MATERIAL SAFETY DATA SHEET
CETYLTRIMETHYLAMMONIUM BROMIDE

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	:	Cetyltrimethylammonium bromide
CAS	:	57-09-0
Synonym	:	Bromat, Acetoquat, Centimide, Cetarol, Cycloton V, Lauroseptol, Lissolamine, MIcol, Pollacid, quamonium , Softex KW; NHexadecyl-N,N,N-trimethylammonium bromide; (1-Hexadecyl)trimethylammonium bromide; Hexadecyltrimethylammonium bromide; N,N,NTrimethyl-1-hexadecanaminium bromide; Palmityltrimethylammonium bromide; Trimethylcetylammonium bromide; Trimethylhexacecylammonium bromide; Cetrimonium Bromide; CTAB
Chemical Name	:	Ammonium, hexadecyltrimethyl-, bromide
Chemical formula	:	C19H42BrN
Molecular weight	:	364.48

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SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

Composition:

Chemical Name	CAS #	% weight
Cetyltrimethylammonium bromide	57-09-0	100

Toxicological Data on Ingredients: Cetyltrimethylammonium bromide: ORAL (LD50): Acute: 410 mg/kg [Rat].

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to liver, cardiovascular system, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

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. 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.
Serious Inhalation: Not available.
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

Flammability of the Product: May be combustible at high temperature.
Auto-Ignition Temperature: Not available.
Flash Points: CLOSED CUP: >93.333°C (200°F). OPEN CUP: 244°C (471.2°F).
Flammable Limits: Not available.
Products of Combustion: These products are carbon oxides (CO, CO2), halogenated compounds.
Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.
Explosion Hazards in Presence of Various Substances:
Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.
Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures
Special Remarks on Explosion Hazards:
Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

SECTION 6: ACCIDENTAL RELEASES MEASURE

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

SECTION 7: HANDLING AND STORAGE

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. 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. Keep away

from incompatibles such as oxidizing agents.
Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

SECTION 8: PERSONAL PROTECTION

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.
Personal Protection:
Splash goggles. Lab coat. 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. 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: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid. (Powdered solid.)
Odor: Ammoniacal. (Slight.)
Taste: Not available.
Molecular Weight: 364.48 g/mole
Color: White.
pH (1% soln/water): 5 - 7.5
Boiling Point: Not available.
Melting Point: 250°C (482°F)
Critical Temperature: Not available.
Specific Gravity: Not available.
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionicity (in Water): Not available.
Dispersion Properties: See solubility in water.
Solubility:
Partially soluble in cold water. Solubility in water: 10%

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Excess heat, incompatible materials, dust generation
Incompatibility with various substances: Reactive with oxidizing agents.
Corrosivity: 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

Routes of Entry: Inhalation. Ingestion.
Toxicity to Animals: Acute oral toxicity (LD50): 410 mg/kg [Rat].
Chronic Effects on Humans: May cause damage to the following organs: liver, cardiovascular system, central nervous system (CNS).
Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects and birth defects (teratogenic)

based on animal test data

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes severe skin irritation. Eyes: Causes severe irritation. May result in corneal injury. Inhalation: Causes respiratory tract irritation. Inhalation of large amounts may also affect behavior/central nervous system, and cardiovascular system with symptoms similar to that of ingestion. Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting, constipation. Ingestion of large amounts may also affect respiration (respiratory depression), behavior/central nervous system (convulsions, ataxia, tremor, psychosis, fatigue, confusion, blurred vision, apathy, slurred speech, lethargy, headache, irritability), cardiovascular system (tachycardia, hypotension), and the liver. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause sensitization dermatitis. Ingestion: Prolonged or repeated ingestion may affect the liver, metabolism (anorexia or weight loss), cardiovascular system, behavior/central nervous system, and may cause musculoskeletal effects (muscle weakness, muscle pain)

SECTION 12: ECOLOGICAL INFORMATION

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 as toxic as the product itself.

Special Remarks on the Products of Biodegradation: Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION 15: OTHER REGULATORY INFORMATION

Other Classifications:

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R22- Harmful if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R50- Very toxic to aquatic organisms. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

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

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

SECTION 16: OTHER INFORMATION

Product Use:

Laboratory Reagent.

Disclaimer:

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