

## SAFETY DATA SHEET

(USA)

(Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z 400.1)

Version: 1

Revision date: 13 February 2012

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product Code:** S012-3050

**Product Name:** 30/50-Mesh Sand S012

**Use of the Substance/Preparation:** Used as a proppant in oilfield applications.

**Company Identification:** Schlumberger Technology Corporation  
110 Schlumberger Drive  
Sugar Land, Texas 77478, USA  
Telephone: 1-281-285-7873

**Emergency Telephone Number:** USA: +1-281-595-3518 (24hr)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**Main physical hazards:** No classified physical hazards.

**Main health hazards:** Respirable dust. This product may contain small amounts of respirable crystalline silica. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.

**Main environmental hazards:** None.

**Precautions:** Wear suitable protective equipment. Avoid dust formation. Do not breathe dust.

**HMIS classification:** Health: 0\* Flammability: 0 Physical hazard: 0

**Form:** Solid / Granules

**Color:** Varies

**Odor:** None

**Principle routes of exposure:**

Skin contact. Eye contact. Respiratory system.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %- Range
Crystalline silica	14808-60-7	60-100

### 4. FIRST AID MEASURES

**Eye contact:** Rinse with water. Seek medical attention if irritation occurs.

**Skin contact:** Rinse with water.

**Ingestion:** Rinse mouth. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Inhalation:** Move to fresh air. Consult a physician if necessary.

## 5. FIRE-FIGHTING MEASURES

**Fire hazard:** Not combustible.  
**Flash point:** Does not flash.  
**Autoignition temperature:** No data available.  
**Flammability limits in air:**  
    **Lower:** Not applicable  
    **Upper:** Not applicable  
**Oxidizing properties:** None.

**Suitable extinguishing media:**  
Compatible with all types.

**Extinguishing media which must not be used for safety reasons:**  
None known

**Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:**  
None.

**Special protective equipment for firefighters:**  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**NFPA Rating:**  
    **Health:** 0  
    **Flammability:** 0  
    **Instability:** 0  
    **Special:** None

## 6. ACCIDENTAL RELEASE MEASURES

**Main physical hazards:** No classified physical hazards.  
**Personal precautions:** Do not breathe dust. Wear suitable protective equipment. See also Section 8.  
**Methods for cleaning up:** Shovel into suitable container for disposal.  
**Environmental precautions:** Prevent product from entering drains.

## 7. HANDLING AND STORAGE

**Handling:**  
    **Precautions:** Wear suitable protective equipment. Avoid dust formation. Do not breathe dust.  
    **Safe handling advice:** Provide appropriate exhaust ventilation at places where dust is formed.  
**Technical measures/ storage conditions:** No special storage conditions required.  
**Packaging requirements:** Paper bag (minimum 3 ply), or other industrial container designed for powders and granulated materials.  
**Incompatible products:** None known.

<b>8. EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
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**Engineering measures to reduce exposure:** Ensure adequate ventilation

**Hygiene measures:** Keep airborne concentrations below exposure limits.

**Respiratory protection:** Use NIOSH approved respirator with dust and mist protection (3M 8210). If dust concentration exceeds 5 times the exposure limit, wear an approved HEPA respirator.

**Eye protection:** Safety glasses with side-shields.

**Hand protection:** Cotton gloves.

**Skin and body protection:** No special precautions required.

### Occupational Exposure Limits

Component	ACGIH - TLVs			OSHA - PELs		
	TWA / C	STEL	Skin Notation	TWA / C	STEL	Final PELs - Skin
Crystalline silica	0.025 mg/m <sup>3</sup>	-	-	Listed	-	-

**Particles Not Otherwise Regulated/Specified [PNOR or PNOS] (insoluble or poorly soluble):**

- OSHA PEL's for Inert or Nuisance Dust are covered by PNOR limits: respirable fraction: 5 mg/m<sup>3</sup>; total dust 15 mg/m<sup>3</sup>.

- ACGIH PNOS Recommendations: airborne concentrations should be kept below 3 mg/m<sup>3</sup>, respirable particulate, and 10 mg/m<sup>3</sup>, inhalable particles.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Chemical characterization:</b>	Inorganic mineral. Inert.
<b>Fire hazard:</b>	Not combustible.
<b>Form:</b>	Solid / Granules
<b>Color:</b>	Varies
<b>Odor:</b>	None
<b>Odor threshold:</b>	Not applicable.
<b>pH:</b>	Not applicable.
<b>Boiling point/range:</b>	Not applicable.
<b>Flash point:</b>	Does not flash.
<b>Flammability limits in air:</b>	
<b>Lower:</b>	Not applicable
<b>Upper:</b>	Not applicable
<b>Bulk density:</b>	1100-1600 kg/m <sup>3</sup>
<b>Melting point/range:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Solubility:</b>	
<b>Water solubility:</b>	Insoluble
<b>Fat solubility:</b>	Insoluble.
<b>Partition coefficient (n-octanol/water):</b>	Not applicable.
<b>Relative density:</b>	~ 2.5 (@ 20°C)
<b>Vapor pressure:</b>	Not applicable.
<b>Vapor density:</b>	Not applicable.
<b>Viscosity:</b>	Not applicable.
<b>Evaporation rate:</b>	Not applicable.
<b>% Volatile (VOC):</b>	None.

**10. STABILITY AND REACTIVITY**

**Stability:**  
Stable.

**Conditions to avoid:**  
None known.

**Incompatibility with other substances:**  
None known.

**Hazardous decomposition products:**  
None.

**Hazardous polymerization:**  
Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION****PRODUCT TOXICOLOGICAL INFORMATION****Acute Health Hazard**

**Eye contact:** May cause mechanical irritation.

<b>Skin contact:</b>	No effect expected.
<b>Ingestion:</b>	Accidental ingestion of small amounts is not expected to cause adverse effects.
<b>Inhalation:</b>	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. This product may contain small amounts of respirable crystalline silica. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.
<b>Sensitization - lung:</b>	None known.
<b>Sensitization - skin:</b>	None known.
<b>Toxicologically synergistic products:</b>	Smoked tobacco.

**Chronic Health Hazard**

<b>Carcinogenic effects:</b>	Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled. Risk of cancer depends on duration and level of exposure.
<b>Mutagenic effects:</b>	None known.
<b>Teratogenic effects:</b>	None known.
<b>Reproductive toxicity:</b>	None known.
<b>Target organ effects:</b>	Lungs.

**COMPONENT TOXICOLOGICAL INFORMATION**

Component	Target Organ Effects	LD50 / LC50
Crystalline silica	eyes, respiratory system (in animals: lung cancer)	= 500 mg/kg (Oral LD50; Rat)

Component	IARC Group 1 or 2	ACGIH - Carcinogens	OSHA Listed Carcinogens	NTP
Crystalline silica	Group 1; Monograph 100C [in preparation] Group 1; Monograph 68 [1997]	A2 - Suspected Human Carcinogen	Listed	Listed

**12. ECOLOGICAL INFORMATION****PRODUCT INFORMATION**

<b>Main environmental hazards:</b>	None.
<b>Persistence / Degradability:</b>	Not applicable.
<b>Bioaccumulation potential:</b>	None.
<b>Aquatic toxicity:</b>	This product has no known eco-toxicological effects.

**COMPONENT INFORMATION**

Crystalline silica	
<b>Bioaccumulation:</b>	Not applicable
<b>Persistence / degradability:</b>	Not applicable.
<b>Other information:</b>	Listed on PLONOR list of OSPAR

**13. DISPOSAL CONSIDERATIONS****Waste from residues / unused products:**

Dispose of by sanitary landfilling or other acceptable method in accordance with local regulations.

**Contaminated packaging:**

Send empty bags to sanitary landfill. Render other types of containers unuseable by puncturing or crushing and sanitary landfill unless prohibited by local regulations.

**EPA RCRA Hazardous Waste Code:**

None

**14. TRANSPORT INFORMATION****DOT:**

<b>CERCLA RQ:</b>	None
<b>Hazard class:</b>	Not regulated.
<b>Proper shipping name:</b>	Not regulated
<b>Label(s):</b>	None required.

**IMDG/IMO**

<b>Shipping name:</b>	Not regulated.
<b>UN number:</b>	None

**ICAO/IATA**

<b>Shipping name:</b>	Not regulated.
<b>UN number:</b>	None

**TDG (Canada):**

<b>Shipping name:</b>	Not regulated.
<b>PIN:</b>	None

*Note 1:*

*For the applicable placard selection refer to the appropriate transport regulations; the selection may vary depending on the cargo size and categories of other hazardous materials in the cargo.*

**15. REGULATORY INFORMATION****International Chemical Inventories****USA, Toxic Substances Control Act inventory (TSCA):**

This product complies with TSCA requirements.

**Canada, Domestic Substance List (DSL):**

This product complies with DSL requirements.

**U.S.A. Regulations****OSHA Hazard Communication Standard:**

(Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z 400.1)

**EPA RCRA Hazardous Waste Code:**

None

**EPA, Sections 311 and 312 - Material Safety Data Sheet Requirements (40 CFR 370):**

<b>Immediate (Acute) Health Hazard:</b>	None
<b>Delayed (Chronic) Health Hazard:</b>	Yes
<b>Fire Hazard:</b>	None
<b>Sudden Release or Pressure Hazard:</b>	None
<b>Reactive Hazard:</b>	None

**EPA, Sections 313 - List of Toxic Chemicals (40 CFR 372):**

This product contains the following substance(s), which appear(s) on the List of Toxic Chemicals:

**Additional Regulatory Information**

Crystalline silica

**EPA, CERCLA Section 102a/103 Hazardous Substances (40 CFR 302.4):** None**CERCLA/SARA - Hazardous Substances and their RQs:** None**EPA, SARA TITLE III Section 304, Extremely Hazardous Substances (40 CFR 355.40):** None**California Proposition 65:** carcinogen**International Hazard Class****WHMIS Hazard Class:**

D2A (Other Toxic Effects - Very Toxic Material)

**16. OTHER INFORMATION****Current references:**

1. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. *American Conference of Governmental Industrial Hygienists, Cincinnati OH.*
2. IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. *World Health Organization, International Agency for Research on Cancer. Geneva, Switzerland.*
3. Annual Report on Carcinogens. National Toxicology Program. *U.S. Department of Health and Human Services, Public Health Service.*
4. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS). *National Institute for Occupational safety and Health. Cincinnati, OH.*
5. LOLI Database.

**Explanation of terms:**

ACGIH: American Conference of Governmental Industrial Hygienist  
ACGIH-TL: Threshold Limit Value  
DSL: Domestic Substance List  
HMIRC: Hazardous Materials Information Review Commission  
IARC: International Agency for Research on Cancer  
NFPA: National Fire Protection Association  
NTP: National Toxicology Program  
NIOSH: National Institute of Occupational Safety & Health  
NIOSH-REL: Recommended Exposure Limit  
OSHA: Occupational Safety & Health Administration  
OSHA-PEL: Permissible Exposure Limit  
TSCA: Toxic Substance Control Act (Inventory)

Occupational Exposure Limits indicators: TWA - Time Weighted Average; STEL - Short Term Limit; C - Ceiling Limit; units: [mg/m<sup>3</sup>]

**ACGIH Notations:**

"Skin" refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes, either by contact with vapors or by direct skin contact with the substance.

"A" notation indicates carcinogenicity as follows:

ACGIH classification: A1 - Confirmed Human Carcinogen; A2 - Suspected Human Carcinogen; A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans; A4 - Not Classifiable as a Human Carcinogen; A5 - Not suspected as a Human Carcinogen.

"SEN" refers to the potential for an agent to product sensitization as confirmed by human and animal data.

**Section(s) revised:** New

**Additional advice:** Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

**Prepared by:** Global Chemical Regulatory Compliance (GCRC)

**Revision date:** 13 February 2012

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**End of the Material Safety Data Sheet**