



## Safety Data Sheet OPTISEAL\* IV

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Product name OPTISEAL\* IV  
Product code PID15925

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

Recommended Use Lost circulation material.

Uses advised against Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

M-I Drilling Fluids UK Limited  
Westhill Business Park  
Westhill AB32 6JL Aberdeenshire  
Scotland United Kingdom

+47 51577424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

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**Contains**

Calcium carbonate

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Thermal decomposition can lead to release of irritating gases and vapours

**3. Composition/information on Ingredients**

**3.1 Substances**

| Chemical Name                 | EC No     | CAS No     | Weight-% |
|-------------------------------|-----------|------------|----------|
| Calcium carbonate             | 207-439-9 | 471-34-1   | 60-100   |
| Crystalline silica (impurity) | 238-878-4 | 14808-60-7 | 1-5      |

**3.2 Mixtures**

Not applicable

**Comments**

Naturally occurring mineral.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

**4. First Aid Measures**

**4.1 First aid measures**

**Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion**

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact**

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

**Eye Contact**

Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if

present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

#### **4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

#### **Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## **5. Firefighting Measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### **5.2. Special hazards arising from the substance or mixture**

#### **Unusual fire and explosion hazards**

None known.

#### **Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapours Fire or high temperatures create: Carbon oxides (COx).

### **5.3 Advice for firefighters**

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## **6. Accidental Release Measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

## **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

## **6.3 Methods and material for containment and cleaning up**

### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimise spreading.

### **Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

## **6.4 Reference to other sections**

See section 13 for more information.

# **7. Handling and Storage**

## **7.1 Precautions for safe handling**

### **Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

### **Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

## **7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

# **8. Exposure Controls/Personal Protection**

## **8.1 Control parameters**

### **Component Information**

| Chemical Name                 | Arabic                    | Australia                                | Egypt          |
|-------------------------------|---------------------------|--|----------------|
| Calcium carbonate             | Not determined            | 10mg/m <sup>3</sup> TWA/inhalable dust   | Not determined |
| Crystalline silica (impurity) | 0.1 mg/m <sup>3</sup> TWA | 0.1mg/m <sup>3</sup> TWA/respirable dust | Not determined |
| Chemical Name                 | India                     | Indonesian                               | Japan          |
| Calcium carbonate             | Not determined            | Not determined                           | Not determined |

|                               |                             |                           |   |
|-------------------------------|-----------------------------|---------------------------|---|
| Crystalline silica (impurity) | Not determined              | 0.1 mg/m <sup>3</sup> TWA | Not determined  |
| <b>Chemical Name</b>          | <b>Kazakhstan</b>           | <b>Kuwait</b>             | <b>New Zealand</b>  |
| Calcium carbonate             | Not determined              | Not determined            | 10 mg/m <sup>3</sup> TWA  |
| Crystalline silica (impurity) | 1 mg/m <sup>3</sup> MAC     | Not determined            | 0.1 mg/m <sup>3</sup> TWA<br>Confirmed carcinogen   |
| <b>Chemical Name</b>          | <b>Malaysia</b>             | <b>Philippines</b>        | <b>Russia</b>   |
| Calcium carbonate             | Not determined              | Not determined            | Not determined  |
| Crystalline silica (impurity) | 0.1 mg/m <sup>3</sup> TWA   | Not determined            | 3 mg/m <sup>3</sup> STEL<br>1 mg/m <sup>3</sup> TWA<br>Fibrogenic substance<br>glass;regulated under Quartz 1123,<br>1124 |
| <b>Chemical Name</b>          | <b>Thailand</b>             | <b>Vietnam</b>            | <b>Turkey</b>   |
| Calcium carbonate             | Not determined              | 10 mg/m <sup>3</sup> TWA  | Not determined  |
| Crystalline silica (impurity) | 0.025 mg/m <sup>3</sup> TWA | Not determined            | Not determined  |

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts  
Tightly fitting safety goggles Safety glasses with side-shields

#### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Nitrile Neoprene Frequent change is advisable

#### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

### Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



## 8.2.3 Environmental exposure controls

### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

|                        |                  |
|------------------------|------------------|
| <b>Physical state</b>  | Solid            |
| <b>Appearance</b>      | Powder Dust      |
| <b>Odour</b>           | Odourless        |
| <b>Colour</b>          | White - Grey Tan |
| <b>Odour threshold</b> | Not applicable   |

| <u>Property</u>              | <u>Values</u>            | <u>Remarks</u> |
|------------------------------|--------------------------|----------------|
| pH                           | Not applicable           |                |
| pH @ dilution                | No information available |                |
| Melting / freezing point     | No information available |                |
| Boiling point/range          | No information available |                |
| Flash point                  | No information available |                |
| Evaporation rate             | No information available |                |
| Flammability (solid, gas)    | Not applicable           |                |
| Flammability Limit in Air    |                          |                |
| Upper flammability limit     | Not applicable           |                |
| Lower flammability limit     | Not applicable           |                |
| Vapour pressure              | No information available |                |
| Vapour density               | No information available |                |
| Specific gravity             | 2.6 - 2.8                | 20 °C          |
| Bulk density                 | No information available |                |
| Relative density             | No information available |                |
| Water solubility             | Insoluble in water       |                |
| Solubility in other solvents | No information available |                |
| Autoignition temperature     | No information available |                |
| Decomposition temperature    | No information available |                |
| Kinematic viscosity          | No information available |                |
| Dynamic viscosity            | No information available |                |
| log Pow                      | No information available |                |
| <b>Explosive properties</b>  | Not applicable           |                |
| <b>Oxidising properties</b>  | None known               |                |

**9.2 Other information**

|                               |                          |
|-------------------------------|--------------------------|
| <b>Pour point</b>             | No information available |
| <b>Molecular weight</b>       | No information available |
| <b>VOC content(%)</b>         | None                     |
| <b>Density</b>                | No information available |
| <b>Particle Size (Micron)</b> | 500-600µm                |

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

**10. Stability and Reactivity**

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerisation**

Hazardous polymerisation does not occur.

**10.4 Conditions to avoid**

Avoid dust formation. Protect from moisture.

**10.5 Incompatible materials**

No materials to be especially mentioned.

**10.6 Hazardous decomposition products**

See Section 5.2.

**11. Toxicological Information**

**11.1 Information on toxicological effects**

**Acute toxicity**

**Product information**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

Respirable quartz <0.028%. Report number: OHS-103.

**Inhalation**

Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact**

Dust may cause mechanical irritation.

**Skin contact**

Prolonged contact may cause redness and irritation.

**Ingestion**

Ingestion may cause stomach discomfort.

**Unknown acute toxicity**

Not applicable.

**Toxicology data for the components**

| Chemical Name                 | LD50 Oral            | LD50 Dermal       | LC50 Inhalation   |
|-------------------------------|----------------------|-------------------|-------------------|
| Calcium carbonate             | = 6450 mg/kg ( Rat ) | No data available | No data available |
| Crystalline silica (impurity) | = 500 mg/kg ( Rat )  | No data available | No data available |

**Sensitisation**

This product does not contain any components suspected to be sensitizing.

**Mutagenic effects**

This product does not contain any known or suspected mutagens.

**Carcinogenicity**

Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

|   |  |
|---|--|
| <b>Reproductive toxicity</b>                              | This product does not contain any known or suspected reproductive hazards.           |
| <b>Routes of exposure</b>                                 | Inhalation.  |
| <b>Routes of entry</b>                                    | Inhalation.  |
| <b>Specific target organ toxicity - Single exposure</b>   | Not classified   |
| <b>Specific target organ toxicity - Repeated exposure</b> | Not classified.  |
| <b>Aspiration hazard</b>                                  | Not applicable.  |
| <b>Other information</b>                                  | Key literature references and sources for data. See Section 16 for more information. |

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.  
 Listed on PLONOR list of OSPAR

#### Toxicity to algae

This product is not considered toxic to algae.

#### Toxicity to fish

This product is not considered toxic to fish.

#### Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

#### Toxicology data for the components

| Chemical Name                 | Toxicity to fish                                 | Toxicity to algae        | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------------|--|--------------------------|---|
| Calcium carbonate             | No information available                         | No information available | No information available                            |
| Crystalline silica (impurity) | LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h | EC50: > 1000 mg/l 72h    | LC50 Daphnia magna (Water flea): > 10000 mg/l 24h   |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical. See component information below.

| Chemical Name                 | Persistence and degradability        |
|-------------------------------|--------------------------------------|
| Calcium carbonate             | Not Applicable - Inorganic chemical. |
| Crystalline silica (impurity) | Inorganic compound                   |

### 12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical. See component information below.



| Chemical Name                 | Bioaccumulation                |
|-------------------------------|--------------------------------|
| Calcium carbonate             | Product/Substance is inorganic |
| Crystalline silica (impurity) | Product/Substance is inorganic |

#### 12.4 Mobility

##### **Mobility**

Insoluble in water. See component information below.

| Chemical Name                 | Mobility           |
|-------------------------------|--------------------|
| Calcium carbonate             | Insoluble in water |
| Crystalline silica (impurity) | Insoluble in water |

##### **Mobility in soil**

See component information below.

| Chemical Name                 | Mobility in soil               |
|-------------------------------|--------------------------------|
| Calcium carbonate             | Not expected to adsorb on soil |
| Crystalline silica (impurity) | Not expected to adsorb on soil |

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

#### 12.6 Other adverse effects.

None known.

#### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

##### **Waste from residues/unused products**

Dispose of in accordance with local regulations.

##### **Contaminated packaging**

Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

### 14. Transport information

**14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3. Hazard class(es)**

ADR/RID/ADN/ADG Hazard class Not regulated

IMDG Hazard class Not regulated

ICAO Hazard class/division Not regulated

**14.4 Packing group**

ADR/RID/ADN/ADG Packing Group Not regulated

IMDG Packing group Not regulated

ICAO Packing group Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

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

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**International inventories**

USA, Toxic Substances Control Act Complies

inventory (TSCA)

Canada (DSL) Complies

Philippines (PICCS) Complies

Inventory - Japan - Existing and Complies

New Chemicals list

China (IECSC) Complies

Australia (AICS) Complies

Korea (KECL) Complies

Inventory - New Zealand - Inventory Complies  
of Chemicals (NZIoC)

## 16. Other Information

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**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse  
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**Version** 3  
**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com  
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National regulatory information  
National occupational exposure limits

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