



THUAN PHONG COMPANY LTD.

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ISO 9001:2000
QUALITY MANAGEMENT SYSTEM

WTB-1 WATER TREATMENT BIOCIDES

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MATERIAL SAFETY DATA SHEET^(*)

1. Product and Manufacturer Identification

Product Name: WTB-1 Biocide
Product Family: Water Treatment Biocides.
Product Description: Synergistic blend of glutaraldehyde, formaldehyde and other propriety active ingredients.
Manufacturer: THUAN PHONG COMPANY, LTD.
Add: 159 Binh Gia Street, Ward 8, Vung Tau City, S.R.VIETNAM
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2. Hazards Identification

2.1 Emergency Overview

Color: Colorless to yellow
Physical State: Liquid
Odor: Sharp, Fruity, Medicinal
Hazards of product:

DANGER! Keep out of reach of children. Corrosive. CAUSES IRREVERSIBLE EYE DAMAGE. Causes skin burns. Harmful if inhaled. May be fatal if swallowed or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Causes asthmatic signs and symptoms in hyper-reactive individuals. Aspiration hazard: Can enter lungs and cause damage; causes respiratory tract irritation; may cause central nervous system effects.

2.2 Potential Health Effects

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor may cause eye irritation experienced as mild discomfort and redness.

Skin Contact: Brief contact may cause skin irritation with local redness. Prolonged contact may cause severe skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. May stain skin. May cause itching.

Skin Absorption: May be fatal if absorbed through skin.

Skin Sensitization: Skin contact may cause an allergic skin reaction in a small proportion of individuals. Inhalation of vapors may result in skin sensitization. In sensitized individuals, reexposure to very small amounts of vapor, mist, or liquid may cause a severe allergic skin reaction.

Inhalation: Vapor may cause severe irritation of the upper respiratory tract (nose and throat). Vapor from heated material may cause serious adverse effects, even death. Case reports and medical surveys link asthma and respiratory irritation to glutaraldehyde exposure, primarily in medical personnel. Asthma-like symptoms may occur in people prone to respiratory disorders or other allergies. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Ingestion: May be fatal if swallowed. Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Excessive exposure may cause headache, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Effects of Repeated Exposure: Repeated skin contact may result in absorption of amounts which could cause death. May cause nausea and vomiting.

3. Composition Information

<u>Component</u>	<u>Content</u> (% by weight)	<u>Hazardous Classification</u>
Glutaraldehyde	35-45	#
Formaildehyde	20-50	#
n-Alkyl dimethyl benzyl ammonium chloride	3-7	#
Molybdates	<2	#
Ethanol	<1	#
Other active ingredients	(Propriety)	#
Water	Balance	#

4. First-aid measures

* MSDS is prepared by the manufacturer based on the toxicities of product component parts.

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Ingestion: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

5. Fire Fighting Measures

Extinguishing Media: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Hazardous Combustion Products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Collect in suitable and properly labeled containers. Very low concentrations (5 ppm or less of glutaraldehyde) can be degraded in a biological wastewater treatment system. Thus, small spills can be flushed with large quantities of water. Large quantities or 'slugs' can be harmful to the treatment system. Thus, large spills should be collected for disposal. It may also be possible to decontaminate spilled material by careful application of sodium hydroxide or sodium bisulfite. Depending on conditions, considerable heat and fumes can be liberated by the decontamination reaction.

Personal Precautions: Use appropriate safety equipment. Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Only trained and properly protected personnel must be involved in clean-up operations.

Environmental Precautions: Spills or discharge to natural waterways is likely to kill aquatic organisms. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

7. Handling and Storage

General Handling: Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. If dilutions or mixtures of this product are used in a spray application, full personal protective equipment is strongly recommended to prevent exposure.

Storage

Do not store in: Aluminum, Carbon steel, Copper, Mild steel and Iron.

Shelf life: Use within 12 Months.

8. Personal Protection

Eye/Face Protection: Use splashproof monogoggles or safety glasses with side shields in conjunction with a face shield. Eye wash fountain should be located in immediate work area. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Use chemical protective clothing resistant to this material, when there is any possibility of skin contact. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves, chemically resistant to this material, at all times. Examples of preferred glove barrier materials include: Butyl rubber. Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR").

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air purifying respirator. The respirator should contain an organic vapor sorbent. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line

with auxiliary self-contained air supply. If vapors are strong enough to be irritating to the nose, or eyes, the TLV is probably being exceeded. Special ventilation or respiratory protection may be required. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless to yellow
Odor	Sharp, fruity, medicinal
Flash Point	Above 70°C; (ASTM D56 - Closed Cup: none)
Molecular Weight	Mixture
Autoignition Temperature	No test data available
Vapor Pressure	0.20 mmHg @ 20°C (based on glutaraldehyde)
Boiling Point (760 mmHg)	100.5°C (212.9 °F)
Specific Gravity (H ₂ O=1)	1.03 - 1.15
Freezing Point	<-14°C
Solubility in Water (by weight)	100% @20°C
pH	< 7.0
Dynamic Viscosity @ 25°C	Up to 25 cps

10. Stability and Reactivity

Stability / Instability: Thermally stable at typical use temperatures.

Conditions to Avoid: Active ingredient decomposes at elevated temperatures.

Incompatible Materials: Avoid contact with: Amines, Ammonia, Strong acids. Strong bases, Strong oxidizers. Avoid contact with metals such as: Aluminum, Carbon steel, Copper, Iron and Mild steel.

Hazardous Polymerization: Will not occur.

Thermal Decomposition: Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all local laws and regulations. THE MANUFACTURE HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL.