

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

WellLife HPHT NL V.2 Cement Blend

Revision Date: 23-Sep-2015

Revision Number: 6

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

1.1. Product Identifier

Product Name WellLife HPHT NL V.2 Cement Blend
Internal ID Code HM007896

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

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 - §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

Skin Corrosion / irritation	Category 2 - H315
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Serious Eye Damage / Eye Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Carcinogenicity	Category 2 - H351
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372

2.2. Label Elements

Hazard Pictograms



Signal Word

Danger

Hazard Statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H351 - Suspected of causing cancer if inhaled

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

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

P201 - Obtain special instructions before use

P280 - Wear protective gloves/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

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

P310 - Immediately call a POISON CENTER or doctor/physician

Contains

Substances

Manganese tetraoxide

Portland cement

Crystalline silica, quartz

CAS Number

1317-35-7

65997-15-1

14808-60-7

2.3. Other Hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on Ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Manganese tetraoxide	215-266-5	1317-35-7	30 - 60%	STOT RE 2 (H373)	No data available
Portland cement	266-043-4	65997-15-1	30 - 60%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335)	No data available
Crystalline silica, quartz	238-878-4	14808-60-7	10 - 30%	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	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
Skin	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. 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

Causes serious eye damage. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. 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

None anticipated

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. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

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

Avoid contact with eyes, skin, or clothing. 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 24 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
Manganese tetraoxide	1317-35-7	Not applicable	0.5 mg/m ³	Not applicable	1 mg/m ³
Portland cement	65997-15-1	Not applicable	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	Not applicable	Not applicable
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
Manganese tetraoxide	1317-35-7	TWA: 0.5 mg/m ³ TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³
Portland cement	65997-15-1	TWA:	TWA: 4 mg/m ³	TWA: 10 mg/m ³	TWA: 5 mg/m ³ TWA: 1 mg/m ³
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
Manganese tetraoxide	1317-35-7	TWA: 0.5 mg/m ³ STEL" 2 mg/m ³	0.5 mg/m ³ TWA 0.2 mg/m ³ TWA (as Mn) 1.5 mg/m ³ STEL (calculated)	Not applicable	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 3 ppm STEL: 0.3 mg/m ³
Portland cement	65997-15-1	TWA: 5 mg/m ³	1 mg/m ³ TWA (respirable dust) 3 mg/m ³ STEL (calculated, respirable dust)	TWA: 5 mg/m ³	Not applicable
Crystalline silica, quartz	14808-60-7	TWA: 0.15 mg/m ³	0.1 mg/m ³ TWA (respirable dust) 0.3 mg/m ³ STEL (calculated, respirable dust)	TWA: 0.15 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.3 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Manganese tetraoxide	1317-35-7	Not applicable	0.3 mg/m ³	5 mg/m ³	1 mg/m ³
Portland cement	65997-15-1	Not applicable	TWA: 6.0 mg/m ³ TWA: 2.0 mg/m ³	TWA: 10 mg/m ³	10.0 mg/m ³
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: 1.0 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Manganese tetraoxide	1317-35-7	0.2 mg/m ³	Not applicable	Not applicable	Not applicable
Portland cement	65997-15-1	Not applicable	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³	Not applicable
Crystalline silica, quartz	14808-60-7	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	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.

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

Causes severe eye irritation which may damage tissue.

Skin Contact

Causes skin irritation. Can dry skin. May cause an allergic skin reaction.

Ingestion

Irritation of the mouth, throat, and stomach.

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
Manganese tetraoxide	1317-35-7	> 2000 mg/kg (Rat)	No data available	> 5.17 mg/L (Rat) 4h
Portland cement	65997-15-1	> 2000 mg/kg (Rat)	> 2000 mg/kg	> 1 mg/L (Rat) 4h
Crystalline silica, quartz	14808-60-7	>15,000 mg/kg (Human)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Manganese tetraoxide	1317-35-7	Non-irritating to the skin (Rabbit)
Portland cement	65997-15-1	Irritating to skin. (Rabbit)
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Eye damage/irritation
Manganese tetraoxide	1317-35-7	Non-irritating to the eye (Rabbit)
Portland cement	65997-15-1	Corrosive to eyes
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Manganese tetraoxide	1317-35-7	No information available
Portland cement	65997-15-1	May cause sensitization by skin contact
Crystalline silica, quartz	14808-60-7	No information available.

Substances	CAS Number	Respiratory Sensitization
Manganese tetraoxide	1317-35-7	No information available
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Manganese tetraoxide	1317-35-7	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Manganese tetraoxide	1317-35-7	Not regarded as carcinogenic.
Portland cement	65997-15-1	No data of sufficient quality are available.
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
Manganese tetraoxide	1317-35-7	No data of sufficient quality are available.
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure
Manganese tetraoxide	1317-35-7	No significant toxicity observed in animal studies at concentration requiring classification.
Portland cement	65997-15-1	May cause respiratory irritation.
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Manganese tetraoxide	1317-35-7	Causes damage to organs through prolonged or repeated exposure if inhaled: Central Nervous System (CNS)
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Manganese tetraoxide	1317-35-7	No information available
Portland cement	65997-15-1	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
Manganese tetraoxide	1317-35-7	EC50 (72h) > 10000 mg/L (Skeletonema costatum) EC50 (72h) > 100 mg/L (Desmodesmus subspicatus)	LC50 (96h) > 100 mg/L (orhynchus mykiss)	No information available	EC50 (48h) > 100 mg/L (Daphnia magna) LOEC (8d) 100 mg/L (Ceriodaphnia dubia)
Portland cement	65997-15-1	No information available	No information available	No information available	No information available
Crystalline silica, quartz	14808-60-7	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Manganese tetraoxide	1317-35-7	The methods for determining biodegradability are not applicable to inorganic substances.
Portland cement	65997-15-1	The methods for determining biodegradability are not applicable to inorganic substances.

Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.
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12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Manganese tetraoxide	1317-35-7	No information available
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Manganese tetraoxide	1317-35-7	No information available
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Manganese tetraoxide	Not applicable
Portland cement	Not applicable
Crystalline silica, quartz	Not applicable

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

IATA/ICAO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: 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	All components listed on inventory or are exempt.
Canadian DSL Inventory	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/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

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

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

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

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H335 - May cause respiratory irritation
 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 through prolonged or repeated exposure

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/

Revision Date: 23-Sep-2015

Revision Note

SDS sections updated: 1

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