance with regulations to prevent dispersal by wind. Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center's toll free phone number (800) 424-8802.

**Methods for cleaning up:** Damp down dust and fill into containers.

#### SECTION 7: HANDLING AND STORAGE

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##### Handling

**Precautions for safe handling:** Avoid dust formation.

**Precautions against fire and explosion:**

Electrostatic discharge possible during transport and processing. Take precautionary measures against electrostatic charging. Ensure all parts of equipment are well earthed. Use inert gas when working with combustible and explosive liquids. Avoid dust deposit, remove dust regularly.

##### Storage

**Conditions for storage rooms and vessels:** none known

**Advice for storage of incompatible materials:** not applicable

**Further information for storage:** Keep container dry and tightly closed.

#### SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

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##### Engineering controls

**Ventilation:** Use only with adequate ventilation.



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**Local exhaust:** In case of dust formation: ( To maintain concentration below TLV. ) Local exhaust ventilation which meets the requirements of ANSI Z9.2 is recommended to control airborne contaminants at the point of use.

**Maximum airborne concentrations at the workplace:**

<u>CAS No.</u>	<u>Material</u>	<u>Type</u>	<u>mg/m3</u>	<u>Dust fract.</u>
7631-86-9	Silica, amorphous	OSHA PEL	0.8	
	Particulates not otherwise classified	ACGIH TWA	10.0	Inhalable dust
	Particulates not otherwise classified	ACGIH TWA	3.0	Respirable dust

**Re Silica, amorphous:** The exposure limits given for CAS-No. 7631-86-9 cover all types of synthetic amorphous silica; it appears, that there is an error in the OSHA PEL entry for amorphous silica. There should have been a footnote to the Z-3 Table indicating that the percent SiO<sub>2</sub> in formula (80 mg/m<sup>3</sup> + % SiO<sub>2</sub>) refers to crystalline silica content and not to amorphous silica. For evaluation of U.S. exposure measurements it is recommended that you consult the current NIOSH REL (6 mg/m<sup>3</sup>) instead of the old Z-3 Table entry.

**Re Particulates not otherwise classified:** The value is for particulate matter containing no asbestos and < 1% crystalline silica (ACGIH).

**Personal protection equipment (PPE)**

**Respiratory protection:**

In case of dust formation: A NIOSH approved particulate respirator with a P95 or higher rating.

**Hand protection:**

Recommendation: rubber gloves .

**Eye protection:**

Recommendation: Safety glasses with side shields or chemical safety goggles.

**Other protective clothing or equipment:**

Barrier cream may be used to prevent dryness of skin.

**General hygiene and protection measures:**

Do not breathe dust/vapor/mist/gas/aerosol. Wash thoroughly after handling.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance**

**Physical state / form:** solid - powder

**Color:** white



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**Odor:** odorless

#### Safety parameters

**Melting point / melting range:** 1700 °C (3,092 °F)

**Boiling point / boiling range:** not applicable

**Flash point:** not applicable

**Ignition temperature:** not applicable

**Lower explosion limit (LEL):** not applicable

**Upper explosion limit (UEL):** not applicable

**Vapour pressure:** not applicable

**Density:** approx. 2.2 g/cm<sup>3</sup> (DIN 51757)

**Bulk density:** 20 - 130 kg/m<sup>3</sup>

**Water solubility / miscibility:** virtually insoluble at 20 °C (68 °F)

**pH-Value:** 3.6 - 4.5 (40 g/l H<sub>2</sub>O)

**Viscosity (dynamic):** not applicable

## SECTION 10: STABILITY AND REACTIVITY

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#### General information:

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

**Conditions to avoid:** none known

**Materials to avoid:** none known

**Hazardous decomposition products:** If stored and handled in accordance with standard industrial practices and local regulations where applicable: none known.

**Further information:** Hazardous polymerization cannot occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

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#### General information:

The following data were taken from literature.

#### Toxicological data:

#### Acute toxicity (LD50/LC50-values relevant to classification):

<u>Exposition</u>	<u>Value/value range</u>	<u>Species</u>	<u>Source</u>
oral	> 5000 mg/kg	rat (Limit Test)	literature



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dermal	> 5000 mg/kg	rabbit (Limit Test)	literature
by inhalation	> 0.139 mg/l/4h	rat (Limit Test)	literature

#### Primary irritation:

<u>Exposition</u>	<u>Effect</u>	<u>Species</u>	<u>Source</u>
to skin	not irritating	rabbit	literature
to eyes	not irritating	rabbit	literature

#### Experience with man:

No damage to health was observed from handling the product for many years.

## SECTION 12: ECOLOGICAL INFORMATION

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#### Information on elimination (persistence and degradability)

**Biodegradation / further information:** Not applicable.

**Further information:** Insoluble in water.

#### Behaviour in environmental compartments

#### Mobility - Further information:

No adverse effects expected.

#### Ecotoxicological effects:

<u>Species</u>	<u>Test method</u>	<u>Exp. Time</u>	<u>Result</u>	<u>Source</u>
Daphnia magna	acute	24 h	> 10000 mg/l (EC50)	literature
zebra fish (Brachydaniorerio)	acute	96 h	> 10000 mg/l (LC50)	literature

No expected damaging effects to aquatic organisms.

#### Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition):

According to current knowledge adverse effects on water purification plants are not expected.  
Can be removed mechanically from waste water.

#### Additional information

**Other harmful effects - General information:** Insoluble in water.



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#### SECTION 13: DISPOSAL CONSIDERATIONS

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**Product Disposal Recommendation:**

After solidification, material can be stored together with domestic waste. Observe local/state/federal regulations.

**Packaging Disposal Recommendation:**

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

#### SECTION 14: TRANSPORT INFORMATION

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**US DOT & CANADA TDG SURFACE:** Not regulated for transport

**Transport by sea IMDG-Code:** Not regulated for transport

**Air transport ICAO-TI/IATA-DGR:** Not regulated for transport

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

#### SECTION 15: REGULATORY INFORMATION

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**U.S. Federal Regulations**

**TSCA inventory status and TSCA information:** This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory. This material is in compliance with TSCA under CAS Number 7631-86-9 (silica, amorphous).

**TSCA 12(b) Export Notification:** This material does not contain any TSCA 12(b) regulated chemicals.

**CERCLA Regulated Chemicals:** This material does not contain any CERCLA regulated chemicals.

**SARA 302 EHS Chemicals:** This material does not contain any SARA extremely hazardous substances.

**SARA 311/312 Hazard Class:** This product does not present any SARA 311/312 hazards.

**SARA 313 Chemicals:** This material does not contain any SARA 313 chemicals above de minimus levels.

**HAPS (Hazardous Air Pollutants):** This material does not contain any hazardous air pollutants.





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#### U.S. State regulations

**California Proposition 65 Carcinogens:**

This material does not contain any chemicals known to the state of California to cause cancer.

**California Proposition 65 Reproductive Toxins:**

This material does not contain any chemicals known to the state of California to cause reproductive effects.

**Massachusetts Substance List:** 112945-52-5 Silica, amorphous, fumed.

**New Jersey Right-to-Know Hazardous Substance List:** 112945-52-5 Silica, amorphous, fumed.

**Pennsylvania Right-to-Know Hazardous Substance List:** 112945-52-5 Silica, amorphous, fumed.

#### Canadian regulations

This product has been classified in accordance with the Hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Classes:** None.

**DSL Status:** This material or its components are listed on the Canadian Domestic Substances List.

**Non-DSL Chemicals:** This material does not contain any non-DSL chemicals.

**Canadian Ingredient Disclosure List:** 112945-52-5 Silica, amorphous, fumed.

#### Other international regulations

**EU Risk Phrases:** not applicable

**EU Safety Phrases:** not applicable

#### Details of international registration status

Listed on the following inventories:

IECSC - China

EINECS - Europe

ENCS - Japan

PICCS - Philippines

ECL - Korea



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AICS - Australia  
HSNO - New Zealand

#### SECTION 16: OTHER INFORMATION

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#### DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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