HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

CALCIUM CARBONATE

Revision Date: 04-Sep-2015 Revision Number: 29

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

1.1. Product Identifier

Product Name CALCIUM CARBONATE

Internal ID Code HM000141

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

Recommended Use pH Control

Sector of use SU2 - Mining, (including offshore industries)

Product category PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents,

other unspecific

Process categories PROC 26 - Handling of solid inorganic substances at ambient temperature

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

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number +44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §4	45 - (EC)1272/2008
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	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 2 - H351
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

2.2. Label Elements

Hazard Pictograms



Signal Word Warning

Hazard Statements

H351 - Suspected of causing cancer if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

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

P281 - Use personal protective equipment as required

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

P314 - Get medical attention/advice if you feel unwell

Contains

SubstancesCAS NumberCrystalline silica, quartz14808-60-7

2.3. Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on Ingredients

3.1. Substances Substance

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Crystalline silica, quartz	238-878-4	14808-60-7	1 - 5%	Carc. 2 (H351) STOT RE 1 (H372)	No data available

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory

irritation develops or if breathing becomes difficult.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15

minutes and get medical attention if irritation persists.

Skin Wash with soap and water. Get medical attention if irritation persists.

Ingestion Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical

attention.

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. Carcinogen. May cause damage to internal organs.

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

All standard fire fighting media

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

Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

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

Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

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
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m ³	TWA: 0.075 mg/m ³	TWA: 0.1 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.05 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Crystalline silica, quartz	14808-60-7	TWA: 0.15 mg/m ³	0.1 mg/m ³ TWA	TWA: 0.15 mg/m ³	TWA: 0.3 mg/m ³
		_	(respirable dust)	_	TWA: 0.1 mg/m ³
			0.3 mg/m ³ STEL		STEL: 0.9 mg/m ³
			(calculated, respirable		STEL: 0.3 mg/m ³

			,		
Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 2 mg/m ³ TWA: 0.3 mg/m ³ TWA: 4.0 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Crystalline silica, quartz	14808-60-7	TWA: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	Not applicable
		TWA: 0.1 mg/m ³	_	_	l ''

Derived No Effect Level (DNEL)

No information available.

dust)

TWA: 1.0 mg/m³

Worker

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: Solid Color: Light tan

Odor: Odorless Odor Threshold: No information available

<u>Property</u> <u>Values</u>

Remarks/ - Method

pH: 8

Freezing Point/Range No data available Melting Point/Range No data available **Boiling Point/Range** No data available **Flash Point** No data available Flammability (solid, gas) No data available upper flammability limit No data available lower flammability limit No data available **Evaporation rate** No data available **Vapor Pressure** No data available **Vapor Density** No data available

Specific Gravity 2.7

Water Solubility
Soluble in water
Solubility in other solvents
No data available
Partition coefficient: n-octanol/water
Autoignition Temperature
Decomposition Temperature
Viscosity
No data available
No data available
No data available
No data available
No information available

Oxidizing Properties No information available

9.2. Other information

VOC Content (%) No data available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

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

Strong acids. Prolonged contact with aluminum. Ammonium salts.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. 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 Skin Contact Ingestion May cause mechanical irritation to eye. May cause mechanical skin irritation.

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
Crystalline silica, quartz	14808-60-7	>15,000 mg/kg (Human)	No data available	No data available

Cubatanasa	CAS	Skin corrosion/irritation			
Substances	Number				
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin			
Substances	CAS Number	Eye damage/irritation			
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.			
Substances	CAS Number	Skin Sensitization			
Crystalline silica, quartz	14808-60-7	No information available.			
Substances	CAS Number	Respiratory Sensitization			
Crystalline silica, quartz	14808-60-7	No information available			
Substances	CAS Number	Mutagenic Effects			
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.			
Substances	CAS Number	Carcinogenic Effects			
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			
Crystalline silica, quartz	14808-60-7	No information available			
Substances	CAS Number	STOT - single exposure			
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.			
Substances	CAS Number	STOT - repeated exposure			
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)			
Substances	CAS Number	Aspiration hazard			
Crystalline silica, quartz	14808-60-7	Not applicable			

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS	Toxicity to Algae	Toxicity to Fish	Toxicity to	Toxicity to
	Number		-	Microorganisms	Invertebrates
Crystalline silica, quartz	14808-60-7	No information available	LL0 (96h) 10,000 mg/L	No information available	LL50 (24h) > 10,000
			(Danio rerio) (similar		mg/L (Daphnia magna)
			substance)		(similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Crystalline silica, quartz	14808-60-7	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Crystalline silica, quartz	14808-60-7	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Crystalline silica, quartz	14808-60-7	No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
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 MethodBury in a licensed landfill according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

UN Number:
UN Proper Shipping Name:
Transport Hazard Class(es):
Packing Group:
Not applicable
Environmental Hazards:
Not applicable
Not applicable

RID

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

ADR

UN Number:
UN Proper Shipping Name:
Transport Hazard Class(es):
Packing Group:
Not applicable
Not applicable
Not applicable
Not applicable

IATA/ICAO

UN Number:
UN Proper Shipping Name:
Transport Hazard Class(es):
Packing Group:
Not applicable
Environmental Hazards:
Not applicable
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 This product, and all its components, complies with EINECS

US TSCA Inventory

Canadian DSL Inventory

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 WGK 0

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 H-Statements referred to under sections 2 and 3

H351 - Suspected of causing cancer if inhaled

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H373 - May cause damage to organs (a,b,c) 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/

OSHA

ECHA C&L

Revision Date: 04-Sep-2015

Revision Note

SDS sections updated: 1

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

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End of Safety Data Sheet