

MSDS Number: **B3444** * * * * * *Effective Date: 08/10/04* * * * * * *Supercedes: 11/02/01*



From: Mallinckrodt Baker, Inc.
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24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

BISMUTH CHLORIDE

1. Product Identification

Synonyms: Bismuth trichloride; Trichlorobismuth; Trichlorobismuthine

CAS No.: 7787-60-2

Molecular Weight: 315.33

Chemical Formula: BiCl₃

Product Codes: 0232

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
-----	-----	-----
-		
Bismuth Chloride	7787-60-2	90 - 100%
Yes		

3. Hazards Identification

Emergency Overview

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. CONTACT MAY CAUSE BURNS.

Potential Health Effects

Inhalation:

Inhalation can cause severe irritation of mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. High concentrations may cause lung damage.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Low toxicity. Bismuth salts are poorly absorbed. Should absorption occur, symptoms may include loss of appetite, headache, skin rashes, kidney damage, and rarely mild jaundice.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May cause burns to skin tissue upon contact.

Eye Contact:

Causes irritation with redness and pain. Prolonged contact may cause burns.

Chronic Exposure:

Repeated or prolonged ingestion may cause a "bismuth line", black spots on the gums, foul breath, and salivation.

Aggravation of Pre-existing Conditions:

No information found.

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:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of soap and 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 lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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. 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.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

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

9. Physical and Chemical Properties

Appearance:

White to yellow crystals.

Odor:

Hydrochloric acid odor.

Solubility:

Decomposes in water to form bismuth oxychloride.

Density:

4.75

pH:

No information found.

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

0

Boiling Point:

430C (806F) Sublimes.

Melting Point:

ca. 230C (ca. 446F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

Stable under ordinary conditions of use and storage. Hygroscopic.

Hazardous Decomposition Products:

Oxides of the contained metal and halogen, possibly also free, or ionic halogen.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Acids, bases, oxidizing agents.

Conditions to Avoid:

Heat, moisture, incompatibles.

11. Toxicological Information

Oral rat LD50: 3334 mg/kg. Investigated as a mutagen.

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Bismuth Chloride (7787-60-2)	No	No	
None			

12. Ecological Information**Environmental Fate:**

No information found.

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 disposal facility. 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

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
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Ingredient                TSCA  EC   Japan
Australia
-----
Bismuth Chloride (7787-60-2)  Yes  Yes  Yes
Yes

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-----\Chemical Inventory Status - Part 2\-----
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Ingredient                Korea  DSL  NDSL  --Canada--
Phil.
-----
Bismuth Chloride (7787-60-2)  Yes   Yes  No
Yes

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-----\Federal, State & International Regulations - Part 1\-----
-----
313----- -SARA 302-  -----SARA
Ingredient                RQ    TPQ   List
Chemical Catg.
-----
Bismuth Chloride (7787-60-2)  No   No   No
No

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-----\Federal, State & International Regulations - Part 2\-----
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TSCA-                -RCRA-  -
Ingredient                CERCLA  261.33
8(d)
-----
Bismuth Chloride (7787-60-2)  No      No     No

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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: None allocated.

Poison Schedule: None allocated.

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: **2** Flammability: **0** Reactivity: **0**

Label Hazard Warning:

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. CONTACT MAY CAUSE BURNS.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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