HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

CEMENT - CLASS G DYCKERHOFF LIGHTWEIGHT CEMENT

Revision Date: 29-Apr-2013 Revision Number: 2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name CEMENT - CLASS G DYCKERHOFF LIGHTWEIGHT CEMENT

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

Recommended Use Cement

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

Uses Advised Against No information available

Details of the supplier of the safety data sheet

Halliburton Energy Services

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Kirkhill Industrial Estate

Dvce

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Emergency telephone number

+44 1224 795277 or +1 281 575 5000

144 1224 193211 01 1	1 201 373 3000
Emergency telephone §45	- (EC)1272/2008
Europe	112
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
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 2 - (H315)
Serious Eye Damage / Eye Irritation	Category 1 - (H318)

2. HAZARDS IDENTIFICATION				
Skin Sensitization	Category 1- (H317)			
Carcinogenicity	Category 1A - (H350)			
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - (H335)			
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-phrases mentioned in this Section, see Section 16

Classification T - Toxic.

Xi - Irritant.

Risk Phrases R41 Risk of serious damage to eyes.

R43 May cause sensitization by skin contact.

R49 May cause cancer by inhalation.

R37/38 Irritating to respiratory system and skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure

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through inhalation.

Label Elements

Hazard Pictograms







Signal Word

Danger

Hazard Statements

H318 - Causes serious eye damage

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H335 - May cause respiratory irritation

H372 - Causes damage to organs through prolonged or repeated exposure

H350i - May cause cancer by inhalation

Contains

SubstancesCAS NumberPortland cement65997-15-1Crystalline silica, quartz14808-60-7

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

P201 - Obtain special instructions before use

P280 - Wear eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P310 - Immediately call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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

Other Hazards

None known

3. COMPOSITION/	INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Portland cement	266-043-4	65997-15-1	60 - 100%	Xi; R37/38-41 R43	Eye Dam. 1 (H318) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) STOT SE 3 (H335)	No data available
Crystalline silica, quartz	238-878-4	14808-60-7	<3	T; R49 Xn; R48/20	Carc. 1A (H350i) STOT RE 1 (H372)	No data available

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

4. FIRST AID MEASURES

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, or suspected contact, immediately flush eyes with plenty of

water for at least 15 minutes and get medical attention immediately after flushing.

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

Ingestion Under normal conditions, first aid procedures are not required.

Most Important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

None - does not burn.

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance of mixture

Special Exposure Hazards

Not applicable.

Advice for firefighters

Special Protective Equipment for Fire-Fighters

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. See Section 12 for additional information

Environmental precautions

None known.

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.

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Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. This product contains guartz, 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

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. Product has a shelf life of 24 months. Store in a cool, dry location.

Specific End Use(s)

Exposure Scenario No information available **Other Guidelines** No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Portland cement	Not applicable	10 mg/m ³	Not applicable	Not applicable	5 mg/m ³
Crystalline silica, quartz	Not applicable	0.1 mg/m ³	0,075 mg/m ³	0.1 mg/m ³	0,15 mg/m ³

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Portland cement	Not applicable	6.0 mg/m ³	10 mg/m ³	10.0 mg/m ³	Not applicable
Crystalline silica, quartz	Not applicable	2 mg/m ³	0.15 mg/m ³	Not applicable	Not applicable

Derived No Effect Level (DNEL) Predicted No Effect Concentration

(PNEC)

No information available. No information available.

Exposure controls

Engineering Controls Use approved industrial ventilation and local exhaust as required to maintain exposures

below applicable exposure limits.

Personal protective equipment

Respiratory Protection

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), 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. Eyewash fountains and safety showers must be easily accessible. **Other Precautions**

Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Solid Color: Grav

Odor Threshold: No information available Odorless Odor:

Values Property Remarks/ Method

Melting Point/Range No data available Freezing Point/Range (C): No data available

12.4

9. PHYSICAL AND CHEMICAL PROPERTIES

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Boiling Point/RangeNo data availableFlash PointNo data availableEvaporation rateNo data availableVapor PressureNo data availableVapor DensityNo data available

Specific Gravity 3.15

Water SolubilityInsoluble in waterSolubility in other solventsNo data availablePartition coefficient: n-octanol/waterNo data availableAutoignition TemperatureNo data availableDecomposition TemperatureNo data availableViscosityNo data available

Explosive Properties

No information available
Oxidizing Properties

No information available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

Keep away from any contact with water.

Incompatible Materials

Hydrofluoric acid.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATION

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 severe eye irritation.

Skin ContactCan dry skin. May cause an allergic skin reaction. May cause alkali burns with confined

contact.

Ingestion None known

11. TOXICOLOGICAL INFORMATION

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.

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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.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Portland cement	No data available	>2000 mg/kg	No data available
Crystalline silica, quartz	500 mg/kg	No data available	No data available

12. ECOLOGICAL INFORMATION

Toxicity Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water
				Flea)
Portland cement	No information available	No information available	No information available	No information available
Crystalline silica, quartz	No information available	No information available	No information available	No information available

Persistence and degradability

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

Bioaccumulative potential

Does not bioaccumulate

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Method Bury in a licensed landfill according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number: Not restricted.
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable

RID

UN Number: Not restricted. UN Proper Shipping Name: Not restricted Not restricted Not applicable

ADR

UN Number: Not restricted.
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable

IATA/ICAO

UN Number: Not restricted. UN Proper Shipping Name: Not restricted Not restricted Not applicable

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

15. REGULATORY INFORMATION

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.

List of the carcinogenic, mutagenic and toxic for reproduction substances SZW

Crystalline silica, quartz

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.

Chemical Safety Assessment

No information available

16. OTHER INFORMATION

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

16. OTHER INFORMATION

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R41 Risk of serious damage to eyes.

R43 May cause sensitization by skin contact.

R49 May cause cancer by inhalation.

R37/38 Irritating to respiratory system and skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Key literature references and sources for data

www.ChemADVISOR.com/

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Revision Note Not applicable

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

Disclaimer Statement

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End of Safety Data Sheet