



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

<b>Material name</b>	<b>CALCIUM CHLORIDE</b>
<b>Version #</b>	01
<b>Revision date</b>	09-02-2011
<b>CAS #</b>	10043-52-4
<b>Product Codes</b>	<b>J.T.Baker: 1311</b> <b>Macron: 3630, 4748, 4880</b>
<b>Synonym(s)</b>	calcium dichloride; calcium chloride anhydrous; Caltac®; Dowflake
<b>Manufacturer</b>	Avantor Performance Materials, Inc.
<b>Address</b>	3477 Corporate Parkway Suite #200 Center Valley, PA 18034 US
<b>Customer Service</b>	855-282-6867
<b>24 Hour Emergency</b>	908-859-2151
<b>Chemtrec</b>	800-424-9300

## 2. Hazards Identification

<b>Emergency overview</b>	WARNING  Harmful if swallowed. Causes eye irritation. May cause skin irritation. Causes respiratory tract irritation.
<b>OSHA regulatory status</b>	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
<b>Potential health effects</b>	
<b>Routes of exposure</b>	Inhalation. Ingestion. Skin contact. Eye contact.
<b>Eyes</b>	Causes eye irritation.
<b>Skin</b>	May cause skin irritation.
<b>Inhalation</b>	Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.
<b>Ingestion</b>	Harmful if swallowed. Irritating. May cause nausea, stomach pain and vomiting.
<b>Target organs</b>	Eyes. Skin. Respiratory system.
<b>Chronic effects</b>	None known.
<b>Potential environmental effects</b>	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.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
CALCIUM CHLORIDE	10043-52-4	90 - 100

## 4. First Aid Measures

<b>First aid procedures</b>	
<b>Eye contact</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
<b>Skin contact</b>	Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

<b>Ingestion</b>	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Notes to physician</b>	Treat symptomatically.
<b>General advice</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

## 5. Fire Fighting Measures

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<b>Flammable properties</b>	This product is not flammable.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	None known.
<b>Protection of firefighters</b>	
<b>Protective equipment and precautions for firefighters</b>	Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. Accidental Release Measures

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<b>Personal precautions</b>	Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep upwind. Ventilate the area. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
<b>Methods for containment</b>	If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.
<b>Methods for cleaning up</b>	Avoid dust formation.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.  Large Spills: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.  Never return spills in original containers for re-use. Clean surface thoroughly to remove residual contamination. Clean up in accordance with all applicable regulations.

## 7. Handling and Storage

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<b>Handling</b>	Wear appropriate personal protective equipment. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure Controls / Personal Protection

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<b>Engineering controls</b>	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.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Chemical goggles are recommended.
<b>Skin protection</b>	Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.
<b>Respiratory protection</b>	Wear respirator if there is dust formation.

**General hygiene considerations**

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 & Chemical Properties**

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<b>Appearance</b>	Granular.
<b>Color</b>	White to light grey
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Solid.
<b>Form</b>	Granular.
<b>pH</b>	8 - 9 Aqueous solution
<b>Melting point</b>	1421.6 °F (772 °C)
<b>Freezing point</b>	1421.6 °F (772 °C)
<b>Boiling point</b>	3038 °F (1670 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Specific gravity</b>	2.15
<b>Relative density</b>	Not available.
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto-ignition temperature</b>	Not available.
<b>Molecular weight</b>	110.99 g/mol
<b>Molecular formula</b>	Ca-Cl <sub>2</sub>

**10. Chemical Stability & Reactivity Information**

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<b>Chemical stability</b>	Stable under normal temperature conditions. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
<b>Conditions to avoid</b>	Excessive heat. Water, moisture.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Oxides of calcium. Hydrogen chloride.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

**11. Toxicological Information**

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**Toxicological data****Product**

CALCIUM CHLORIDE (10043-52-4)

**Test Results**

Acute Oral LD50 Rat: 1000 mg/kg

<b>Sensitization</b>	Not a skin sensitizer.
<b>Acute effects</b>	Harmful if swallowed.
<b>Local effects</b>	Causes eye irritation. May cause skin irritation. Irritating to respiratory system.
<b>Chronic effects</b>	None known.

<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Skin corrosion/irritation</b>	Contact with skin may cause irritation.
<b>Epidemiology</b>	No epidemiological data is available for this product.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Neurological effects</b>	None known.
<b>Reproductive effects</b>	Contains no ingredient listed as toxic to reproduction
<b>Teratogenicity</b>	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
<b>Symptoms and target organs</b>	Irritant effects.

## 12. Ecological Information

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### Ecotoxicological data

Product	Test Results
CALCIUM CHLORIDE (10043-52-4)	LC50 Fathead minnow ( <i>Pimephales promelas</i> ): 3930 mg/l 96.00 hours
<b>Ecotoxicity</b>	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.
<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	The product is not expected to be biodegradable.
<b>Partition coefficient (n-octanol/water)</b>	Not available

## 13. Disposal Considerations

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<b>Disposal instructions</b>	Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.
<b>Contaminated packaging</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

## 14. Transport Information

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### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

## 15. Regulatory Information

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<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.  CERCLA/SARA Hazardous Substances - Not applicable.
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### CERCLA (Superfund) reportable quantity

None

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**  
Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 311 hazardous chemical**  
Yes

## Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Saf-T-Data**  
Health: 1 - Slight  
Flammability: 0 - None  
Reactivity: 1 - Slight  
Contact: 2 - Moderate  
Lab Protective Equip: B - GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES  
Storage Color Code: G - Green (General Storage)

## 16. Labeling Info

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**Label Hazard Warning** WARNING  
  
Harmful if swallowed. Causes eye irritation. May cause skin irritation. Irritating to respiratory system.

**Label Precautions** Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Keep container closed.

**Label First Aid** Immediately flush eyes with plenty of water for at least 15 minutes. Flush skin thoroughly with water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention if irritation develops or persists. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center.

## 17. Other Information

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**NFPA ratings**  
Health: 2  
Flammability: 0  
Instability: 0

**Disclaimer**

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**Issue date**

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