



GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>1</td></tr></table>	Health Hazard	2	Fire Hazard	0	Reactivity	1	 See Section 15.
Health Hazard	2							
Fire Hazard	0							
Reactivity	1							

Section 1. Chemical Product and Company Identification

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Common Name/ Trade Name	Barium Chlorate, Monohydrate	Catalog Number(s).	B1020, B1992
		CAS#	10294-38-9; 13477-00-4(anhydrous)
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	Not available.
		TSCA	TSCA 8(b) inventory: No products were found. CAS number 10294-38-9 (monohydrate form) is not on TSCA 8(b) inventory since it is a hydrate. However, CAS number 13477-00-4 (anhydrous form) is on the TSCA 8(b) inventory.
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Not available.	IN CASE OF EMERGENCY <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000	
Chemical Name	Chloric acid, barium salt, monohydrate		
Chemical Family	Not available.		
Chemical Formula	Ba-Cl2-O6.H2O		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		<i>Exposure Limits</i>			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Barium Chlorate, Monohydrate	10294-38-9				100

Toxicological Data on Ingredients	Barium Chlorate, Monohydrate LD50: Not available. LC50: Not available.
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Section 3. Hazards Identification

Potential Acute Health Effects	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.
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Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
 The substance may be toxic to blood, kidneys, lungs.
 Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures**Eye Contact**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion

Not available.

Section 5. Fire and Explosion Data**Flammability of the Product**

Non-flammable.

Auto-Ignition Temperature

Not applicable.

Flash Points

Not applicable.

Flammable Limits

Not applicable.

Products of Combustion

Not available.

Fire Hazards in Presence of Various Substances

of organic materials of combustible materials

Explosion Hazards in Presence of Various Substances

Risks of explosion of the product in presence of static discharge: Not available.
 Slightly explosive in presence of shocks, of heat, of combustible materials, of organic materials.

Fire Fighting Media and Instructions

Not applicable.

Special Remarks on Fire Hazards

Powerful oxidizing agent; may ignite oxidizable materials. Contact with combustible or organic materials may cause fire.
 A mixture of sulfur and barium chlorate ignites at about 108-111 C.
 Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result.

Special Remarks on Explosion Hazards

A combination of finely divided aluminum, arsenic, carbon, copper, metal sulfides, organic matter, phosphorus, or sulfur with finely divided chlorates of barium can be exploded by heat, percussion, and sometimes light friction.
 Contact with strong sulfuric acid can cause fires or explosions.
 Mixtures of finely divided combustible materials (such as certain dusty forms of floor sweepings/saw dust), charcoal with chlorates can explode virtually spontaneously.
 Chlorates can also present a dangerous explosion hazard when shocked, exposed to heat, or rubbed, particularly when contaminated with As₂S₃, CaH₂, Hg₃P₄, Manganese dioxide, NaH₂PO₂, PHI₄, SCN, ammonium compounds, cyanides, metals + acids, organic acids, phosphorus or antimony sulfide, selenium, shellac, starch, sugar.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Oxidizing material. Organic peroxide. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not use metal tools or equipment. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents, combustible materials, organic materials, metals, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 0.5 (mg(Ba)/m ³) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Crystals solid. Powdered solid.)	Odor	Odorless.
Molecular Weight	322.26 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	White.
Boiling Point	Not available.		
Melting Point	250°C (482°F)		
Critical Temperature	Not available.		
Specific Gravity	Density: 3.179 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Soluble in cold water. Very slightly soluble in acetone. Solubility in Water: 27.4 g/100 ml water at 15 deg. C.; 111.2 g/100 ml water at 100 deg. C. Slightly soluble in alcohol, Hydrochloric acid. Moderately soluble in Ethylamine. Practically insoluble in Ethyl acetate, Pyridine.		

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials
Incompatibility with various substances	Highly reactive with reducing agents, combustible materials, organic materials, metals, acids.
Corrosivity	Not available.
Special Remarks on Reactivity	Loses its water of hydration at 120 C. Gives off oxygen at 250 C. Incompatible with combustible materials (oil, wood, paper, leather, clothing), finely powdered metals, aluminum
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	May cause damage to the following organs: blood, kidneys, lungs.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion. Slightly hazardous in case of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: Harmful if swallowed. Causes abdominal cramping, nausea, vomiting, diarrhea or colic. In very acute or fatal cases the following may occur: pale complexion (pallor), hypotension (low blood pressure), irregular heartbeat, hemolysis with methemoglobin formation which reduces the oxygen carrying capacity of the blood resulting in cyanosis(a bluish discoloration of the skin, and lips), seizures, tremors, muscle twitching, headache, fatigue, dizziness, trouble breathing, leukocytosis, thrombocytopenic disorder. In chlorate poisoning, early death is usually due to anoxia. Renal failure and hyperkalemia may also occur. Later death is generally due to renal failure.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations**Waste Disposal**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information**DOT Classification**

CLASS 5.1: Oxidizing material.
CLASS 6.1: Poisonous material.

Identification

: Barium Chlorate, solid UNNA: 1445 PG: II

Special Provisions for Transport

Not available.

DOT (Pictograms)**Section 15. Other Regulatory Information and Pictograms****Federal and State Regulations**

Pennsylvania RTK: Barium Chlorate, Monohydrate
Minnesota: Barium Chlorate, Monohydrate
New Jersey: Barium Chlorate, Monohydrate
New Jersey spill list: Barium Chlorate, Monohydrate
Louisiana spill reporting: Barium Chlorate, Monohydrate
California Director's List of Hazardous Substances: Barium Chlorate, Monohydrate
SARA 313 toxic chemical notification and release reporting: Barium Chlorate, Monohydrate

California Proposition 65 Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
For CAS number 13477-00-4 (anhydrous form):
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 236-760-7)
Canada: Listed on Canadian Non-Domestic Substance List (NDSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Not listed on National Inventory (PICCS).
Australia: Listed on AICS.
CAS number 10294-38-9(monohydrate form) is not on the following inventories: European (EINECS), Canadian NDSL/DSL, China, Japan (ENCS), or Australia (AICS).
CAS number 10294-38-9(monohydrate form) is on the following inventories: Korea (KECI), Philippines (PICCS)

Other Classifications**WHMIS (Canada)**

CLASS C: Oxidizing material.
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).

DSCL (EEC)

R9- Explosive when mixed with combustible material.
R20/22- Harmful by inhalation and if swallowed.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S13- Keep away from food, drink and animal feedingstuffs.
S27- Take off immediately all contaminated clothing.
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	1
Personal Protection	E

National Fire Protection Association (U.S.A.)

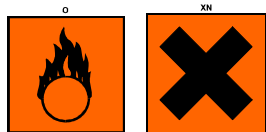
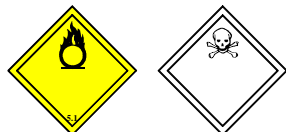
Health



Flammability

Reactivity

Specific hazard

WHMIS (Canada)
(Pictograms)**DSCL (Europe)**
(Pictograms)**TDG (Canada)**
(Pictograms)**ADR (Europe)**
(Pictograms)**Protective Equipment**

Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other Information**MSDS Code** B3030**References** Not available.**Other Special Considerations** Uses: In pyrotechnics; manufacture of explosives, matches; mordant in dyeing; manufacturer of other chlorates

Validated by Sonia Owen on 9/21/2012.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.