Product Safety Summary

Calcium Sulfate

CAS No. 7778-18-9

This Product Safety Summary is intended to provide a general overview of the chemical substance. The information on the summary is basic information and is not intended to provide emergency response information, medical information or treatment information. The summary should not be used to provide in-depth safety and health information. In-depth safety and health information can be found in the Safety Data Sheet (SDS) for the chemical substance.

Names

- Calcium sulfate (sulphate)
- Plaster (of Paris)
- Anhydrite
- Gypsum

Product Overview

Solvay Fluorides, LLC does not sell calcium sulfate directly to consumers. The calcium sulfate sold by Solvay Fluorides, LLC is used in industrial applications and processes.

Calcium sulfate is used primarily as a cement additive, in plaster and as a drying agent or earth and soil stabilizer. Calcium sulfate is sold as an odorless, tan to off white solid.

Calcium sulfate is a relatively non-hazardous chemical. Any hazards are due primarily to the physical hardness of the particles. Repeated or prolonged contact can irritate the skin and eyes. Breathing anhydrite particles can irritate the nose and throat, causing a sore throat, nosebleeds and shortness of breath. Ingestion of large amounts of calcium sulfate can cause bronchitis, nausea, stomach upset, vomiting and diarrhea.

Manufacture of Product

- Solvay Fluorides, LLC imports the calcium sulfate it sells from a Solvay affiliate in Mexico.

- Solvay manufactures calcium sulfate as a co-product of hydrogen fluoride manufacturing. Sulfuric acid is reacted with fluorspar ore to produce both hydrogen fluoride (HF) and calcium sulfate (anhydrite). The anhydrite is further dried and purified to form powder.

$$CaF + H_2SO_4 \rightarrow HF + CaSO_4$$

$CaSO_4$

Calcium Sulfate

Product Description

Calcium sulfate is manufactured and sold in solid form. The solid is a white or slightly colored, beige odorless powder. Typical physical properties for calcium sulfate are provided in Table 1.

Table 1: Typical physical properties Calcium Sulfate

Melting Point Temperature	2642ºF (1450ºC)
Relative Density	2.32
Solubility in Water @ 77ºF (25ºC)	2 g/l
pH	2-10

Product Uses

Calcium sulfate is used primarily in cement manufacturing, plaster and as a drying agent or earth and soil stabilizer.

Exposure Potential

- **Workplace Exposure** - Exposure can occur at either an anhydrite manufacturing facility, or a manufacturing, packaging or storage facility that handles calcium sulfate. Exposure may also occur in the event of a transportation incident. Persons involved in maintenance, sampling and testing activities, or in the loading and unloading of calcium sulfate packages are at greater risk of exposure. Following good industrial hygiene practices will minimize the likelihood of exposure; however, persons involved in higher risk activities should always wear proper personal protective equipment such as rubber gloves and boots, respiratory protection, goggles and a hard hat.

  Please consult the Safety Data Sheet for occupational exposure limits.

- **Consumer Exposure to Products Containing Calcium Sulfate** - Solvay Fluorides, LLC does not sell calcium sulfate directly to consumers. Users should follow the manufacturer's use and/or label instructions if calcium sulfate is listed as a component.

- **Environmental Releases** - Spills of calcium sulfate should be contained and isolated from waterways, sewers and drains. Small spills of calcium sulfate should be swept or shoveled up and placed in suitable containers for disposal. Disposal should be in accordance with applicable local, state and federal regulations. Persons attempting to clean up calcium sulfate spills should wear proper personal protective equipment (see guidelines in Workplace Exposure section of this document or Safety Data Sheet). If required, report spills to the appropriate state or federal authorities.

- **Fires** - Fires involving calcium sulfate should be extinguished using measures appropriate to the circumstances and surrounding environment. Hazardous decomposition products such as sulfur oxides may be generated. Fire fighters should wear self-contained breathing apparatus and protective suits

For additional information concerning calcium sulfate emergency response procedures, please consult the Safety Data Sheet.

Health Information

Exposures to calcium sulfate (industrial) can produce the following adverse health affects:

- **Contact** - Skin exposures can cause symptoms ranging from skin irritation, redness or tearing (lachrymation).and dermatitis. Eye exposure to calcium sulfate may result in moderate eye irritation or temporary damage.
- **Inhalation** - The inhalation of gypsum can cause symptoms ranging from eye, nose and throat irritation to coughing and difficulty breathing. Prolonged exposures may cause sore throat, nosebleeds and chronic bronchitis.
- **Ingestion** - The ingestion of calcium sulfate may cause nausea, vomiting, irritation, abdominal pain, and diarrhea.
- **Other Effects** - The International Agency for Research on Cancer (IARC) has not determined calcium sulfate to be carcinogenic (cancer causing).

Please consult the Safety Data Sheet for additional information.

For more information on health effects and routes of exposure, or for information concerning proper first aid measures, please consult the Safety Data Sheet.

Environmental Information

Calcium sulfate is biologically inert and not known to bioaccumulate. For more ecological and environmental information concerning this product, please consult the Safety Data Sheet.

Physical Hazard Information

Calcium sulfate is not flammable.

Exposure to water can cause calcium sulfate to harden.

For more information concerning the physical hazards of this product, please consult the Safety Data Sheet.

Regulatory Information

Regulations may exist that govern the manufacture, sale, export, import, storage, transportation, use and/or disposal of this chemical. These regulations can vary by city, state, country or geographic region. Information may be found by consulting the relevant Safety Data Sheet specific to your country or region.

Additional Information

- Solvay America, Inc. www.solvaynorthamerica.com
- Solvay Fluorides, LLC www.solvaychemicals.us
- Solvay Fluorides, LLC Safety Data Sheets
  www.solvaychemicals.us/EN/Literature/LiteratureDocuments.aspx
- Contact Solvay Fluorides, LLC solvaychemicals.us@solvay.com
- This summary was prepared in August, 2011
  This summary was revised in September, 2013

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