Safety Data Sheet
CALCIUM CHLORIDE (ALL GRADES)

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>CALCIUM CHLORIDE (ALL GRADES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>MI10432</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>111</td>
</tr>
<tr>
<td>Norway Pr. no.</td>
<td>46238</td>
</tr>
<tr>
<td>Denmark Pr. no.</td>
<td>988590</td>
</tr>
</tbody>
</table>

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

Recommended Use: Weighting agent.
Uses advised against: Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Australia Pty Ltd
ABN: 67 009 214 162
Level 5
256 St. George Tce
Perth
WA 6000
T = +61 08 9440 2900
F = +61 08 9322 3080
+47 51577424
MISDS@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

Classification according to (EC) No. 1272/2008

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
</tr>
</tbody>
</table>

Environmental hazards: Not classified
Physical Hazards: Not classified
2.2 Label elements

Signal word
WARNING

Hazard statements
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/protective clothing and eye/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local regulations.

-  

Indication of danger
Xi - Irritant

Contains
Calcium chloride

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC. HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

### 3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>EC-No.</th>
<th>CAS-No.</th>
<th>Weight % - range</th>
<th>Classification (67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>233-140-8</td>
<td>10043-52-4</td>
<td>60-100</td>
<td>Xi; R36</td>
<td>Eye Irrit. 2 (H319)</td>
<td>01-2119494219-28-xxxx</td>
</tr>
</tbody>
</table>

### 3.2 Mixtures
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. Seek medical attention if irritation occurs.

Skin contact
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye contact
Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. 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.

Main 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. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons
None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards
Contact with metals may evolve flammable hydrogen gas.

Hazardous combustion products
Fire or high temperatures create.; Chlorine, May release hydrogen gas (explosive) on contact with metals.

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.

6.3 Methods and materials for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

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
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 before eating, drinking or smoking. 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. Avoid contact with: Strong oxidizing agents. Strong acids.

Storage class
Chemical storage.

Packaging material
Use specially constructed containers only.

7.3 Specific end uses
See Section 1.2.

8. Exposure controls/personal protection
8.1 Control parameters

Exposure limits
NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust.
No biological limit allocated

<table>
<thead>
<tr>
<th>Component</th>
<th>EU OEL</th>
<th>Austria</th>
<th>Australia</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Malaysia</th>
<th>France</th>
<th>Germany</th>
<th>Hungary</th>
</tr>
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<tbody>
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<td>Calcium chloride</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>New Zealand</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Norway</th>
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<tbody>
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<td>Calcium chloride</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Poland</th>
<th>Portugal</th>
<th>Romania</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>2 mg/m³ MAC (aerosol)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Spain</th>
<th>Switzerland</th>
<th>Turkey</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL)

Short term exposure local effects
Calcium chloride
- Inhalation: 10 mg/m³

Long term exposure local effects
Calcium chloride
- Inhalation: 5 mg/m³

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 measures to reduce exposure
Ensure adequate ventilation.

Personal protective equipment
Eye protection
It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.
Hand protection
Repeated or prolonged contact; Use protective gloves made of; Nitrile, Neoprene gloves, Rubber gloves.

Respiratory protection
No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181).

Skin and body protection
Wear suitable protective clothing, Provide eyewash station.

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

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Powder Dust</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Off-white</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>pH @ dilution</td>
<td>7 - 10</td>
<td>5% sol</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>772 °C</td>
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</tr>
<tr>
<td>Boiling point/range</td>
<td>&gt; 1600 °C</td>
<td></td>
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<tr>
<td>Flash point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate (BuAc =1)</td>
<td>Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
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</tr>
<tr>
<td>Relative density</td>
<td>2.1 g/cm³</td>
<td>@ 20°C.</td>
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<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
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<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
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<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
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<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
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<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Log Pow</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other information

Pour point                        | No information available | |
Molecular weight                  | 111                       | |
VOC content(%)                    | None                      | |
Density                           | No information available | |

Not determined
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 polymerization
Hazardous polymerization does not occur.

10.4 Conditions to avoid
Avoid contact with water and moist air - product is hygroscopic.

10.5 Incompatible materials

10.6 Hazardous decomposition products
May release hydrogen gas (explosive) on contact with metals. See also section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation
Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Eye contact
Causes serious eye irritation.

Skin contact
Prolonged contact may cause redness and irritation.

Ingestion
Ingestion may cause stomach discomfort.

Unknown acute toxicity
Not Applicable.

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>= 1000 mg/kg (Rat)</td>
<td>= 2630 mg/kg (Rat)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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

Mutagenic effects
This substance has no evidence of mutagenic properties.

Carcinogenicity
This substance has no evidence of carcinogenic properties.
Reproductive toxicity
None known.

Routes of exposure
Eye contact.

Routes of entry
No route of entry noted.

Specific target organ toxicity
Not classified
(single exposure)

Specific target organ toxicity
Not classified.
(repeated exposure)

Aspiration hazard
No hazard from product as supplied.

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
See component information below.

Toxicity to fish
See component information below.

Toxicity to daphnia and other aquatic invertebrates
See component information below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Toxicity to fish</th>
<th>Toxicity to algae</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride</td>
<td>10650 mg/L LC50 (Lepomis macrochirus) = 96 h</td>
<td>No information available</td>
<td>2,400 mg/L EC50 (Daphnia magna) = 48 h</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential
Not Applicable - Inorganic chemical.

12.4 Mobility in soil
Mobility
Soluble in water.

12.5 Results of PBT and vPvB assessment
Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

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 taken for local recycling, recovery or waste disposal.

EWC Waste disposal No.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13 Waste Code: 7091 Inorganic salts and other solids.

14. Transport information

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA,ADR/RID/ADG).

14.1 UN Number
Not regulated

14.2 Proper shipping name
Not regulated

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

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Please contact MISDS@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

Germany, Water Endangering Classes (VwVwS)  
Water endangering class = 1

Australian Standard for the Uniform Scheduling of Drugs and Poisons  
No Poisons Schedule number allocated


This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.


Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

International inventories

USA (TSCA)  
Complies

European Union (EINECS and ELINCS)  
Complies

Canada (DSL)  
Complies

Philippines (PICCS)  
Complies

Japan (ENCS)  
Complies

China (IECSC)  
Complies

Australia (AICS)  
Complies

Korean (KECL)  
Complies

New Zealand (NZIoC)  
Complies

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report
No information available

## 16. Other information

<table>
<thead>
<tr>
<th>Prepared by</th>
<th>Global Regulatory Compliance - Chemicals (GRC - Chemicals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supersedes date</td>
<td>15/Nov/2010</td>
</tr>
<tr>
<td>Revision date</td>
<td>01/Apr/2014</td>
</tr>
<tr>
<td>Version</td>
<td>5</td>
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</table>

**The following sections have been revised**  
This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

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

H319 - Causes serious eye irritation

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.