

MATERIAL SAFETY DATA SHEET

Calcium Chloride

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Material Identification

PRODUCT NAME: CALCIUM CHLORIDE
CHEMICAL FAMILY: Mixture

Company Identification

MANUFACTURER: TELEPHONE NUMBERS:
Dynalene Inc Product Information: 610.262.9686
5250 West Coplay Road Transport Emergency: CHEMTREC 800.424.9300
Whitehall, PA 18052

Date of Preparation

August 29, 2004

Revision Date:

January 7, 2008

SECTION 2: COMPOSITION/ INFORMATION ON INGREDIENTS

<u>MATERIAL</u>	<u>CAS Number</u>	<u>Wt. %</u>	<u>OSHA PEL (TWA)</u>	<u>ACGIH TLV (TWA)</u>	<u>EU Classification</u>
CALCIUM CHLORIDE	10035-04-8	28-42	--	--	--
DI WATER	7732-18-5	52-66	--	--	--
Other Dissolved Solids	--	2-3	--	--	--

NE = Not Established

C = Ceiling Level

See section 16 for Definitions of Terms Used.

NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1993 format.

NOTE (2): Information on this product is being claimed as proprietary. All pertinent hazard information has been provided, per the Trade Secret requirements of U.S. Federal Occupational Safety and Health Administration Standards (29 CFR 1910.1200) and Canadian WHMIS (CPR 12 and 19). Information on this mixture will be released when the conditions specified in these Standards are met.

SECTION 3: HAZARDS IDENTIFICATION

Acute Health Effects

Eye: Contact with eyes will cause irritation and possibly burning, which is generally alleviated when the product is rinsed from the eyes.

Skin: This liquid may cause local redness or irritation of the skin following prolonged exposure. Repeated or prolonged exposure may lead to dermatitis (red, inflamed skin). Skin absorption is not known to be a potential route of over-exposure for the components of this product.

Ingestion: Ingestion of this product, while not likely to occur in an industrial setting, may cause irritation of the mouth and throat, gastric disturbances, upset stomach, cramps, nausea and vomiting.

Inhalation: Inhalation of the mists or vapors of this product can be irritating to the nose, throat, mucous membranes, and other tissues of the respiratory system. Symptoms of such overexposure can include sneezing and coughing. These symptoms are generally alleviated when overexposure ends.

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Injection: Though not an expected route of occupational exposure for this product, injection (via punctures or lacerations in the skin) may cause local reddening, tissue swelling and discomfort.

Chronic Health Effects

Prolonged or repeated skin exposures can lead to dermatitis (dry, chapped skin). Refer to Section 11 (Toxicological Information) for additional information

Carcinogenicity

The components present in this material at concentrations equal to or greater than 0.1% are not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.

Medical Conditions Aggravated by Exposure

Pre-existing skin conditions may be aggravated by exposure to this material.

Target Organs

Skin, eyes, and respiratory system

SECTION 4: FIRST AID MEASURES

Inhalation

If vapors or mists are inhaled, remove the victim to fresh air. Monitor for respiratory distress. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Remove or cover gross contamination to avoid exposure to emergency personnel. Get medical attention.

Skin Contact

If the product contaminates the skin, immediately flush skin with water for at least 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Seek medical attention, especially if irritation or redness develops.

Eye Contact

If the product enters the eyes, open victim's eyes under gentle running water, use sufficient force to open eyelids. Have a victim "roll" eyes. Flush eyes at least 15 minutes. Seek immediate medical attention, especially if symptoms persist.

Ingestion

If the product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER. If professional advice is not available, do not induce vomiting. Patient should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, who is unable to swallow. Get immediate medical attention. Take copy of label and MSDS to physician or health professional with victim.

SECTION 5: FIRE FIGHTING MEASURES

Flammable properties

FLASH POINT: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABLE LIMITS:

LEL: Not applicable

UEL: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: May include, but not are limited to, carbon dioxide, carbon monoxide, and potassium compounds. Under fire conditions partial combustion and decomposition can produce smoke and gases containing unidentified toxic and/or irritating compounds.

Extinguishing Media

Water, foam, dry chemical, carbon dioxide

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Fire Fighting Instructions

Emergency responders should wear eye protection, self-contained breathing apparatus and full protective equipment. Prevent run-off water from entering storm drains, bodies of water, or other environmentally areas. Decontaminate fire-response equipment with soap and water solution if necessary. Evacuate personnel to a safe area. Keep personnel away and upwind of the fire.

SECTION 6: ACCIDENTAL REALEASE MEASURE

Spill and leak Response

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used.

Small Spill

Cover with absorbent material (floor absorbent, vermiculite, etc.). Soak up spill and place material in properly labeled drum for disposal.

Large Spill

Personnel involved with large release should wear protective equipment. Stop spill at source; dike the area surrounding the spill to prevent further exposure. Prevent material from entering sewer system. If pump is available, pump spilled material into 55-gallon drums for proper disposal. If necessary, absorbents such as vermiculite, clay, floor absorbent may be used on spill and shoveled into drums.

Personal Protective Equipment should be **Level D: chemical resistant gloves (rubber gloves, neoprene gloves) safety glasses. If heated, this product may displace oxygen in an enclosed area.** Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13, Disposal Considerations).

SECTION 7: HANDLING AND STORAGE

Handling

Wash thoroughly after handling this product. Use in a well-ventilated location. Do not eat, drink, smoke or apply cosmetics while handling this material. Use ventilation and other engineering controls to minimize potential exposure to the aerosol, sprays and vapors of this product. Open containers slowly, on a stable surface. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care.

Storage

Store containers in a cool; dry location, away from direct sunlight, or sources of intense heat. Keep containers away from incompatible chemicals, (See Section 10, Stability and Reactivity). Keep drums and other containers of this product tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged

Maintenance of contaminated equipment

Follow practices indicated in Section 6 (accidental Release Measures). Make certain application equipment is locked and tagged-out safely, if necessary. Decontaminate equipment using soapy water before maintenance begins.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

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Engineering Controls

Use with adequate ventilation to minimize exposure to mists or sprays of this product. Prudent practice is to ensure eyewash/safety shower stations are available near areas where this product is used.

Personal Protective Equipment

EYE/FACE PROTECTION: Wear splash goggles or safety glasses with side shields.

RESPIRATORY PROTECTION: None needed for normal circumstances of use. Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. Proper respirator selection depends on the types of air contaminants and the level of exposure. For uncontrolled releases, oxygen-deficient atmospheres, or when air contaminant concentrations are not known, use positive-pressure air-supplied respirators.

PROTECTIVE CLOTHING: Wear rubber or neoprene gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (accidental Release Measure) of this MSDS. Use body protection appropriate for task.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	> 100°C (>212°F)
VAPOR DENSITY (AIR=1):	Not available
VAPOR PRESSURE @ 20°C:	23 mbar
SPECIFIC GRAVITY (water = 1):	1.25
EVAPORATION RATE (n-BuAc=1):	Similar to water.
SOLUBILITY IN WATER:	Soluble
pH:	9-11
FREEZING/ MELTING POINT:	<-30°C (<-22°F)
ODOR THRESHOLD:	Not available
PHYSICAL STATE:	Liquid
COLOR:	Clear, colorless to light green liquid
ANALYTICAL VOC:	Not available
THEORETICAL VOC:	Not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions

Conditions to Avoid

Exposure to extremely high temperatures (>350°C)

Incompatibility with Other Materials

Strong Oxidizers

Decomposition

Decomposes with extreme heat, possibly releasing hazardous gases or vapors, potentially including carbon monoxide, carbon dioxide, potassium compounds, and other compounds of unknown composition.

Hazardous Polymerization

Will not occur

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SECTION 11: TOXICOLOGICAL INFORMATION

General Toxicity Information

Considered non-toxic based on recommendations of the Hazardous Substances Labeling Act.

Oral – Rat LD50 > 5000mg/kg

Dermal – Rabbit LD50 > 2000mg/kg

Testing of Calcium Chloride showed no mortalities and no adverse clinical signs in rats receiving a single oral dose of 5000 mg/kg. Testing of Calcium Chloride showed no treatment-related mortalities, clinical signs, or gross pathological changes in rabbits receiving a single dermal dose of 2000mg/kg.

Reproductive Toxicity Information

Listed below is information concerning the effects of this product and its components on the human reproductive system

Mutagenicity: This product is not reported to produce mutagenic effects in humans.

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to produce teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

Carcinogenicity

The components present in this material at concentrations equal to or greater than 0.1% are not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate & Ecotoxicity Data

If released to the environment, may be acutely toxic due to potential persistence and aquatic toxicity of glycol constituents. Bioconcentration potential is expected to be low. DISSOLVED IONIC SOLID/WATER is expected to dissociate in water forming stable ions and not expected to be susceptible to chemical hydrolysis.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal

Waste disposal must be in accordance with appropriate Federal, State and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

SECTION 14: TRANSPORT INFORMATION

Shipping Information

This material is not hazardous as defined by 49 CFR 172.101 by the U.S. Department of Transportation.

Proper Shipping name	Not applicable.
Hazard Class Number and description	Not applicable.
UN Identification number	Not applicable.
Packing group	Not applicable.
DOT Label(s) required	Not applicable.

Canada Transportation of Dangerous Good Regulation: This material is not considered dangerous goods.

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Mexico Transportation Regulation:

Instituto Nacional de Ecologia (INE#):

Not applicable.

CRETIB Code:

Not applicable.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

A: General Product Information

No additional information available.

B: Component Analysis

The components of this product are not subject to the reporting requirements of SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

C: Component Marine Pollutants

No component of this product is listed as a Marine Pollutant (49 CFR 172.101, Appendix B).

D: Hazardous Air Pollutant

The components of this material are not considered hazardous air pollutants under US Clean Air Act.

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis – State

Components of this product are covered under specific State regulations, as denoted below:

Alaska – Designated toxic and Hazardous Substances: No.

California – Permissible Exposure Limits for Chemical Contaminants: No.

Florida – Substance List: No.

Illinois – Toxic Substance List: No.

Kansas – Section 302/313 List: No.

Massachusetts – Substance List: Yes.

Michigan – Critical Materials Register: No.

Minnesota – List of Hazardous Substances: No.

Missouri – Employer Information/ Toxic Substances: No.

New Jersey – Right to Know Hazardous Substance List: No.

North Dakota – List of Hazardous Chemicals, Reportable Quantities: No.

Pennsylvania – Hazardous Substance List: No.

Rhode Island – Hazardous Substance List: No.

Texas – Hazardous Substance List: Yes

West Virginia – Hazardous Substance List: No.

Wisconsin – Toxic and Hazardous Substances: No.

C. Component Analysis – WHMIS IDL

No components of this material are identified under the Canadian Hazardous Products Act Ingredient Disclosure List (IDL).

Labeling according to EEC Directive

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A: Symbols

None

B: R-phrases

R36/R38: Irritating to eyes, irritating to skin

R52: Harmful to aquatic organisms.

C: S-phrases

S13: Keep away from food, drink, and animal feedstuffs.

S15: Keep away from heat.

S24/S25: Avoid contact with skin, avoid contact with eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37: Wear suitable gloves.

S39: Wear eye/face protection.

D: Ozone depleting Chemicals

No ozone depleting chemicals are present or used in manufacture.

Additional Regulatory Information

A: General Product Information

Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number.

B: Component Analysis – Inventory

Component	TSCA	DSL	EINECS	ECL	ENCS	PICCS	AICS
DISSOLVED IONIC SOLID/WATER	YES	YES	YES	YES	YES	NO	YES
DI WATER	YES	YES	YES	YES	NO	YES	YES

SECTION 16: OTHER INFORMATION

NFPA Hazard Ratings

Health: 1

Flammability: 0

Instability: 0

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date of preparation; however, Dynalene makes no warranty with respect to the accuracy or suitability of the recommendations, and assumes no liability to any use thereof.

Key/Legend

ppm = parts per million; mg/m³ = milligrams per cubic meter of air; mppcf = million of particles per cubic foot of air; f/cc = fibers per cubic centimeter of air; OSHA = Occupational Safety and Health Administration; ACGIH = American Conference of Governmental Industrial Hygienists; TLV = Threshold Limit Value; TWA = 8-hour, time-weighted average; STEL = short-term exposure limit; EPA = Environmental Protection Agency; TSCA = Toxic Substances Control Act; DSL = Canada Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; ECL = Korea Existing and Evaluated Chemical Substances Inventory; ENCS = Japan Existing and New Chemical Substances Inventory; PICCS = Philippines Inventory of Chemicals Substances; AICS = Australia Inventory of Chemicals Substances; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; PMN = Premanufacture Notification; DSL = Domestic Substance List; NFPA = National Fire Protection Association; WHMIS = Workplace Hazardous Materials Identification System; HEPA = High Efficiency Particulate Air;

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CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; NJTSR = New Jersey Trade Secret Registry; EPCRA = Emergency Planning and Community Right-to-Know Act (SARA, Title III); 302 = Extremely Hazardous Substance; HAP = Clean Air Act Hazardous Air Pollutant; TPQ = Threshold Planning Quantity; RQ = Reportable Quantity; NA = Not Available; NR = Not Regulated

END OF DATA SHEET