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MATERIAL SAFETY DATA SHEET (MSDS)

BARIUM NITRATE AR

1. Product Identification

Synonyms: Barium dinitrate; nitric acid, barium salt; nitrobarite
CAS No.: 10022-31-8

Product Coad: B0036605000

Molecular Weight: 261.34
Chemical Formula: Ba(NO₃)₂

2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|----------------|------------|-----------|-----------|
| Barium Nitrate | 10022-31-8 | 99 - 100% | Yes |

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS MUSCLES (INCLUDING THE HEART), AND CENTRAL NERVOUS SYSTEM.

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Systemic poisoning may occur with symptoms similar to those of ingestion.

Ingestion: Toxic! May cause tightness of the muscles of the face and neck, vomiting, diarrhea, abdominal pain, muscular tremors, anxiety, weakness, labored breathing, cardiac irregularity, convulsions, and death from cardiac and respiratory failure. Estimated lethal dose lies between 1 to 15 grams. Death may occur within hours or up to a few days. May cause kidney damage.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact: Causes irritation, redness, and pain.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin and nervous system disorders or impaired respiratory or kidney function may be more susceptible to the effects of this substance.

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Get medical attention immediately. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. After vomiting, a mixture of 1 tablespoon of sodium or magnesium sulfate (Epsom salts) dissolved in 8 oz. of water to drink maybe indicated to precipitate the barium as the nontoxic and insoluble barium sulfate.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

Note to Physician: Monitor patients with significant ingestion for respiratory, cardiovascular, and blood pressure status. Watch for cardiac arrhythmias, respiratory failure due to flaccid paralysis of respiratory muscles, pulmonary edema, vocal cord paralysis, severe hypertension, and late effect kidney failure. Acute barium poisoning results in hypokalemia. The administration of fluids containing dilute concentrations of potassium salts may be indicated.

5. Fire Fighting Measures

Fire: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion: Contact with oxidizable substances may cause extremely violent combustion. See section 10. Sensitive to mechanical impact.

Fire Extinguishing Media: Use flooding amounts of water in early stages of fire. Foam, dry chemical, or carbon dioxide may also be used. Do not use water on molten material. Emits nitrogen oxides when heated to decomposition.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Do not release runoff from fire control methods to sewers or waterways.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Separate from combustibles, organic or other readily oxidizable materials. Avoid storage on wood floors. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Soluble Barium Compounds: OSHA Permissible Exposure Limit (PEL): 0.5 mg (Ba)/m³

ACGIH Threshold Limit Value (TLV): 0.5 mg (Ba)/m³ A4 - not classifiable as a human carcinogen

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, a full facepiece respirator with dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystals.

Odor: Odorless.

Solubility: 8.7 grams/100 g water @ 20C (68F).

Density: 3.24 @ 23C (73F)

% Volatiles by volume @ 21C (70F): 0

Boiling Point: Decomposes.

Melting Point: 592C (1098F)

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Oxides of nitrogen and toxic metal fumes may form when heated to decomposition. **Hazardous**

Polymerization: Will not occur.

Incompatibilities: Magnesium plus barium oxide plus zinc, aluminum and magnesium alloys, combustibles (paper, oil, wood), acids, and oxidizers.

Mixtures with finely divided aluminum-magnesium alloys are easily ignitable and extremely sensitive to friction or impact.

Conditions to Avoid: Heat, dusting, contact with combustibles and incompatibles.

11. Toxicological Information

For Barium Nitrate: Oral rat LD50: 355 mg/kg. Irritation Data: Skin rabbit 500 mg/24H mild. Eye rabbit 100 mg/24H moderate.

---NTP Carcinogen---

| Ingredient | Known | Anticipated | IARC Category |
|-----------------------------|-------|-------------|---------------|
| Barium Nitrate (10022-31-8) | No | No | None |

12. Ecological Information

Environmental Fate: This material may bioaccumulate to some extent.

Environmental Toxicity: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Proper Shipping Name: BARIUM NITRATE

Hazard Class: 5.1, 6.1

UN/NA: UN1446

Packing Group: II

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15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

| Ingredient | TSCA | EC | Japan | Australia |
|-----------------------------|------|-----|-------|-----------|
| Barium Nitrate (10022-31-8) | Yes | Yes | Yes | Yes |

-----\Chemical Inventory Status - Part 2\-----

--Canada--

| Ingredient | Korea | DSL | NDSL | Phil. |
|-----------------------------|-------|-----|------|-------|
| Barium Nitrate (10022-31-8) | Yes | Yes | No | Yes |

-----\Federal, State & International Regulations - Part 1\-----

-SARA 302- -----SARA 313-----

| Ingredient | RQ | TPQ | List | Chemical Catg. |
|-----------------------------|----|-----|------|----------------|
| Barium Nitrate (10022-31-8) | No | No | No | Barium compo |

-----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-

| Ingredient | CERCLA | 261.33 | 8(d) |
|-----------------------------|--------|--------|------|
| Barium Nitrate (10022-31-8) | No | No | No |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

Reactivity: No (Pure / Solid)

Australian Hazchem Code: 2W

Poison Schedule: S6

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **0** Other: **Oxidizer**

Label Hazard Warning: DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS MUSCLES (INCLUDING THE HEART), AND CENTRAL NERVOUS SYSTEM.

Label Precautions: Keep from contact with clothing and other combustible materials.

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Store in a tightly closed container.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.

Product Use: Laboratory Reagent.

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In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

End of document