

# **SAFETY DATA SHEET**

according to Regulation (EC) No. 453/2010

## **MICROBLOCK HT**

Revision Date: 18-Dec-2014

Revision Number: 13

### **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

#### **1.1. Product Identifier**

**Product Name** MICROBLOCK HT

#### **1.2. Relevant identified uses of the substance or mixture and uses advised against**

<b>Recommended Use</b>	Additive
<b>Sector of use</b>	SU2 - Mining, (including offshore industries)
<b>Product category</b>	PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
<b>Process categories</b>	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

#### **1.3. Details of the supplier of the safety data sheet**

Halliburton Energy Services  
Halliburton House, Howemoss Place  
Kirkhill Industrial Estate  
Dyce  
Aberdeen, AB21 0GN  
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

[www.halliburton.com](http://www.halliburton.com)

For further information, please contact

**E-Mail address:** [fdunexchem@halliburton.com](mailto:fdunexchem@halliburton.com)

#### **1.4. Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

<b>Emergency telephone - §45 - (EC)1272/2008</b>	
<b>Europe</b>	<b>112</b>
<b>Croatia</b>	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
<b>Cyprus</b>	+210 7793777
<b>Denmark</b>	Poison Control Hotline (DK): +45 82 12 12 12
<b>France</b>	ORFILA (FR): + 01 45 42 59 59
<b>Germany</b>	Poison Center Berlin (DE): +49 030 30686 790
<b>Italy</b>	Poison Center, Milan (IT): +39 02 6610 1029
<b>Netherlands</b>	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
<b>Norway</b>	Poisons Information (NO): + 47 22 591300
<b>Poland</b>	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
<b>Romania</b>	+40 21 318 36 06
<b>Spain</b>	Poison Information Service (ES): +34 91 562 04 20
<b>United Kingdom</b>	NHS Direct (UK): +44 0845 46 47

### **SECTION 2: Hazards Identification**

#### **2.1. Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

For the full text of the R/H-phrases mentioned in this Section, see Section 16

**Classification** T - Toxic.

**Risk Phrases** R49 May cause cancer by inhalation.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**2.2. Label Elements****Hazard Pictograms**

**Signal Word** Danger

**Hazard Statements**

H350i - May cause cancer by inhalation

H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - EU (§28, 1272/2008)**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P270 - Do not eat, drink or smoke when using this product

P281 - Use personal protective equipment as required

P308 + P313 - IF exposed or concerned: Get medical advice/attention

**Contains****Substances**

Amorphous silica fume

Crystalline silica, quartz

**CAS Number**

69012-64-2

14808-60-7

**2.3. Other Hazards**

None known

**SECTION 3: Composition/information on Ingredients****3.1. Substances**

Substance

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Amorphous silica fume	273-761-1	69012-64-2	30 - 60%	Not applicable	Not applicable	No data available
Crystalline silica, quartz	238-878-4	14808-60-7	30 - 60%	T; R49 R48/23	Carc. 1 (H350) STOT RE 1 (H372)	No data available

For the full text of the R/H-phrases mentioned in this Section, see Section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<b>Skin</b>	Wash with soap and water.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

### 4.2. Most Important symptoms and effects, both acute and delayed

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically

## SECTION 5: Firefighting Measures

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

None - does not burn.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### 5.2. Special hazards arising from the substance or mixture

#### **Special Exposure Hazards**

Not applicable.

### 5.3. Advice for firefighters

#### **Special Protective Equipment for Fire-Fighters**

Not applicable.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.  
See Section 8 for additional information

### 6.2. Environmental precautions

None known.

### 6.3. Methods and material for containment and cleaning up

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

### 6.4. Reference to other sections

See Section 8 and 13 for additional information.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

### 7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 12 months.

### 7.3. Specific End Use(s)

**Exposure Scenario** No information available

**Other Guidelines**

No information available

**SECTION 8: Exposure Controls/Personal Protection****8.1. Control parameters****Exposure Limits**

Substances	CAS Number	EU	UK	Netherlands	France
Amorphous silica fume	69012-64-2	Not applicable	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.075 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>

Substances	CAS Number	Germany	Spain	Portugal	Finland
Amorphous silica fume	69012-64-2	TWA: 0.3 mg/m <sup>3</sup>	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Amorphous silica fume	69012-64-2	TWA: 0.3 mg/m <sup>3</sup>	Not applicable	TWA: 4 mg/m <sup>3</sup>	Not applicable
Crystalline silica, quartz	14808-60-7	TWA: 0.15 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup> TWA (respirable dust) 0.3 mg/m <sup>3</sup> STEL (calculated, respirable dust)	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> STEL: 0.9 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Amorphous silica fume	69012-64-2	Not applicable	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 2 mg/m <sup>3</sup> TWA: 0.3 mg/m <sup>3</sup> TWA: 4.0 mg/m <sup>3</sup> TWA: 1.0 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Amorphous silica fume	69012-64-2	TWA: 2 mg/m <sup>3</sup>	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	TWA: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	Not applicable

**Derived No Effect Level (DNEL)  
Worker**

No information available.

**General Population****Predicted No Effect Concentration (PNEC)**

No information available.

**8.2. Exposure controls****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection**

Normal work gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls** No information available**SECTION 9: Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid  
**Color:** Gray  
**Odor:** Odorless  
**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	5-7
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.8
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**VOC Content (%)** No data available

**SECTION 10: Stability and Reactivity****10.1. Reactivity**

Not applicable

**10.2. Chemical Stability**

Stable

**10.3. Possibility of Hazardous Reactions**

Will Not Occur

**10.4. Conditions to Avoid**

None anticipated

**10.5. Incompatible Materials**

Hydrofluoric acid.

**10.6. Hazardous Decomposition Products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

**SECTION 11: Toxicological Information****11.1. Information on Toxicological Effects****Acute Toxicity****Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact**

May cause mechanical irritation to eye.

**Skin Contact**

None known.

**Ingestion**

None known

**Chronic Effects/Carcinogenicity**

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Amorphous silica fume	69012-64-2	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rat)	No data available
Crystalline silica, quartz	14808-60-7	> 5000 mg/kg (Rat)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Amorphous silica fume	69012-64-2	Non-irritating to the skin (rabbit) (similar substances)
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Eye damage/irritation
Amorphous silica fume	69012-64-2	Non-irritating to the eye (rabbit) (similar substances)
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Amorphous silica fume	69012-64-2	No information available
Crystalline silica, quartz	14808-60-7	Not regarded as a sensitizer.

Substances	CAS Number	Respiratory Sensitization
Amorphous silica fume	69012-64-2	No information available
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Amorphous silica fume	69012-64-2	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Amorphous silica fume	69012-64-2	Did not show carcinogenic effects in animal experiments (similar substances)
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.

Substances	CAS Number	Reproductive toxicity
Amorphous silica fume	69012-64-2	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure
Amorphous silica fume	69012-64-2	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Amorphous silica fume	69012-64-2	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled Lungs

Substances	CAS Number	Aspiration hazard
Amorphous silica fume	69012-64-2	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

## SECTION 12: Ecological Information

### 12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Amorphous silica fume	69012-64-2	No information available	No information available	No information available	No information available
Crystalline silica, quartz	14808-60-7	No information available	LL0(96h): 10000 mg/L (Danio rerio) (similar substance)	No information available	LL50(24h): > 10000 mg/L (Daphnia magna) (similar substance)

### 12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Substances	CAS Number	Persistence and Degradability
Amorphous silica fume	69012-64-2	No information available
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Does not bioaccumulate

Substances	CAS Number	Log Pow
Amorphous silica fume	69012-64-2	No information available
Crystalline silica, quartz	14808-60-7	No information available

### 12.4. Mobility in soil

No information available

### 12.5. Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Amorphous silica fume	No data available
Crystalline silica, quartz	Not PBT/vPvB

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## SECTION 13: Disposal Considerations

**13.1. Waste treatment methods****Disposal Method****Contaminated Packaging**

Disposal should be made in accordance with federal, state, and local regulations.  
Follow all applicable national or local regulations.

**SECTION 14: Transport Information****IMDG/IMO**

<b>UN Number:</b>	Not restricted
<b>UN Proper Shipping Name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**RID**

<b>UN Number:</b>	Not restricted
<b>UN Proper Shipping Name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental hazard:</b>	Not applicable

**ADR**

<b>UN Number:</b>	Not restricted
<b>UN Proper Shipping Name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental hazard:</b>	Not applicable

**IATA/ICAO**

<b>UN Number:</b>	Not restricted
<b>UN Proper Shipping Name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental hazard:</b>	Not applicable

**14.1. UN Number:** Not restricted

**14.2. UN Proper Shipping Name:** Not restricted

**14.3. Transport Hazard Class(es):** Not applicable

**14.4. Packing Group:** Not applicable

**14.5. Environmental Hazards:** Not applicable

**14.6. Special Precautions for User:** None

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

**SECTION 15: Regulatory Information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories****EINECS Inventory****US TSCA Inventory****Canadian DSL Inventory**

This product, and all its components, complies with EINECS  
All components listed on inventory or are exempt.  
All components listed on inventory or are exempt.

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory



**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering Classes (WGK)** WGK 0: Generally not water endangering.

**List of the carcinogenic, mutagenic and toxic for reproduction substances SZW**  
Crystalline silica, quartz

**15.2. Chemical Safety Assessment**  
No information available

## SECTION 16: Other Information

### Full text of R-phrases referred to under Sections 2 and 3

R49 May cause cancer by inhalation.  
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

### Full text of H-Statements referred to under sections 2 and 3

H350 - May cause cancer  
H350i - May cause cancer by inhalation  
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

### Key or legend to abbreviations and acronyms

bw – body weight  
CAS – Chemical Abstracts Service  
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures  
EC – European Commission  
EC10 – Effective Concentration 10%  
EC50 – Effective Concentration 50%  
EEC – European Economic Community  
ErC50 – Effective Concentration growth rate 50%  
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL0 – Lethal Loading 0%  
LL50 – Lethal Loading 50%  
MARPOL – International Convention for the Prevention of Pollution from Ships  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NIOSH – National Institute for Occupational Safety and Health  
NOEC – No Observed Effect Concentration  
NTP – National Toxicology Program  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
PC – Chemical Product category  
PEL – Permissible Exposure Limit  
ppm – parts per million  
PROC – Process category  
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
STEL – Short Term Exposure Limit  
SU – Sector of Use category

**Key literature references and sources for data**  
[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Revision Date:** 18-Dec-2014  
**Revision Note**  
Update to Format SECTION: 8

**This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010**

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**End of Safety Data Sheet**