



MADRAS FLUORINE PRIVATE LTD

Material Safety Data Sheet BARIUM FLUORIDE

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Barium fluoride
CAS# : 7787-32-8
RTECS : CQ9100000
Synonym : Barium difluoride
Chemical Formula : BaF₂
Contact Information : **MADRAS FLUORINE PRIVATE LTD**
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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

	EINECS	PERCENT	CAS NO
Barium Fluoride	232-188-7	100%	7787-32-8

Toxicological Data on Ingredients: Barium fluoride: ORAL (LD50): Acute: 250 mg/kg [Rat].

SECTION 3 : HAZARDS IDENTIFICATION

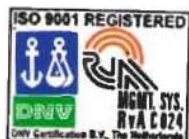
Emergency Overview:

Warning! Harmful if swallowed or inhaled. Eye and skin contact may cause irritation. May cause burns if ingested. Irritating if inhaled.

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator). Corrosive to eyes and skin. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death.

Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.



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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. WARM water MUST be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

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 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.

SECTION 5 : FIRE-FIGHTING MEASURES

Flammability of the Product: Non-flammable.

Extinguishing Media:

Dry chemical, carbon dioxide, water spray, or regular foam. For larger fires, water spray, fog, or foam are recommended.

Special Fire Fighting Procedures:

Apply cooling water to sides of container until well after is it out. Do not use water directly on material. If large amounts of combustible materials are involved, use water spray or fog in flooding amounts. Use water spray to absorb corrosive vapors.

Fire and Explosion Hazards: Not readily ignitable.

Hazardous Combustion Products:

Thermal decomposition products may include corrosive hydrogen fluoride and toxic oxides of barium.

Protective Measure in Fire: Avoid breathing corrosive vapors. Keep upwind. Use a self-contained breathing apparatus to avoid breathing corrosive vapors.



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SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precaution in Spill:

Do not touch spilled material. Stop leak if you can do it without risk. Wear personal protective equipment as outlined in Section 8.

Environment: Keep unnecessary people away. Isolate hazard area and deny entry.

Spill Clean Up:

For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal.

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. 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 container dry. Do not ingest. Do not breathe dust. Never add water to this product. Wear suitable protective clothing. 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.

Handling Precautions:

Under no circumstances eat, drink, or smoke while handling this material. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before reuse. Store at room temperature (15-20C is recommended). Keep closed and well protected from direct sunlight and moisture. Store away from combustibles (wood, paper, etc.) as it may ignite them

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

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Equipment:

Use adequate ventilation to meet exposure limits. If exposure limits may be exceeded use appropriate NIOSH approved respirator.

Respirators:

5 mg/m³ - Any dust and mist respirator except single use and quarter-mask respirators. Any supplied air respirator. Any self contained breathing apparatus. 12.5 mg/m³ - Any powered air-purifying respirator with dust and mist filter. Any supplied-air respirator operated in continuous flow mode. 25 mg/m³ - Any air-purifying full face piece respirator with a high-efficiency particulate filter. Any powered air-purifying respirator with a tight-fitting face piece and a high efficiency particulate filter.



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Any supplied-air respirator with a tight-fitting face piece operated in a continuous flow mode. Any self-contained breathing apparatus with a full face piece. 250 mg/m³ - Any supplied-air respirator with a full face piece and operated in a pressure-demand or other positive pressure mode.

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.

Protective Gloves: Wear appropriate protective gloves to prevent contact with this material.

Eye Protection:

Employees must wear splash-proof or dust-resistant safety goggles and a face shield to prevent any contact with this substance.

Other Protection:

Wear impervious clothing and equipment to prevent any contact with this material.

Hygienic Work Practices:

Do not eat, smoke or drink while handling this material. Wash hands and face thoroughly after working with material

Personal Protection:

Splash goggles. Synthetic apron. Vapor and 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. Vapor and 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.

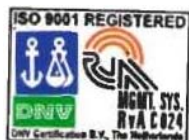
Exposure Limits:

TWA: 0.5

Consult local authorities for acceptable exposure limits.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	cubic crystals, powder or lumps
Color	:	colorless, or transparent to white
Odor/Taste	:	odorless / Tasteless
Specific Gravity	:	4.83
Solubility	:	Soluble in water
Solubility Value	:	0.12%
Melting Point	:	1353 C
Boiling Point	:	1353 C
Decomp Temp	:	Not applicable
Flash Point	:	Not applicable
pH (1% soln/water)	:	Not available.



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SECTION 10 : STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Hazardous Decomp Products: Thermal decomposition may include corrosive hydrogen fluoride and toxic oxides of barium.

Conditions to Avoid: Mineral acids and oxidizers. Also, flammable, poisonous gases may accumulate in tanks and hopper cars.

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicological Info: Toxic by ingestion, poisoning may affect the kidneys and the skeletal, cardiovascular, respiratory, and neuromuscular systems.

Inhalation: Harmful if inhaled.

Skin: Absorption of barium compounds may result in potassium deficiency.

Eyes: May irritate the eyes.

Medical Symptoms: Dyspnoea, coughing, fever, and cyanosis. There is evidence of reproductive effects.

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 250 mg/kg [Rat].

Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (permeate).

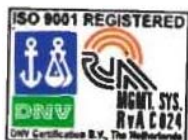
Special Remarks on Chronic Effects on Humans: Excreted in maternal milk in animal. Passes through the placental barrier in human.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12 : ECOLOGICAL INFORMATION

Toxicity:

The following applies to barium compounds: biological effects: fish: lethal from 158 mg/l; Salmon: lethal from 158 mg/l up (as BaCl₂); L. idus LC50: 870 mg/l (as BaCl₂); barium ions toxic for aquatic organisms: algae: Sc. Quadricauda toxic from 34 mg/l up; crustaceals: toxic from 29 mg/l up; hazard for drinking water. The following applies to inorganic fluorides in general. Biological effects: fish: L. idus LC50 660 mg/l; bacteria: Ps putida toxic from 231 mg/l up; algae: Sc. Quadricauda toxic from 249 mg/l up; protozoa: E. sulcatum toxic from 101 mg/l up; U. parduczi toxic from 71 mg/l up (all values as NaF). Hazard to drinking water



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Chemical Fate: Do not allow to enter drinking water supplies, waste water, or soil!

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 as toxic as the original product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Disposal Methods: Dispose of in a manner that complies with federal, state, and local regulations.

SECTION 14 : TRANSPORT INFORMATION

DOT - GROUND TRANSPORTATION:

Proper Shipping Name: Barium Compounds, N.O.S. (Barium Fluoride)

Hazard Class: 6.1

UN. NO#: UN1564

Packing Group #: 6.1// III

IATA/IMDG REGULATIONS:

Proper Shipping Name: Barium Compounds, N.O.S. (Barium Fluoride)

Hazard Class: 6.1

UN. NO#: UN1564

Packing Group #: 6.1// III

IMDG EMS: F-A, S-A

SECTION 15 : REGULATORY INFORMATION

Chemical Inventory Status Part 2

Ingredient:	CASNO:	Korea:	DSL:	NDSL:	Phil.:
Barium Fluoride	7787-32-8	No	Yes	No	No

Chemical Inventory Status Part 1

Ingredient:	CASNO:	TSCA:	EINECS:	China:	Japan:	Australia:
Barium Fluoride	7787-32-8	Yes	No	No	No	No



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Federal, State, International Regulations- Part 2

Ingredient:	CASNO:	RCRA 261.33:	TSCA 8(d):	CERCLA
Barium Fluoride	7787-32-8	No	No	No

Federal, State, International Regulations- Part 1

Ingredient:	CASNO:	SARA 302:		SARA 313	
		RQ:	TPO:	LIST	Chemical Catg:
Barium Fluoride	7787-32-8	No	No	No	No

SECTION 16 : OTHER INFORMATION

References: Not available.

Other Special Considerations: Not available.

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