SAFETY DATA SHEET

1. Identification

Product identifier: CALCIUM CHLORIDE

Other means of identification
Product No.: 3630, 1311, 4880

Recommended use and restriction on use
   Recommended use: Not available.
   Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

   Manufacturer
   Company Name: Avantor Performance Materials, Inc.
   Address: 3477 Corporate Parkway, Suite 200
            Center Valley, PA 18034
   Telephone: Customer Service: 855-282-6867
   Fax: Contact Person: Environmental Health & Safety
   e-mail: info@avantormaterials.com

Emergency telephone number:
   24 Hour Emergency: 908-859-2151
   Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards
   Acute toxicity (Oral) Category 4
   Serious eye damage/eye irritation Category 2A
   Specific target organ toxicity - single exposure Category 3

Label elements

   Hazard symbol:

   Signal word: Warning
   Hazard statement: Harmful if swallowed.
                    Causes serious eye irritation.
                    May cause respiratory irritation.

Precautionary statement

   Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when
using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Storage: Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALCIUM CHLORIDE</td>
<td></td>
<td>10043-52-4</td>
<td>90 - 100%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General fire hazards: The product is non-combustible.
Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:**
Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:**
None known.

**Specific hazards arising from the chemical:**
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

**Special fire fighting procedures:**
Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:**
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**
Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:**
Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

**Notification Procedures:**
Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental precautions:**
Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

**Precautions for safe handling:**
Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities:**
Keep containers tightly closed. Store in a well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**
None of the components have assigned exposure limits.

**Appropriate engineering controls**
No data available.
Individual protection measures, such as personal protective equipment

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Eye/face protection:** Use tight fitting goggles if dust is generated.

**Skin protection**
- **Hand protection:** Chemical resistant gloves
- **Other:** Wear suitable protective clothing.

**Respiratory protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

### 9. Physical and chemical properties

**Appearance**
- **Physical state:** Solid
- **Form:** Granules
- **Color:** White to light grey
- **Odor:** Odorless
- **Odor threshold:** No data available.
- **pH:** 8 - 9 Aqueous solution
- **Melting point/freezing point:** 772 °C
- **Initial boiling point and boiling range:** 1,670 °C
- **Flash Point:** Not applicable
- **Evaporation rate:** No data available.
- **Flammability (solid, gas):** No data available.

**Upper/lower limit on flammability or explosive limits**
- **Flammability limit - upper (%):** No data available.
- **Flammability limit - lower (%):** No data available.
- **Explosive limit - upper (%):** No data available.
- **Explosive limit - lower (%):** No data available.

**Vapor pressure:** No data available.

**Vapor density:** No data available.

**Relative density:** 2.15 (20 °C)

**Solubility(ies)**
- **Solubility in water:** Soluble
- **Solubility (other):** No data available.

**Partition coefficient (n-octanol/water):** No data available.

**Auto-ignition temperature:** No data available.

**Decomposition temperature:** No data available.

**Viscosity:** No data available.

**Other information**
- **Molecular weight:** 110.99 g/mol (CaCl2)
10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
Conditions to avoid: Excessive heat. Water, moisture.
Incompatible materials: Strong oxidizing agents.

11. Toxicological information

Information on likely routes of exposure
Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract.
Inhalation: May cause irritation to the respiratory system.
Skin contact: Causes mild skin irritation.
Eye contact: Causes serious eye irritation.

Information on toxicological effects
Acute toxicity (list all possible routes of exposure)
Oral Product: LD 50 (Rat): 1,000 mg/kg
Dermal Product: No data available.
Inhalation Product: No data available.
Repeated dose toxicity Product: No data available.
Skin corrosion/irritation Product: Causes mild skin irritation.
Serious eye damage/eye irritation Product: Causes serious eye irritation.
Respiratory or skin sensitization Product: Not a skin sensitizer.
Carcinogenicity Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified
No carcinogenic components identified

Germ cell mutagenicity

In vitro  
Product: No mutagenic components identified

In vivo  
Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific target organ toxicity - single exposure

Product: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure

Product: None known.

Aspiration hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):
CALCIUM CHLORIDE LC 50 (Fathead minnow (Pimephales promelas), 96 h): 3,930 - 5,360 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Specified substance(s):
CALCIUM CHLORIDE LC 50 (Water flea (Daphnia magna), 72 h): 759 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)
Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: The product components 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.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT Not regulated.

IMDG Not regulated.

IATA Not regulated.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

- ✔ Acute (Immediate)  -  Chronic (Delayed)  -  Fire  -  Reactive  -  Pressure Generating

SARA 302 Extremely hazardous substance
None present or none present in regulated quantities.

SARA 304 Emergency release notification
None present or none present in regulated quantities.
SARA 311/312 Hazardous chemical
Chemical identity        Threshold Planning Quantity
CALCIUM CHLORIDE                      500 lbs

SARA 313 (TRI reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US state regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act
No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List
No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances
No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:
Australia AICS: On or in compliance with the inventory
Canada DSL Inventory List: On or in compliance with the inventory
EINECS, ELINCS or NLP: On or in compliance with the inventory
Japan (ENCS) List: On or in compliance with the inventory
China Inv. Existing Chemical Substances: On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory
Canada NDSL Inventory: On or in compliance with the inventory
Philippines PICCS: On or in compliance with the inventory
US TSCA Inventory: On or in compliance with the inventory
New Zealand Inventory of Chemicals: On or in compliance with the inventory
Japan ISHL Listing: On or in compliance with the inventory
Japan Pharmacopoeia Listing: Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe
Revision date: No data available.
Version #: 1.0
Further information: No data available.
Disclaimer:

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