

1. Identification of the Substance and Company

Product name: ***Elkem Microsilica***® slurry

Product application: Additive to concrete

Address/Phone No.: **Elkem AS**
Silicon Materials
P.O.Box 8126 Vaagsbygd
N-4675 Kristiansand, Norway
Telephone: + 47 38 01 75 00
Telefax: + 47 38 01 49 70
<http://www.materials.elkem.com>

Contact person: Bernd Friede, e-mail: bernd.friede@elkem.no

Emergency Phone No.: Not applicable

2. Composition/Information on Ingredients

Synonyms: Slurry of silica fumes, Aqueous slurry of amorphous silicon dioxide (H₂O + SiO₂). Silica slurry.

Constituents (analysis):	Weight %
Water	Balance
Condensed silicon dioxide fume, (85 % < amorphous SiO ₂ < 98 %) ¹⁾	48.0 – 52.0
IUPAC-name:	Silicon dioxide
CAS No.:	69012-64-2
EINECS No.:	273-761-1

Symbol:	None.
R-phrases:	None.
S-phrases:	None.

¹⁾ The product may contain small amounts of crystalline quartz (< 0.5 %).

3. Hazards Identification

The product does not represent a hazard to health, safety or environment when handled and stored as advised. See section 7.

4. First Aid Measures

Inhalation: Not applicable.
Skin contact: Wash contaminated skin with water and/or a mild detergent.
Eye contact: Rinse eyes with water/saline solution. If discomfort persists, obtain medical attention.
Ingestion: Not applicable.

5. Fire Fighting Measures

The product is not combustible. If the slurry become dry, the dust entails no danger of explosion.

Extinguishing media: Not applicable.

6. Accidental Release Measures

Material should be collected in suitable containers.

7. Handling and Storage

Handling: If the slurry becomes dry, avoid generating airborne dust. See section 8.
Storage: Keep away from hydrofluoric acid (HF).
Not to be stored at temperatures near to or below 0 °C

8. Exposure Controls/Personal Protection

A. Occupational exposure controls:

Use protective gloves and eye protection. Facilities for eye flushing should be available.
If the slurry becomes dry: Avoid inhalation of dust. Ensure good dust ventilation during use. Wear a particulate respirator according to EN 149 FFP 2S/3S in areas of inadequate ventilation.

Occupational Exposure Limits (ACGIH¹⁾, 2008):

Substance	[CAS No.]	8hr TWA		ACGIH TLV 15 minute STEL		Notations
		ppm	mg/m ³	ppm	mg/m ³	
PNOS ²⁾	-	-	10 ^(I) /3 ^(R)	-	-	-
Silica, crystalline (SiO ₂) Quarz*	[14808-60-7]	-	0,025 ^(R)	-	-	A2
	Cristobalite* [14464-46-1]	-	0,025 ^(R)	-	-	-

¹⁾ American Conference of Governmental Industrial Hygienists

²⁾ Particulates (Insoluble or Poorly Soluble) Not Otherwise Specified. Amorphous silica fume is considered to be PNOS. Specific TLVs for the individual substances have not been established or have been withdrawn, respectively.

^(I) Inhalable fraction

^(R) Respirable fraction

B. Environmental exposure controls:

See sections 6, 7 and 12.

9. Physical and Chemical Properties

Form:	Slurry
Colour:	Grey
Odour:	Odourless
Solubility:	The particles are insoluble in water.
Solubility (Organic solvents):	The particles are insoluble/slightly soluble.
Specific Gravity (water =1):	Typical 1.4
pH:	Typical 5-7
Specific surface (m ² /g) :	15-30
Particle size, mean (µm):	≈ 0.15 (≈ 80 weight% of primary particles have a diameter < 5 µm).

10. Stability and reactivity

Conditions to avoid: Not to be stored at temperatures near to or below 0 °C.

Materials to avoid: Hydrofluoric acid (HF).

Hazardous Decomposition Product(s):

The product reacts with hydrofluoric acid (HF) forming toxic gas (SiF₄).

Heating The product above 1000 °C can result in the formation of crystalline SiO₂-modifications as Cristobalite / Tridymite which may cause pulmonary fibrosis (silicosis).

11. Toxicological Information

Acute effects:

INGESTION: Dry product: Finely divided dust from the product may cause irritation and dehydration of mucous membranes.

INHALATION: Dry product: Finely divided dust from the product may cause irritation and dehydration of mucous membranes.

SKIN CONTACT: Dry product: Finely divided dust from the product may cause irritation and dehydration.

EYE CONTACT: Dry product: Finely divided dust from the product may cause irritation and dehydration.

Chronic effects:

Microsilica slurry: Not applicable.

Microsilica (dry):

Inhalation of dust from the product is considered to entail minimal risk of pulmonary fibrosis (silicosis). However, chronic obstructive lung disease is suspected following long term exposure (years) for concentrations above recommended occupational exposure limits.

12. Ecological Information

The product is not characterised as dangerous for the environment.

MOBILITY: Not mobile under normal environmental conditions.

PERSISTENCE: Not relevant for inorganic substances.

BIOACCUMULATION: Not relevant.

ECOTOXICITY: Elkem Microsilica: *Daphnia magna*:
24 h EC₅₀ > 1002 mg.l⁻¹
24 h EC₁₀₀ >1002 mg.l⁻¹
NOEC 319 mg.l⁻¹

Coarse Microsilica has been subject to Microtox™ screening test. No acute toxicological effects could be observed in the test organisms.

13. Disposal Considerations

The material should be recovered for recycling if possible.

This material is not classified as hazardous waste according to Commission Decisions 2000/532/EC and 2001/118/EC. Prior to disposal of large quantities of this material advice should be sought from the relevant Waste Regulation Authority.

14. Transport Information

UN -
IMDG/IMO Not subject to classification
ADR/RID Not subject to classification
ICAO/IATA Not subject to classification

15. Regulatory Information

Product classification and labelling:

Symbol: Not subject to classification
R-phrases: None.
S-phrases: None.

The text of this Safety Data Sheet is prepared in compliance with:

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Commission Directive 1999/45/EC.

16. Other Information

Literature references are available upon application to the manufacturer.

Elkem Microsilica[®] is a registered trademark owned by Elkem AS.