

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

ExpandaCem LT Cement Blend

Revision Date: 21-Nov-2014

Revision Number: 2

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

1.1. Product Identifier

Product Name ExpandaCem LT Cement Blend

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 | PC10 - Building and construction mixtures not covered elsewhere |
| 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

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

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 1224 795277 or +1 281 575 5000

| 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) |
| 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 |

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

| | |
|-------------------------------------|-------------------|
| Skin Corrosion / irritation | Category 1 - H314 |
| 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 2 - H373 |

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.
C - Corrosive.

Risk Phrases

R34 Causes burns.
R37 Irritating to respiratory system.
R43 May cause sensitization by skin contact.
R40 Limited evidence of a carcinogenic effect.
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

H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
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
P280 - Wear protective gloves/eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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

Portland cement
Limestone reaction product with bauxite and gypsum
Crystalline silica, quartz

CAS Number

65997-15-1
91053-53-1
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. |
|------------|--------|------------|---------------|--------------------|-----------------------------------|-----------|
|------------|--------|------------|---------------|--------------------|-----------------------------------|-----------|

| | | | | | | |
|--|-----------|------------|-----------|--------------------------|---|-------------------|
| Portland cement | 266-043-4 | 65997-15-1 | 60 - 100% | C; R34 Xi; R37 R43 | Eye Dam. 1 (H318) Skin Dam. 1C (H314) Skin Sens. 1 (H317) STOT SE 3 (H335) | No data available |
| Limestone reaction product with bauxite and gypsum | 293-319-1 | 91053-53-1 | 1 - 5% | Xi; R41 | Eye Dam. 1 (H318) | No data available |
| Crystalline silica, quartz | 238-878-4 | 14808-60-7 | 1 - 5% | T; R40 R48/23 | Carc. 2 (H351) 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

| | |
|-------------------|---|
| 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. |
| Skin | Wash with soap and water. Get medical attention if irritation persists. |
| Ingestion | Under normal conditions, first aid procedures are not required. |

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

May cause eye and skin burns. May cause respiratory irritation May cause allergic skin reaction. 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. Avoid creating and breathing dust.

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

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 well ventilated area. Keep container closed when not in use. Store locked up. 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 |
|--|------------|----------------|---|------------------------------|----------------------------|
| 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 |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not applicable | Not applicable | 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 |
|--|------------|----------------|----------------------------|------------------------------|--|
| 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 |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not applicable | Not applicable | Not applicable | Not applicable |
| 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 |
|--|------------|-----------------------------|---|-----------------------------|--|
| 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 |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not applicable | Not applicable | Not applicable | 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 |
|--|------------|----------------|--|-----------------------------|----------------------------|
| 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 |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not applicable | Not applicable | Not applicable | Not applicable |
| 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 |
|--|------------|----------------|
| Portland cement | 65997-15-1 | Not applicable |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not applicable |

| | | |
|----------------------------|------------|--|
| Crystalline silica, quartz | 14808-60-7 | TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ |
|----------------------------|------------|--|

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

Eyewash fountains and safety showers must be easily accessible.

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: Gray

Odor: Odorless

Odor Threshold: No information available

Property

Values

Remarks/ - Method

pH:

12.4

Freezing Point/Range

No data available

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

3.15

Water Solubility

No data available

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

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 applicable

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

Keep away from any contact with water.

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 severe eye irritation.

Skin Contact

Can dry skin. May cause an allergic skin reaction. May cause alkali burns with confined contact.

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 |
|--|------------|--------------------|-------------------|-------------------|
| Portland cement | 65997-15-1 | > 2000 mg/kg (Rat) | > 2000 mg/kg | > 1 mg/L (Rat) 4h |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No data available | No data available | 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 |
|------------|------------|---------------------------|
|------------|------------|---------------------------|

| | | |
|--|------------|----------------------------|
| Portland cement | 65997-15-1 | Corrosive to skin (rabbit) |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Non-irritating to the skin |
| Crystalline silica, quartz | 14808-60-7 | Non-irritating to the skin |

| Substances | CAS Number | Eye damage/irritation |
|--|------------|---|
| Portland cement | 65997-15-1 | Corrosive to eyes |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Causes severe eye irritation which may damage tissue. |
| Crystalline silica, quartz | 14808-60-7 | Mechanical irritation of the eyes is possible. |

| Substances | CAS Number | Skin Sensitization |
|--|------------|---|
| Portland cement | 65997-15-1 | May cause sensitization by skin contact |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | Not regarded as a sensitizer. |

| Substances | CAS Number | Respiratory Sensitization |
|--|------------|---------------------------|
| Portland cement | 65997-15-1 | No information available |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|--|------------|----------------------------|
| Portland cement | 65997-15-1 | Not regarded as mutagenic. |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | Not regarded as mutagenic. |
| Crystalline silica, quartz | 14808-60-7 | Not regarded as mutagenic. |

| Substances | CAS Number | Carcinogenic Effects |
|--|------------|--|
| Portland cement | 65997-15-1 | No information available. |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information 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 |
|--|------------|--------------------------|
| Portland cement | 65997-15-1 | No information available |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No information available |

| Substances | CAS Number | STOT - single exposure |
|--|------------|---|
| Portland cement | 65997-15-1 | May cause respiratory irritation. |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | STOT - repeated exposure |
|--|------------|---|
| Portland cement | 65997-15-1 | No information available |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | No information available |
| Crystalline silica, quartz | 14808-60-7 | Causes damage to organs through prolonged or repeated exposure if inhaled Lungs |

| Substances | CAS Number | Aspiration hazard |
|-----------------|------------|-------------------|
| Portland cement | 65997-15-1 | Not applicable |

| | | |
|--|------------|----------------|
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | 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 |
|--|------------|--------------------------|--|----------------------------|---|
| Portland cement | 65997-15-1 | No information available | No information available | No information available | No information available |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | 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 |
|--|------------|--|
| Portland cement | 65997-15-1 | The methods for determining biodegradability are not applicable to inorganic substances. |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | 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. |

12.3. Bioaccumulative potential

Does not bioaccumulate

| Substances | CAS Number | Log Pow |
|--|------------|--------------------------|
| Portland cement | 65997-15-1 | No information available |
| Limestone reaction product with bauxite and gypsum | 91053-53-1 | 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 |
|----------------------------|-------------------------|
| 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

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

Contaminated Packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

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 hazard: | Not applicable |

ADR

| | |
|-----------------------------|----------------|
| UN Number: | Not restricted |
| UN Proper Shipping Name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental hazard: | 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 hazard: | 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.

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

R34 Causes burns.
 R37 Irritating to respiratory system.
 R40 Limited evidence of a carcinogenic effect.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitization by skin contact.
 R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.

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

H314 - Causes severe skin burns and eye damage
 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 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/
 NZ CCID

Revision Date: 21-Nov-2014

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