Section 1 - Identification

Product Name: Calcium Chloride Dihydrate

Product Code: ACR12335, ACR20778, ACR42352, ACR44732, AJA127, AJA128, APPA4689.0250, BSPCL947.500, FSBBP510, FSBC/1500, FSBC69-500

Address: ThermoFisher Scientific Australia Pty Ltd
5 Caribbean Drive, Scoresby
VICTORIA 3179, Australia

Emergency Tel.: CHEMTREC®
03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers:
Tel: 1300 735 292
Fax: 1800 067 639
E-mail address: auinfo@thermofisher.com

Recommended Use: Laboratory chemicals.

Section 2 - Hazard(s) Identification

Classification under the National Occupational Health and Safety Commission (NOHSC), Australia

Classified as hazardous according to criteria of NOHSC

Physical hazards
No hazards identified

Health hazards
Skin Corrosion/irritation Category 2
Serious Eye Damage/Eye Irritation Category 2

Environmental hazards
No hazards identified

Label Elements

Exclamation Mark

Signal Word: Warning

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements
**Section 3 - Composition and Information on Ingredients**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride, dihydrate</td>
<td>10035-04-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

**Section 4 - First Aid Measures**

- **Inhalation**: Move to fresh air.
- **Ingestion**: Clean mouth with water and drink afterwards plenty of water.
- **Skin Contact**: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
- **Eye Contact**: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **Protection of First-aiders**: Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
- **First Aid Facilities**: Eyewash, safety shower and washroom.
- **Most important symptoms/effects**: No information available.
- **Notes to Physician**: Treat symptomatically.

**Section 5 - Fire Fighting Measures**

- **Suitable Extinguishing Media**: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- **Extinguishing media which must not be used for safety reasons**: No information available.
- **Specific Hazards Arising from the Chemical**: Thermal decomposition can lead to release of irritating gases and vapors.
- **Special protective equipment and precautions for fire fighters**: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Section 6 - Accidental Release Measures**

- **Emergency procedures**: Ensure adequate ventilation.
Section 7 - Handling and Storage

Precautions for Safe Handling
Ensure adequate ventilation.

Conditions for Safe Storage, Including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

Section 8 - Exposure Controls and Personal Protection

Exposure limits

 Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls
Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection
Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection
Protective gloves

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>AUS/NZ Standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural rubber</td>
<td>See manufacturers</td>
<td>-</td>
<td>AS/NZS 2161.1</td>
<td>(minimum requirement)</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neoprene PVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection
Long sleeved clothing

Respiratory Protection
Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type:
Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

Recommended half mask:-
Particle filtering: EN149:2001 (or AUS/NZ equivalent)
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**
No information available.

## Section 9 - Physical and Chemical Properties

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Off-white</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable 4.5</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>175 °C / 347 °F</td>
</tr>
<tr>
<td>Softening Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity / Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Calcium chloride, dihydrate</td>
</tr>
<tr>
<td>log Pow</td>
<td>0.05</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable 4.5</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Solid</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>CaCl2.2 H2 O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>147.02</td>
</tr>
</tbody>
</table>

## Section 10 - Stability and Reactivity

### Reactivity
None known, based on information available

### Stability
Stable under normal conditions.

### Conditions to Avoid
Heat, flames and sparks.

### Hazardous Decomposition Products
None under normal use conditions.

### Hazardous Polymerization
No information available.

## Section 11 - Toxicological Information

### Information on Toxicological Effects

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**Calcium Chloride Dihydrate**

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SAFETY DATA SHEET

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AUS-001140  Version 1  23-Apr-2016  Page 4 / 7
Calcium Chloride Dihydrate

SAFETY DATA SHEET

Product Information
(a) acute toxicity;
   Oral  Based on available data, the classification criteria are not met
   Dermal Based on available data, the classification criteria are not met
   Inhalation Based on available data, the classification criteria are not met
(b) skin corrosion/irritation;  Category 2
(c) serious eye damage/irritation;  Category 2
(d) respiratory or skin sensitization;
   Respiratory No data available
   Skin No data available
(e) germ cell mutagenicity;  No data available
(f) carcinogenicity;  No data available
   There are no known carcinogenic chemicals in this product
(g) reproductive toxicity;
(h) STOT-single exposure;
   No data available
(i) STOT-repeated exposure;
   No data available
   Target Organs  None known.
   Solid
(j) aspiration hazard;

Symptoms / effects, both acute and delayed  No information available

Section 12 - Ecological Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Fish</th>
<th>Water Flea</th>
<th>Freshwater Algae</th>
<th>Microtox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride, dihydrate</td>
<td>Lepomis macrochirus: LC50: 10650 mg/L/96h</td>
<td>EC50: 3005 mg/L/48h</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and Degradability
- Persistence  Persistence is unlikely.
- Degradability  Not relevant for inorganic substances.
- Bioaccumulative Potential  Bioaccumulation is unlikely

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride, dihydrate</td>
<td>0.05</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Mobility  No information available.
Endocrine Disruptor Information  This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant  This product does not contain any known or suspected substance
Ozone Depletion Potential  This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues / Unused Products  Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging  Dispose of this container to hazardous or special waste collection point.

Other Information  Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.
Section 14 - Transport Information

IMDG/IMO  Not regulated
ADG  Not regulated
IATA  Not regulated

Environmental hazards  No hazards identified
Special Precautions  No special precautions required
Additional information  None known

Section 15 - Regulatory Information

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

International Inventories  X = listed

<table>
<thead>
<tr>
<th>Component</th>
<th>AICS</th>
<th>NZIoC</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride, dihydrate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

Standard for the Uniform Scheduling of Medicines and Poisons  Not Scheduled

Prohibition or notification/licensing requirements  Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - Chinese Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
NZS 5433:2012 - Transport of Dangerous Goods on Land
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
WEL - Workplace Exposure Limit
DNEL - Derived No Effect Level
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
VOC - Volatile Organic Compounds

NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
CAS - Chemical Abstracts Service
ACGIH - American Conference of Governmental Industrial Hygienists
PNEC - Predicted No Effect Concentration
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
ADG  Australian Code for the Transport of Dangerous Goods by Road and Rail
OECD - Organisation for Economic Co-operation and Development
LC50 - Lethal Concentration 50%
ATE - Acute Toxicity Estimate
RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration
BCF - Bioconcentration factor
PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
This safety data sheet complies with the requirements of Safe Work Australia WHS Regulation

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

End of Safety Data Sheet