



1. Identification of the Product and Supplier

| | |
|----------------------------|---|
| Product name: | Microblock[®] |
| Product application: | Additive to oilfield cements. |
| Address/Phone No.: | Elkem ASA, Silicon Products P.O. Box 334 Skøyen N-0213 Oslo, Norway Telephone: + 47 22 45 01 00 Telefax: + 47 22 45 01 11 https://www.elkem.com/silicon-products/ |
| Contact: | sds.esm@elkem.no |
| REACH registration number: | 01-2119486866-17-0000 |
| REACH and CLP helpdesk: | REACH and CLP website: https://echa.europa.eu/support/helpdesks/ |
| Emergency Phone No.: | not applicable for non-hazardous substances. |

2. Hazards Identification

| | |
|---------------------------------|--|
| Classification of the substance | The product does not meet the criteria for hazard classification in accordance with Regulation (EC) No 1272/2008 (CLP) and the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS, 7 th revision). |
| Hazard pictogram: | N/A (not applicable) |
| Signal word: | N/A (not applicable) |
| Hazard statements: | N/A (not applicable) |
| Precautionary statements: | N/A (not applicable) |

All ingredients in Microblock[®] are covered by the OSPAR List of Preparations Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR), 2003.

3. Composition/Information on Ingredients

| | |
|-------------|---|
| Synonyms: | Slurry of silica fume, Aqueous dispersion of amorphous silicon dioxide (H ₂ O + SiO ₂). Silica slurry. |
| IUPAC-name: | Silicon dioxide |

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Constituents (analysis):

| CHEMICAL NAME | CAS # | EINECS # | % w/w |
|---|------------|-----------|---------|
| Silicon Dioxide (amorphous silica fume) | 69012-64-2 | 273-761-1 | 48-52 |
| Water | 7732-18-5 | 231-791-2 | balance |

4. First Aid Measures

Inhalation: Not applicable. Product is an aqueous slurry.
 Skin contact: Wash contaminated skin with water and/or a mild detergent.
 Eye contact: Rinse eyes with water/saline solution. If discomfort persists, seek medical advice.
 Ingestion: Not applicable.

5. Fire Fighting Measures

Microblock® additive is not combustible. If the slurry becomes dry, there is no inherent risk of explosion.

Extinguishing media: Not applicable. Depending on surrounding fire.

6. Accidental Release Measures

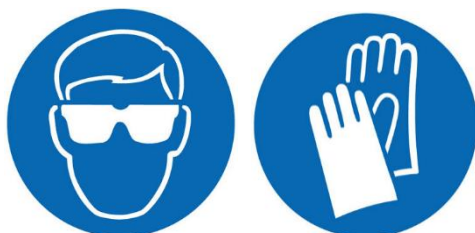
Avoid exposure to dust of the product. Released material should be collected in suitable containers.

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 CE-marked respiratory protection according to EN 149 FFP 2S/3S in areas of inadequate ventilation.

**Occupational Exposure Limits (ACGIH¹⁾, 2016):**

| 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) | - | - | - |

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

Limit value for PM₁₀ and PM_{2.5} (Directive 2008/50/EC):

| | Averaging period | Limit value |
|-------------------|------------------|------------------------|
| PM ₁₀ | One day | 50 µg/m ³ ★ |
| PM ₁₀ | Calendar year | 25 µg/m ³ |
| PM _{2.5} | Calendar year | 15 µg/m ³ |

★Not to be exceeded more than 30 times a calendar year.

9. Physical and Chemical Properties

| | |
|--------------------------------|--|
| Form: | Slurry. |
| Colour: | Grey |
| Odour: | Odourless |
| Solubility: | Insoluble in water. Soluble in alkalis. |
| Solubility (Organic solvents): | Insoluble/slightly soluble. |
| Specific Gravity (water =1): | Typical 1.4 |
| pH: | Typical 4-7 |
| Particle size, mean (µm): | ≈ 0.15 (less than 0.1% of primary particles > 45 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):

Microblock[®] additive reacts with hydrofluoric acid (HF) forming toxic gas (SiF₄).

11. Toxicological Information

The product does not meet the criteria for hazard classification according to Regulation (EC) No1272/2008 (CLP) and the UN GHS (7th ed.).

Acute effects:

| | |
|---------------|---|
| INGESTION: | Dust from dried Microblock [®] additive may cause mechanical irritation and dehydration of mucous membranes. |
| INHALATION: | Dust from dried Microblock [®] additive may cause mechanical irritation and dehydration of mucous membranes. |
| SKIN CONTACT: | Dust from dried Microblock [®] additive may cause mechanical irritation and dehydration. |
| EYE CONTACT: | Dust from dried Microblock [®] additive may cause mechanical irritation and dehydration. |

Chronic effects:

Microblock® (slurry/wet): Not applicable.

Microblock® (dry): Inhalation of Inhalation of respirable, dry matter from the product is considered to entail a 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: The product is not mobile under normal environmental conditions.
PERSISTENCE: Not relevant for inorganic substances.
BIOACCUMULATION: Not relevant.
ECOTOXICITY: The product does not meet the classification criteria for ecotoxicological endpoints in accordance with Regulation (EC) 1272/2008 (CLP) and the UN GHS (7th ed.).

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 Environment Agency Office.

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

A chemical safety assessment (CSA) has been carried out for the substance in accordance with Regulation (EC) 1907/2006 (REACH).

The text of this Product Safety Information 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) and subsequent amendments.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS, 7th rev.).

16. Other Information

According to Chapter 1.5.2 of the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Article 58 (2)(a), and Article 59(2)(b) of (EC) No 1272/2008 (CLP), which amends REACH article 31(1), safety data sheets (SDS) are only required for substances and mixtures that meet the harmonised criteria for physical, health or environmental hazards. Since this product does not meet these criteria, a SDS according to (EU) 2015/830 is not issued. In order to communicate relevant HSE-(health, safety and environmental-) information, this product safety information (PSI) is provided instead.

In accordance with REACH article 31(5), safety data sheets shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market. This obligation, however, only applies for hazard-classified products which require a formal SDS. Since this product is not hazard-classified, the product safety information (PSI) is, in accordance with current regulation, provided in English language only.

REACH article 31(7) requires relevant exposure scenarios from the Chemical Safety Report (CSR) to be annexed to the SDS. However, according to REACH Annex I, section 0. (Introduction), subsection 0.6. no 4 and 5, exposure scenarios are only required for hazard-classified substances or mixtures. Since this product is not hazard-classified according to CLP, there is no requirement for exposure scenarios.

Literature references are available upon request.

Microblock® is a registered trademark owned by Elkem ASA.

Changes from revision 01 to 02: New corporate address. Paragraph 2 in section 16. Updated ACGIH values.
Changes from revision 02 to 03: reference to GHS 7th ed., emergency phone number not applicable.
Changes from revision 03 to 04: company infos (section 1) and limit values (section 8 B) updated.