

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER Cetrimide (Cetyltrimethylammonium bromide)	CE130X	PRODUCT IDENTIFICATION NUMBER (PIN):
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PRODUCT USE

MANUFACTURERS NAME: Xenex Labs
SUPPLIERS NAME: XENEX LABORATORIES INC.

STREET ADDRESS: STREET ADDRESS: 2402 CANOE AVENUE

CITY: PROVINCE: CITY: COQUITLAM PROVINCE: B.C.

POSTAL CODE: SPE100 EMERGENCY TELEPHONE NO: POSTAL CODE: V3K 6C2 EMERGENCY TELEPHONE NO: (CHEMTREC) 1-800-424-9300

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS / CHEMICAL FORMULA	%	CAS NUMBER	LD50 / LC50 OF INGREDIENT <small>(SPECIFY SPECIES) (SPECIFY ROUTE AND DOSE)</small>	
Cetrimide (Cetyltrimethylammonium bromide) C ₁₉ H ₄₂ BrN	100	57-09-0	RAT	ORAL 410 mg/kg

SECTION 3 - PHYSICAL DATA

<u>PHYSICAL STATE AND APPEARANCE</u> Solid (White powdered solid)		<u>ODOR</u> Ammoniacal	<u>TASTE</u> Not Available	<u>ODOR THRESHOLD (ppm)</u> Not Available
<u>MELTING POINT (C)</u> 250°C (482°F)	<u>BOILING POINT (C)</u> Not Available	<u>VAPOR PRESSURE</u> Not Applicable	<u>VAPOR DENSITY</u> Not Available	<u>VOLATILITY</u> Not Available
<u>pH</u> 5-7.5	<u>SPECIFIC GRAVITY</u> Not Available	<u>COEFF. WATER/OIL DIST.</u> Not Available	<u>DISPERSION PROPERTIES / SOLUBILITY</u> Partially soluble in cold water. Solubility in water 10%	

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY NO YES IF YES, UNDER WHAT CONDITIONS?
May be combustible at high temperature - As with most organic solids fire is possible at elevated temperatures. Slightly flammable to flammable in presence of heat. Fine dust dispersed in the air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

MEANS OF EXTINCTION
SMALL: Use DRY chemical powder.
LARGE: Use water spray, fog or foam. Do NOT use water jet.

FLASHPOINT (C) AND METHOD
Closed Cup >93.33°C (200°F) Open Cup 244°C (471.2°F)

<u>FLAMMABLE LIMITS (% BY VOLUME)</u> UPPER: LOWER: Not Available	<u>CRITICAL TEMPERATURE</u> Not Available
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AUTOIGNITION TEMPERATURE (C)
Not Available

HAZARDOUS COMBUSTION PRODUCTS
(CO,CO₂) Oxides of carbon and halogenated compounds

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY YES NO IF NO, UNDER WHICH CONDITIONS?
The product is stable - Avoid excess heat, incompatible materials, dust generation.

INCOMPATIBILITY WITH OTHER SUBSTANCES NO YES IF SO, WHICH ONES?
Reactive with oxidizing agents.

REACTIVITY, AND UNDER WHAT CONDITIONS
Not Available

HAZARDOUS DECOMPOSITION PRODUCTS
The products of degradation are as toxic as the product itself.

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SECTION 6 - TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

 SKIN CONTACT SKIN ABSORPTION EYE CONTACT INHALATION INGESTION

EFFECTS OF ACUTE EXPOSURE TO PRODUCT

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

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.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

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.

May cause damage to the following organs: liver, cardiovascular system, central nervous system (CNS).

Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

May cause adverse reproductive effects and birth defects (**teratogenic**) based on animal test data

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)

EXPOSURE LIMITS	IRRITANCY OF PRODUCT	SENSITIZATION OF PRODUCT	SYNERGISTIC PRODUCTS
Not Available	YES	Not Available	Not Available
TERATOGENICITY	REPRODUCTIVE TOXICITY	MUTAGENICITY	CARCINOGENICITY
Possible	Not Available	Not Available	Not Available

SECTION 7 - PREVENTATIVE MEASURE

PERSONAL PROTECTIVE EQUIPMENT

GLOVES (SPECIFY)	RESPIRATOR (SPECIFY)	EYE (SPECIFY)
Yes (impervious)	Approved / Certified respirator	Safety goggles, face shield
FOOTWEAR (SPECIFY)	CLOTHING (SPECIFY)	OTHER (SPECIFY)
No	Coveralls / Lab coat	Eyewash equipment nearby

ENGINEERING CONTROLS (SPECIFY eg. VENTILATION, ENCLOSED PROCESS)

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.

LEAK AND SPILL PROCEDURE

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface.

WASTE DISPOSAL

According to local, provincial, and federal regulations.

HANDLING PROCEDURES AND EQUIPMENT

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 REQUIREMENTS

Keep container tightly closed. Keep container in a cool, dry, well-ventilated area. Container may be hazardous when empty since they retain product residues (Dust, Solids) observe all warnings and precautions listed for the product

SPECIAL SHIPPING INFORMATION

Not a DOT controlled material Other Classifications

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

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SECTION 8 - FIRST AID MEASURES

SPECIFIC MEASURES

SKIN	Wash with soap and water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Get medical attention develops. Wash clothing before reuse, thoroughly clean shoes before reuse.
EYES	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
INHALATION	If inhaled remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
INGESTION	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention if symptoms appear.

IF IRRITATION PERSISTS AND IN ALL OTHER CASES, GET IMMEDIATE MEDICAL ATTENTION.

SECTION 9 - PREPARATION DATE OF M.S.D.S.

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packed. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Xenex Laboratories Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

PREPARED BY (GROUP, DEPARTMENT, ETC.)
CONTROL DEPARTMENT

PHONE NUMBER
(604) 552 3031

DATE:
June 22 2007