



MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

DATE PREPARED: AUGUST 16, 2007

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TTE BUFFER
CATALOG CODE: TD8131, TD8132
CAS#: MIXTURE.
RTECS: MIXTURE.
TSCA: TSCA 8(B) INVENTORY : COMPONENTS WERE LISTED.
CI#: NOT AVAILABLE.
SYNONYM: NOT AVAILABLE.
CHEMICAL NAME: TRIS-TRICINE BUFFER
CHEMICAL FORMULA: MIXTURE.

SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

COMPOSITION:

NAME CAS# % BY WEIGHT

TRIS-HCL

TRITON X-100

EDTA

1185-53-1

9002-93-1

60-00-4

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TOXICOLOGICAL DATA ON INGREDIENTS:

NOT AVAILABLE.

SECTION 3: HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS: IRRITANT.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
POTENTIAL CHRONIC HEALTH EFFECTS:
CARCINOGENIC EFFECTS: NOT AVAILABLE.
MUTAGENIC EFFECTS: NOT AVAILABLE.
TERATOGENIC EFFECTS: NOT AVAILABLE.
DEVELOPMENTAL TOXICITY: NOT AVAILABLE.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.

SERIOUS SKIN CONTACT: WASH WITH A DISINFECTANT SOAP AND COVER THE CONTAMINATED SKIN WITH AN ANTI-BACTERIAL CREAM. SEEK MEDICAL ATTENTION.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
SERIOUS INHALATION: NOT AVAILABLE.
INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
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: NOT AVAILABLE.
FLAMMABLE LIMITS: NOT AVAILABLE.
PRODUCT OF COMBUSTION: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES.
FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: NOT AVAILABLE.
EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:
NOT AVAILABLE.
FIRE FIGHTING MEDIA AND INSTRUCTIONS:
SMALL FIRE: DRY CHEMICAL POWDER.
LARGE FIRE: WATER SPRAY. CARBON DIOXIDE, DRY CHEMICAL POWDER, OR APPROPRIATE FOAM.
SPECIAL REMARKS ON FIRE HAZARDS: NOT AVAILABLE.
SPECIAL REMARKS ON EXPLOSION HAZARDS: NOT AVAILABLE.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SMALL SPILL: SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILLATE AREA AND WASH SPILL SITE AFTER MATERIAL PICK UP IS COMPLETE.
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: AVOID INHALATION. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.
STORAGE: KEEP TIGHTLY CLOSED. STORE AT 2-8°C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED.
PERSONAL PROTECTION: RESPIRATORY : GOVERNMENT APPROVED RESPIRATOR.
HAND: CHEMICAL RESISTANT GLOVES.
EYE: SAFETY GLASSES.
PERSONAL PROTECTION IN CASE OF A LARGE SPILL: SPLASH GOGGLES. FULL SUIT. BOOTS. DUST RESPIRATOR. GLOVES.
EXPOSURE LIMITS: NOT AVAILABLE.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: LIQUID.
ODOR: NOT AVAILABLE.
TASTE: NOT AVAILABLE.
MOLECULAR WEIGHT: MIXTURE.
COLOR: NOT AVAILABLE.
PH(1% SOLN/WATER): 8.2 - 8.4
BOILING POINT: NOT AVAILABLE.
MELTING POINT: NOT AVAILABLE.
CRITICAL TEMPERATURE: NOT AVAILABLE.
SPECIFIC GRAVITY: NOT AVAILABLE.
VAPOUR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: NOT AVAILABLE.

VOLATILITY: NOT AVAILABLE.
ODOR THRESHOLD: NOT AVAILABLE.
WATER/OIL DIST. COEFF: NOT AVAILABLE.
IONICITY (IN WATER): NOT AVAILABLE.
DISPERSION PROPERTIES: NOT AVAILABLE.
SOLUBILITY: SOLUBLE IN WATER.

SECTION 10: STABILITY AND REACTIVITY DATA

STABILITY: STABLE.
INSTABILITY TEMPERATURE: NOT AVAILABLE.
CONDITIONS OF INSTABILITY: NOT AVAILABLE.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: BASES, STRONG OXIDIZING AGENTS.
CORROSIVITY: NOT AVAILABLE.
SPECIAL REMARKS ON REACTIVITY: NOT AVAILABLE.
SPECIAL REMARKS ON CORROSIVITY: NOT AVAILABLE.
POLYMERIZATION: WILL NOT OCCUR.

SECTION 11: TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: SKIN CONTACT. EYE CONTACT. INGESTION. INHALATION.
TOXICITY TO ANIMALS:
NOT AVAILABLE.
CHRONIC EFFECTS ON HUMANS: NOT AVAILABLE.
OTHER TOXIC EFFECTS ON HUMANS: SKIN CONTACT: MAY CAUSE SKIN IRRITATION.
SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
EYE CONTACT: MAY CAUSE EYE IRRITATION.
INHALATION: MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. MAY BE HARMFUL IF INHALED.
INGESTION: MAY BE HARMFUL IF SWALLOWED.
SPECIAL REMARKS ON TOXICITY TO ANIMALS: NOT AVAILABLE.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: NOT AVAILABLE.
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: NOT AVAILABLE.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: NOT AVAILABLE.
BOD5 AND COD: NOT AVAILABLE.
PRODUCT OF BIODEGRADATION: NOT AVAILABLE.
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: NOT AVAILABLE.
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: NOT AVAILABLE.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14: TRANSPORT INFORMATION

IDENTIFICATION: NOT AVAILABLE.
SPECIAL PROVISIONS FOR TRANSPORT: NOT AVAILABLE.
DOT CLASSIFICATION: NOT A DOT CONTROLLED MATERIAL.

SECTION 15: OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS: TSCA 8(B) INVENTORY : TRIS-HCL; TRITON X-100; EDTA
OTHER REGULATIONS: NOT AVAILABLE.
OTHER CLASSIFICATIONS:
WHMIS(CANADA): NOT AVAILABLE.
DSCL(EEC): NOT AVAILABLE.
HMIS(U.S.A):

HEALTH HAZARD: 0

FIRE HAZARD: 0

REACTIVITY: 0

PERSONAL PROTECTION:

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A):

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT: GLOVES. LAB COAT. DUST RESPIRATOR. BE SURE TO USE AN APPROVED/CERTIFIED RESPIRATOR OR EQUIVALENT.

SAFETY GOGGLES.

SECTION 16 - OTHER INFORMATION

DISCLAIMER

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