

1. Identification of the Substance/Preparation and of the Company/UndertakingProduct name: **Microblock[®] HTC**

Product application: Additive to oilfield cements.

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Emergency Phone No.: Not applicable

2. Hazards Identification

Microblock[®] HTC additive as a slurry, does not represent a hazard to health, safety or environment when handled and stored as advised. See section 7.

Dry product may, dependent on the degree of exposures, entail risk of silicosis and chronic obstructive pulmonary disease is suspected. See section 11.

3. Composition/Information on Ingredients

IUPAC-name: Silicon dioxide

Composition	Weight%	CAS No.	EINECS No.	Danger Class	R & S-Phrases
Amorphous silica (SiO ₂), fume	Max. 30	69012-64-2	273-761-1		
Crystalline silica (SiO ₂), quartz	Max. 50	14808-60-7	238-878-4	Xn (respirable)	R48, S22
Water	Min. 20				

All ingredients in Microblock[®] HTC 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.

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4. First Aid Measures

Inhalation: Not applicable. Product is a slurry.
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

Microblock[®] HTC additive is not combustible. If the slurry becomes dry, the dust entails no danger of explosion.

Extinguishing media: Not applicable for Microblock[®] HTC.

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 CE-marked respiratory protection 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 10 ^(I) /3 ^(R)	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. Both amorphous silica fume and alumina are 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

Target value and limit value for PM₁₀ and PM_{2,5} (Directive 2008/50/EC):

	Averaging period	Limit value	By date
PM ₁₀	One day	50 µg/m ³ ★	1 January 2005
PM ₁₀	Calendar year	40 µg/m ³	1 January 2005
		Target value	
PM _{2,5}	Calendar year	25 µg/m ³	1 January 2010
		Limit value	
PM _{2,5}	Calendar year	25 µg/m ³	1 January 2015

★ Not to be exceeded more than 35 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 1.8
pH:	Typical 5-7
Particle size, mean (μm):	≈ 23 (15 weight% of primary particles have a diameter $< 5\mu\text{m}$)

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

11. Toxicological Information

Acute effects:

INGESTION: Dust from dried Microblock[®] HTC additive may cause irritation and dehydration of mucous membranes.

INHALATION: Dust from dried Microblock[®] HTC additive may cause irritation and dehydration of mucous membranes.

SKIN CONTACT: Dust from dried Microblock[®] HTC additive may cause irritation and dehydration.

EYE CONTACT: Dust from dried Microblock[®] HTC additive may cause irritation and dehydration.

Chronic effects:

Microblock[®] HTC (slurry/wet): Not applicable.

Microblock[®] HTC (dry): Inhalation of respirable, dry matter from the product may cause a risk for lung fibrosis (silicosis), and chronic obstructive lung disease is suspected following long-term exposure (years) for concentrations of amorphous silica above recommended occupational exposure limits. For suspected lung cancer following exposure to crystalline silica, see section 8.

12. Ecological Information

Microblock[®] HTC additive 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: Coarse silica fume 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		Xn: Harmful (respirable)
R-phrases:	48	Danger of serious damage to health by prolonged exposure
S-phrases:	22	Do not breathe dust

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

- Commission Directive 1999/45/EC.
- 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).

16. Other Information

Literature references are available upon application to the manufacturer.

Microblock® HTC is a registered trademark owned by Elkem AS.