

MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION

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MSDS # 141
CALCIUM CHLORIDE, ANHYDROUS

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From Genium's MSDS Collection, to be used as a reference.

SECTION 1. MATERIAL IDENTIFICATION

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MATERIAL NAME: CALCIUM CHLORIDE, ANHYDROUS

OTHER DESIGNATIONS: DOWFLAKE, SUPERFLAKE, CaCl₂, CAS #10043-52-4.

MANUFACTURER: Available from many suppliers, including;

Dow Chemical USA

Midland, MI 48674

Emergency #: (517) 636-4400

Allied Corporation

Columbia Rd. & Park Ave.

Morristown, NJ 07960

(800) 631-8050

SECTION 2. INGREDIENTS AND HAZARDS

%

HAZARD DATA

CALCIUM CHLORIDE

SODIUM CHLORIDE

95.8

2.6

No TLV Established

Rat, oral:

LD50: 1000 mg/kg

Rat, Ipr.

LDLo: 500 mg/kg

SECTION 3. PHYSICAL DATA

Boiling Point, 1 atm >2912°F (>1600°C)

Vapor pressure, mmHg @ 20°C N.A.

Vapor density (Air=1) N.A.

Water Solubility @ 20°C, wt % ... 42

Specific gravity ... 2.15

Volatiles, % N.A.

Melting point 1421.6°F (772°C)

Evaporation rate ... N.A.

Molecular weight ... 110.99

APPEARANCE & ODOR: Small, white odorless, hygroscopic, deliquescent crystals.

SECTION 4. FIRE AND EXPLOSION DATA

Lower

Upper

Flash Point and Method

Autoignition Temp.

Flammability Limits in Air

Non-Combustible

N/A

N/A

Extinguishing media: Use extinguishing agents that are appropriate for the surrounding fire. Use water spray to cool fire-exposed containers.

Firefighters should wear self-contained breathing apparatus and full protective clothing.

SECTION 5. REACTIVITY DATA

Calcium Chloride is stable in closed containers at room temperature under normal storage and handling conditions. It does not undergo hazardous polymerization. This material is incompatible with boric oxide and calcium oxide, bromine trifluoride, zinc. Contact with sulfuric acid yields hydrogen chloride gas. It absorbs water, and gives off heat while dissolving. Contact with methyl vinyl ether may initiate an exothermic polymerization. It will attack aluminum, aluminum alloys and yellow brasses. Aqueous solutions of calcium chloride will slowly corrode metals. Prolonged action of calcium chloride solution on galvanized steel will result in the slow evolution of hydrogen gas.

Thermal decomposition or burning may produce chloride fumes.

SECTION 6. HEALTH HAZARD INFORMATION

TLV None established (See Section 2)

Inhalation of dust or mist of Calcium Chloride may cause irritation of the nose, throat, and upper respiratory tract. Contact with the eyes may cause severe irritation or burns and corneal injury. Contact with the skin may cause irritation. If contact with skin is prolonged or if skin is moist, superficial burns may result. Contact with abraded skin or cuts can cause severe necrosis. Calcium chloride is not likely to be absorbed through skin in toxic amounts. Calcium chloride is moderately toxic by ingestion and may cause irritation and burns of the digestive tract, nausea and vomiting.

FIRST AID:

EYE CONTACT: Promptly flush eyes, including under eyelids, with running water for at least 15 minutes. Get medical attention (In-Plant, para-med, community). **SKIN CONTACT:** Wash exposed area with soap and water. Get medical attention if irritation persists. **INHALATION:** Remove victim to fresh air. Restore and/or support breathing as needed. Get medical attention (In-plant, para-med, community). **INGESTION:** Give victim milk or water as quickly as possible. Call a physician or Poison Control Center. Transport to a medical facility. Never give anything by mouth to a person who is unconscious or is having convulsions.

SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES

Notify safety personnel of large spills. Evacuate all non-essential personnel.

For solid spills, sweep, scoop, or vacuum spilled material into suitable containers using caution to avoid generating dust. For spills of aqueous solutions, dilute small spills with copious amounts of water and mop into plastic-lined metal drum and cover. Dike large spills with absorbent material and collect. Clean-up personnel should wear personal protective equipment to prevent skin and eye contact and inhalation or dust or mist (See Section 8).

DISPOSAL: Place in suitable containers for disposal by licensed contractors, or dilute and flush to sewer if permissible (Note: Use caution when dissolving solid in water as solution becomes hot). Follow all Federal, State & Local regulations. **AQUATIC TOXICITY:** Tlm 96: Over 1,000 ppm (anhydrous).

SECTION 8. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation to keep dust at minimum levels. For emergency or nonroutine exposures, wear an appropriate NIOSH-approved respirator with full face protection. Respirator should not contain materials that are attacked by calcium chloride or by solutions of calcium chloride.

When handling this material, wear impervious gloves and protective clothing. If eye contact is possible, wear safety goggles and hat. Provide eyewash stations and safety showers in use and handling areas.

Contact lenses pose a special hazard; soft lenses may absorb and all lenses concentrate irritants.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store in cool, dry, well-ventilated area away from incompatible materials (see Section 5). Protect container from physical damage. Keep container tightly closed! When stored for a prolonged period of time, calcium chloride may cake and become wet.

Maintain good housekeeping practices when handling this compound to prevent the generation of dust. After working with this material, wash thoroughly before eating, drinking, or smoking. Avoid inhalation of dust or mist. Use only with adequate ventilation. Calcium chloride is hygroscopic; when exposed to the atmosphere, it will absorb water and form a solution. Use caution when dissolving in water. Add calcium chloride slowly with stirring and always use cool water (<80°F; 27°C). Aqueous solutions of calcium chloride will slowly corrode metals.

DOT CLASSIFICATION: Not regulated.

DATA SOURCE(S) CODE (See Glossary) 1, 2, 4-8, 12, 25, 34, 37, 48, 49, 55, 60, 65, 78, 79.R.

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MEDICAL REVIEW:

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