



## Material Safety Data Sheet

### Barium AA Standard

#### SECTION 1.1 – PRODUCT IDENTIFICATION

<b>Product Name</b>	:	Barium AA Standard
<b>Molecular Formula</b>	:	Not applicable.
<b>Molecular Weight</b>	:	Not applicable.
<b>CAS No.</b>	:	Mixture.

#### SECTION: 1.2 – COMPANY IDENTIFICATION

**Company Name:** Indenta Chemicals (India) Pvt. Ltd.

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#### SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	% by Weight
Barium	7440-39-3	0.1
Water	7732-18-5	98.5
Nitric acid, fuming	7697-37-2	1.4

**Toxicological Data on Ingredients:** Barium LD50: Not available. LC50: Not available. Nitric acid, fuming LD50: Not available. LC50: Not available.

#### SECTION 3: HAZARD IDENTIFICATION

**Potential Acute Health Effects:** Hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death.

**Potential Chronic Health Effects:** Hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Non-sensitizer for skin. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## SECTION 4: FIRST AID MEASURES

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**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 immediately.

**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 immediate 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

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**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:** Not applicable.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of reducing materials, of combustible materials, of organic materials.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Small Spill:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

**Large Spill:** Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. 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

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**Precautions:** Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. 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 alkalis. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

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**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:** Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Vapor 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:** Barium TWA: 0.5 from ACGIH (TLV) [United States] Nitric acid, fuming TWA: 2 CEIL: 4 TWA: 5 CEIL: 10 Consult local authorities for acceptable exposure limits.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Physical state and appearance:** Liquid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Clear Colorless.

**pH (1% soln/water):** Acidic.

**Boiling Point:** The lowest known value is 82.6 (180.7°F) (Nitric acid, fuming). Weighted average: 99.76°C (211.6°F)

**Melting Point:** May start to solidify at -41.6°C (-42.9°F) based on data for: Nitric acid, fuming.

**Critical Temperature:** Not available.

**Specific Gravity:** Weighted average: 1 (Water = 1)

**Vapor Pressure:** The highest known value is 6 kPa (@ 20°C) (Nitric acid, fuming). Weighted average: 2.35 kPa (@ 20°C)

**Vapor Density:** The highest known value is 0.62 (Air = 1) (Water).

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 0.29 ppm (Nitric acid, fuming)

**Water/Oil Dist. Coeff:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily soluble in cold water.

## SECTION 10: STABILITY AND REACTIVITY

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**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:** Highly reactive with alkalis. Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids.

**Corrosivity:** Highly corrosive in presence of aluminum, of zinc, of copper. Corrosive in presence of steel. Slightly corrosive in presence of stainless steel (304), of stainless steel(316). Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur

## SECTION 11: TOXICOLOGICAL INFORMATION

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**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:**

LD50: Not available. LC50: Not available.

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant, permeator), of ingestion, 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:** Not available.

## SECTION 12: ECOLOGICAL INFORMATION

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**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 CONSIDERATION

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**Waste Disposal:**

## SECTION 14: TRANSPORT INFORMATION

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**DOT Classification:** Class 8: Corrosive material

**Identification:** Corrosive liquid, acidic, inorganic, n.o.s (Nitric acid, solution; Barium Nitrate mixture) (Nitric acid, fuming)

UNNA: UN3264 PG:II

**Special Provisions for Transport:** Marine Pollutant

## SECTION 15: OTHER REGULATORY INFORMATION

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**Federal and State Regulations:** Pennsylvania RTK: Nitric acid, 70% Massachusetts RTK: Nitric acid, 70% TSCA 8(b) inventory: Barium; Nitric acid, 70%; Water SARA 302/304/311/312 extremely hazardous substances: Nitric acid, 70% SARA 313 toxic chemical notification and release reporting: Nitric acid, 70% 2% CERCLA: Hazardous substances.: Nitric acid, 70%;

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):** CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

**DSCL (EEC):**

R23- Toxic by inhalation. R36/38- Irritating to eyes and skin.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:**

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

**Health:** 2

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:** Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

## **SECTION 16: ADDITIONAL INFORMATION**

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