

GHS SAFETY DATA SHEET**1. IDENTIFICATION**

Product Name: Barium Carbonate – All Grades - including:
Type FF, Type CFF, AQUA-FLO[®], and MICRO-FLO[®]

SYNONYMS: Precipitated Barium Carbonate
Carbonic Acid, Barium salt

Recommended for industrial use as:

- a component of specialty glasses, ceramic bricks, tiles, and glazes,
- a raw material for the production of industrial coatings and catalysts,
- for soluble sulfate removal from industrial processes and wastewaters,
- a component of articles added to provide x-ray opacity.

Industrial uses advised against: None.

Molecular formula - BaCO₃
CAS No. 513-77-9

MANUFACTURER: Chemical Products Corporation
102 Old Mill Road
P.O. Box 2470
Cartersville, Georgia 30120
Telephone: 1-770-382-2144

TRANSPORTATION EMERGENCY: CHEMTREC, 800-424-9300

2. HAZARD IDENTIFICATION

Acute toxicity, Oral (Category 4), H302

WARNING HARMFUL IF SWALLOWED

HARMFUL IF INHALED

MAY CAUSE EYE AND SKIN IRRITATION

Do not eat, drink or smoke when using this product.

Wear protective gloves and eye protection.

Use with adequate ventilation or wear a dust mask if excessive dust is present.

Wash hands and face thoroughly after handling.

Dispose of contents/container in accordance with local, state and federal regulations.

Carcinogenicity: NTP.....: No evidence of carcinogenicity.
IARC.....: Not listed.
OSHA.....: Not regulated.

Medical Conditions Aggravated by Exposure: None are known.

3. **COMPOSITION / INFORMATION ON INGREDIENTS**

<u>COMPONENT</u>	<u>CAS #</u>	<u>EXPOSURE LIMITS</u>	<u>% BY WT</u>
Barium Carbonate	513-77-9	OSHA PEL: 0.5 mg/cu m as Ba 0.74 mg/cu m as This Product ACGIH TLV-TWA: Same	ca 97.0

4. **FIRST AID MEASURES**

If medical attention is sought, show this safety data sheet to the doctor in attendance.

If swallowed

Induce vomiting immediately, as directed by medical personnel. Give Epsom salts (magnesium sulfate) or Glauber's Salt (sodium sulfate) dissolved in water. Get medical attention immediately and contact a poison control center.

Never give anything by mouth to an unconscious person.

If inhaled

Move victim into fresh air. If not breathing, give artificial respiration. Get medical attention immediately.

In case of skin contact

Wash off with soap and plenty of water. Wash contaminated clothing before reuse.

In case of eye contact

Flush eyes with water as a precaution with large amounts of water for at least 15 minutes and get medical attention if irritation persists.

Most important symptoms and effects, both acute and delayed

Ingestion causes stomach pain, vomiting, and diarrhea. Muscle stimulation followed by transient paralysis may initiate hours after ingestion.

Acute overexposure will cause severe abdominal pain, violent purging with watery and bloody stools, vomiting, muscle twitching, hypertension, and confusion, followed by transient muscle paralysis including potentially fatal paralysis of the respiratory muscles. Barium is eliminated from the body over several days. Chronic overexposure may lead to varying degrees of paralysis of the extremities; hypertension may also be present. Symptoms of overexposure will disappear over several days as the body eliminates barium in the feces.

Hypokalemia is usually present in cases of overexposure; potassium should be administered - large doses may be required.

Physician:

Administer potassium intravenously to counteract the effect of barium.

5. ***FIRE FIGHTING MEASURES***

Flashpoint: Non-Flammable.

Flammability: Non-Flammable.

Autoignition: Non-Flammable.

General Hazard: No fire hazard. Will decompose releasing carbon dioxide gas at extremely high temperatures. This product is toxic if ingested.

Fire Fighting Instructions: Limit water runoff if it is likely to contain suspended barium carbonate. Add soluble sulfate such as sodium sulfate to the water to make it nonhazardous.

Fire Fighting Equipment: No special equipment is required. Wash away any barium carbonate which may contact the body, clothing, or equipment.

Hazardous Combustion Products: None.

6. ***ACCIDENTAL RELEASE MEASURES***

General: Avoid generating dust. Use appropriate Personnel Protective Equipment (PPE). Spilled product could be a RCRA D005 characteristic hazardous waste because of its soluble barium content. Waste containing more than 0.2% soluble barium is hazardous under the RCRA criteria. Do not dump into sewers, on the ground, or into any body of water. Soluble barium can be rendered nonhazardous by reaction with excess sulfate to form insoluble barium sulfate. Any disposal practice must be in compliance with local, state, and federal laws and regulations. (Contact local or state environmental agency for specific rules).

Small Spill: Carefully shovel up or sweep up spilled material and place in suitable container.

Large Spill: Try to keep material dry and prevent material from entering storm sewers or ditches leading to natural waterways. Mix with excess sulfate to make the material nonhazardous, or dispose of material in an approved hazardous waste landfill.

7. **HANDLING AND STORAGE**

Storage Temperature: Ambient.

Storage Pressure: Ambient.

General: This product is not water-soluble, but is soluble in most acids. Keep this material dry. Keep containers closed. Emptied containers may present a toxic hazard; treat or dispose of appropriately.

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering Controls: Control airborne concentrations below the exposure limits. Use only with adequate ventilation.

Respiratory Protection: Use a NIOSH-approved dust mask if excessive dust is present.

Skin Protection: Cover exposed skin areas and wear general-purpose gloves.

Eye Protection: Wear safety glasses. Use chemical goggles if excessive dust is present.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Solid.

Vapor Pressure: Not applicable.

Specific Gravity: 3.1

Solubility in Water: Insoluble.

pH: 1% suspension in water has a pH of 9

Boiling Point: Decomposes to barium oxide and carbon dioxide at about 1000 Degrees C.

Melting Point: About 1000 Degrees C. - Near decomposition temperature.

Vapor Density: Not applicable.

Evaporation Rate: Not applicable.

Odor: Usually odorless; possibly a very slight rotten-egg odor.

Appearance: White powder or granules.

10. **STABILITY AND REACTIVITY**

Chemical Stability: Keep away from intense heat which may cause decomposition. Keep away from acids which will cause decomposition and generate carbon dioxide gas.

Incompatibility: Acids will decompose barium carbonate with the liberation of carbon dioxide.

Hazardous Decomposition Products: Barium carbonate may be decomposed to release carbon dioxide gas which is hazardous in confined spaces. Soluble barium compounds which may be produced by dissolution of barium carbonate in acid are toxic if ingested.

Hazardous Polymerization: Does not occur.

11. **TOXICOLOGICAL INFORMATION**

Skin: Contact may be slightly irritating. Barium ion is not expected to pass through intact skin.

Eye: The dust is expected to be slightly to moderately irritating.

A National Toxicology Program study found no decrease in two-year survival for rats consuming 110 mg/kg/day of barium chloride for the entire two year period (lifetime exposure).

The U.S. National Library of Medicine TOXNET Toxicology Data Network record for Barium Carbonate CASRN: 513-77-9 states the following:

EXPOSURE: It is difficult to assess the uptake of ingested barium because of a number of factors affect absorption.

ANIMAL/PLANT STUDIES: Insoluble barium compounds such as barium carbonate, accumulate in the lungs and are cleared slowly ciliary action.

Evidence for Carcinogenicity:

A4; Not classifiable as a human carcinogen. /Barium and soluble cmpd, as Ba/
[American Conference of Governmental Industrial Hygienists TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. Cincinnati, OH 2010, p. 13] ****PEER REVIEWED****

Human Toxicity Excerpts: /SIGNS AND SYMPTOMS/ Some effects such as hypertension, violent tremors, and convulsions are uncommon following ingestion of barium carbonate. They are more likely to follow absorption of more soluble barium compounds.

[Hayes, W.J., Jr., E.R. Laws, Jr., (eds.). Handbook of Pesticide Toxicology. Volume 2. Classes of Pesticides. New York, NY: Academic Press, Inc., 1991., p. 498] ****PEER REVIEWED****

Acute Exposure/ Median lethal doses (in mg/kg) for ingested barium carbonate:

... 418-557... in rabbits. [Friberg, L., Nordberg, G.F., Kessler, E. and Vouk, V.B. (eds). Handbook of the Toxicology of Metals. 2nd ed. Vols I, II.: Amsterdam: Elsevier Science Publishers B.V., 1986., p. V2 91] ****PEER REVIEWED****

... 623-800 in chickens. [Friberg, L., Nordberg, G.F., Kessler, E. and Vouk, V.B. (eds). Handbook of the Toxicology of Metals. 2nd ed. Vols I, II.: Amsterdam: Elsevier Science Publishers B.V., 1986., p. V2 91] ****PEER REVIEWED****

... 1480-1500 in rats. [Friberg, L., Nordberg, G.F., Kessler, E. and Vouk, V.B. (eds). Handbook of the Toxicology of Metals. 2nd ed. Vols I, II.: Amsterdam: Elsevier Science Publishers B.V., 1986., p. V2 91] ****PEER REVIEWED****

the TOXNET Toxicology Data Network record also contains:

LD₅₀ Rat oral 630-750 mg/kg. [Farm Chemicals Handbook 88. Willoughby, Ohio: Meister Publishing Co., 1988., p. C-25] ****PEER REVIEWED****

LD₅₀ Wild Norway rat oral 1480 mg/kg

[Hayes, Wayland J., Jr. Pesticides Studied in Man. Baltimore/London: Williams and Wilkins, 1982., p. 1] ****PEER REVIEWED****

LD₅₀ Rat oral 418 mg/kg

[Lewis, R.J. Sr. (ed) Sax's Dangerous Properties of Industrial Materials. 11th Edition. Wiley-Interscience, Wiley & Sons, Inc. Hoboken, NJ. 2004., p. 340] ****PEER REVIEWED****

12. **ECOLOGICAL INFORMATION**

TOXICITY: In turbid water at 20 Deg. C, the 96 hour TLM has been reported as 10,000 mg/l for Mosquito Fish (*Gambusia Affinis*). This would have been suspended rather than dissolved barium carbonate.

DISTRIBUTION: Barium carbonate is not water soluble and occurs in nature as the mineral Witherite. It reacts with sulfate ions in the environment to form barium sulfate. No appreciable bioconcentration is expected in the environment because barium sulfate is naturally present in almost all rocks and soils.

CHEMICAL FATE: Barium carbonate is expected to react with sulfate in the environment to form inert and nontoxic barium sulfate.

13. **WASTE MANAGEMENT INFORMATION - DISPOSAL**

Waste containing more than 0.2% soluble barium is hazardous under the RCRA criteria. If disposed of in its purchased form, this product would be a hazardous waste based on barium solubility in the RCRA TCLP test. Barium compounds can be rendered non-hazardous by reaction with excess sulfate to form insoluble barium sulfate. Any disposal practice must be in compliance with local, state, and federal laws and regulations.

14. **TRANSPORT INFORMATION**

D.O.T. Shipping Name.. : Not Regulated by U.S. DOT
as a hazardous material.

Technical Shipping Name..... : Barium Compound.

D.O.T. Hazard Class..... : None.

U.N./N.A. Number..... : None.

Product R.Q. (lbs)..... : None.

D.O.T. Label..... : None.

D.O.T. Placard..... : None.

Freight Class Bulk..... : Inorganic Chemical.

Freight Class Package..... : Inorganic Chemical.

Product Label..... : Barium Carbonate, Precipitated
Type FF, Type CFF, AQUA-FLO[®],
MICRO-FLO[®]

15. **REGULATORY INFORMATION**

OSHA Status: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200. It is classified as toxic based on the oral rat LD50.

TSCA Status..... : Listed on TSCA Inventory

CERCLA Reportable Quantity..... : None.

SARA Title III:

Section 302, Extremely Hazardous Substances.... : None.

Section 311/312, Hazard Categories..... : Category 1 (Acute Hazard).

Section 313, Toxics Release Inventory: Barium Compounds, Code N040.

RCRA Status: If discarded in its purchased form, this product would be a hazardous waste by characteristic. Under RCRA, it is the responsibility of the product user to determine, at the time of disposal, whether a waste containing the product, or derived from the product, should be classified as a hazardous waste under 40 CFR 261.20-24.

16. **OTHER INFORMATION**

National Fire Protection Association (NFPA) Ratings: This information is intended solely for the use of individuals trained in the NFPA system.

Health: 2

Flammability: 0

Reactivity: 0

Revision Indicator: This GHS Safety Data Sheet replaces Safety Data Sheet dated May 14, 2015; it contains substantial revision of Section 11. Toxicological Information, with no other changes.

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