

BIO BASIC INC.

160 TORBAY ROAD MARKHAM ONTARIO L3R 1G6 CANADA
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MATERIAL SAFETY DATA SHEET

REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

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ADDRESS	160 TORBAY ROAD MARKHAM ONTARIO L3R 1G6 CANADA

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SECTION 1. ----- CHEMICAL IDENTIFICATION -----

Synonyms: Choline acetate (Ester), chloride; 2-(acetyloxy)-N,N,N-trimethylethanaminium chloride; acetylcholine, 97%

CAS No.: 60-31-1

Molecular Weight: 181.68

Chemical Formula: (CH₃)₃N(Cl)(CH₂)₂OCOCH₃

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Ingredient	CAS No	Percent	Hazardous
Acetylcholine Chloride	60-31-1	98 - 100%	Yes

SECTION 3. ----- HAZARDS IDENTIFICATION -----

WARNING! CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

No information found, but compound should be handled as a potential health hazard.

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:

No information found.

SECTION 4. ----- FIRST-AID MEASURES -----

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a

physician.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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 lower and upper eyelids occasionally. Get medical attention immediately.

SECTION 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:

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.

SECTION 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.

SECTION 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. Hygroscopic. Protect from moisture. Store under nitrogen.

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.

SECTION 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.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance:

Crystalline powder.

Odor:

No information found.

Solubility:

Very soluble in cold water.

Density:

No information found.

pH:

No information found.

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

0

Boiling Point:

No information found.

Melting Point:

150 - 152C (302 - 306F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

SECTION 10. -----STABILITY AND REACTIVITY -----

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers and strong bases.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Oral rat LD50: 2500 mg/kg

-----\Cancer Lists\----- ---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
Acetylcholine Chloride (60-31-1)	No	No	None

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

SECTION 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.

SECTION 14. ----- TRANSPORT INFORMATION -----

Not regulated.

SECTION 15. ----- REGULATORY INFORMATION ----- -----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Acetylcholine Chloride (60-31-1)	Yes	Yes	Yes	Yes

Ingredient	Korea	DSL	NDSL	Phil.
Acetylcholine Chloride (60-31-1)	No	No	Yes	Yes

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

Ingredient	RQ	TPQ	List	Chemical Catg.
Acetylcholine Chloride (60-31-1)	No	No	No	No

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

-RCRA- -TSCA-
Ingredient CERCLA 261.33 8(d)

Acetylcholine Chloride (60-31-1) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No 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.

SECTION 16. ----- OTHER INFORMATION -----

NFPA Ratings: Health: **2** Flammability: **0** Reactivity: **0**

Label Hazard Warning:

WARNING! CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT.

Label Precautions:

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use only 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. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.