

ACUTE EFFECTS OF OVEREXPOSURE:

- EYE: Mildly irritating to the eyes.
- SKIN: No skin irritation expected. May aggravate existing dermatitis.
- INHALATION: Breathing mist may cause mild irritation to upper respiratory tract.
- INGESTION: None known. May cause nausea, abdominal discomfort or diarrhea.

CHRONIC EFFECTS OF OVEREXPOSURE: Repeated prolonged skin contact may produce irritation.

OTHER HEALTH EFFECTS (MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE): People sensitive to sulfur compounds can experience aggravated skin irritation. No other known applicable information.

SECTION IV. FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES:

- EYE: Immediately flush eyes with running water for at least 15 minutes. If irritation or adverse symptoms develop, seek medical attention.
- SKIN: Minimal effect on contact, if irritation occurs wash skin with soap and water. If irritation or adverse symptoms continue, seek medical attention.
- INHALATION: Remove to fresh air.
- INGESTION: Do not take internally. Drink large quantities of water. Do not induce vomiting. Seek medical attention if stomach upset occurs.

SECTION V. FIRE AND EXPLOSION HAZARD DATA

TERAZYME GP™ does not support combustion and is not considered a fire or explosive hazard. When involved in a fire, it may emit vapors containing the surface active components and their decomposition products. These materials should be considered irritants. Also the decomposition products may include carbon oxides, sulfur oxide, nitrogen oxides and amines. For these reasons, fire fighters should wear self-contained breathing apparatus and full protective clothing. Heated closed containers may burst due to steam pressure. Cool containers with water.

SECTION VI. SPILL, LEAK & DISPOSAL PROCEDURES

Floors may be slippery; use care to avoid falling. Contain spills immediately with inert material to prevent waterway entry. Transfer liquids and solid diking materials to suitable containers for recovery or disposal.

SECTION VII. HANDLING AND STORAGE

No special handling is required under normal use. Appropriate protective clothing necessary to prevent repeated or prolonged skin contact should be worn. Skin contact should be minimized by wearing impermeable gloves. Resistant boots should be worn where spills or splashing can occur. Wash hands and other contaminated areas thoroughly with soap and water after handling this product and before eating or smoking. Wash contaminated clothing thoroughly before reuse. Safety showers and eye stations should be available to employees.

Normal warehouse storage in a closed container is adequate. Storage temperature should be above freezing and below 120°F. Drain equipment and flush with water to clean.

CORROSION: Avoid prolonged contact with aluminum. Avoid contact with magnesium

SECTION VIII. PERSONAL PROTECTION

No special personal protection is required under normal use. Skin exposure is not likely to result in the material being absorbed through the skin in harmful amounts. Since this material is known to be a mild irritant and allergic sensitizer, avoid prolonged skin contact. Normal ventilation is adequate. Respiratory protection is not generally required. Avoid breathing mist or vapors. Desirable protective equipment may include safety glasses and rubber gloves. Where splashing may occur, increased eye and skin protection is beneficial. This may include goggles, face shield, water resistant clothing and rubber boots. Wash contaminated clothing before reuse. Do not take internally.

SECTION IX. - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Slightly amber, clear liquid.
ODOR:	Low odor
pH: (Typical)	10.5
BOILING POINT, 760 mm Hg:	212 F, 100 C
VAPOR PRESSURE, at 20 deg. C:	17.5 mm Hg
LIQUID DENSITY :	1.02 g/cc
SOLUBILITY IN WATER, by wt.:	100 %
SPECIFIC GRAVITY (H ₂ O = 1):	1
PERCENT VOLATILE BY VOLUME:	< 1%
PERCENT VOLATILE BY WEIGHT:	< 1%
VISCOSITY:	Similar to water
EVAPORATION RATE (Butyl Acetate = 1)	Similar to Water
PHYSICAL STATE:	Liquid

SECTION X. STABILITY AND REACTIVITY

TERAZYME GP™ is stable and non-reactive under normal use over a wide range of pH. The organic content of the aqueous mixture will react with oxidizers producing heat and oxidation by-products. Heat release is minimized by vaporization of water. Atomization, vaporization or combustion forms aerosols which can carry the surface active agents, and combustion products such as carbon oxide, sulfur oxides, nitrogen oxides and ammonia into the atmosphere. Hazardous polymerization will not occur.

SECTION XI. TOXICOLOGICAL INFORMATION

This product is known to be a mild allergic sensitizer and a mild irritant. OSHA PEL and ACGIH TLV has not been established; however, the low vapor pressure of the surface active components in **TERAZYME GP™** should produce air concentrations below expected exposure limits. The LD50 has not been determined; however, based upon limited LD50 values for mice and rats and assuming additive toxicity for the components, the LD50 should exceed 50,000 mg/kg. Do not take internally, avoid breathing mist and minimize skin contact.

HEALTH HAZARD CATEGORIES: None of the product's ingredients are found on any lists of hazardous, carcinogenic or banned chemical agents or materials generated by them.

SECTION XII. ECOLOGICAL INFORMATION

The material is biodegradable and non-toxic to sewage organism with dilution. Municipalities who have tested **TERAZYME GP™** have found it compatible with their sanitary sewer systems and treatment plants. High concentrations in the feed to a waste treatment plant may cause foaming and overload system's COD capacity. The following results indicate typical oxidation requirement.

BOD 5 day:	6,990 mg/liter	EPA Method 405.1
BOD 20 day:	99,290 mg/liter	EPA Method 405.1
COD:	195,000 mg/liter	EPA Method 410.4

SECTION XIII. DISPOSAL CONSIDERATIONS

The material is biodegradable and non-hazardous. Small quantities may be flushed to a sanitary or industrial sewer. Disposal of large quantities should comply with applicable disposal permits.

SECTION XIV. TRANSPORT INFORMATION

DOT SHIPPING NAME (49CFR 172.101):	Non Flammable Liquid, NOS, Water Based Mixture of Surface Active Agents (Organic sulfur/oxygen/nitrogen compounds)
- DOT ID# (49CFR 172.101):	Non Regulated

- DOT HAZARD CLASS:	Non Flammable Liquid, NOS
- PRODUCT NUMBER:	International Harmonic System Code is 3402.
- MARKING:	None Required
- LABEL:	None Required
- PLACARD:	None Required
- HAZARD (29 CFR 1910.1200):	Non-Flammable

SECTION XV. REGULATORY INFORMATION

FEDERAL

This product is non-hazardous under the OSHA Hazard Communication Standard (29 CFR 1910-1200). All components are on the Confidential or Non-Confidential TSCA Inventory List. The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) inventory and do not have special toxic substances warning requirements.

None of the components in this product require notification of the National Response Center under the Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) per 40 CFR 302.4.

None of the components in this product require reporting under Superfund Amendment and Reauthorization Act of 1986 (SARA) Title III as emergency planning or release reporting per 40 CFR 355 (used for SARA 302, 304, 311 and 312). The components also do not require annual reporting as a toxic chemical under SARA Title III per 40 CFR 372 (for SARA 313). This product contains no chemicals subject to SARA Title III, Section -13, Part 372 reporting requirements.

STATE RIGHT-TO-KNOW

Under California Proposition 65, this product contains no listed substances at levels which would require a warning as a product known to the to cause cancer, birth defects or other reproductive harm.

Under the Massachusetts Right-To-Know Law, this product contains no listed substances at levels that require reporting per the Substance List.

Under the Pennsylvania Right-To-Know Law, this product contains no listed substances at levels that require reporting per the Hazardous Substance List.

SECTION XVI. OTHER INFORMATION

APPROVED BY: _____
Floyd E. Farha, Ph.D.

DATE: 3/10/05
SUPERCEDES: 5/10/04

All terms and abbreviations have been defined in various government publications, or are standard chemical terms used by IUPAC.

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