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Material Safety Data Sheet  
Essentially Similar to Form OSHA 174  
EMERGENCY TEL. NUMBER (310) 623-7124

**SECTION I: IDENTIFICATION OF PRODUCT**

IDENTITY: TURBISH BLUE ZIP MSDS NUMBER: 203  
DATE PREPARED: 06-14-93 REVISIONS:  
0=INSIGNIFICANT 1=SLIGHT  
2=MODERATE 3=HIGH 4=EXTREME  
HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 PROTECTIVE EQUIPMENT: B

**SECTION II: HAZARDOUS INGREDIENTS/IDENTITY**

HAZARDOUS COMPONENTS (SPECIAL CHEMICAL IDENTITY-COMMON NAME(S):  
2-BUTOXYETHANOL (ETHYLENE GLYCOL-N-BUTYL ETHER)  
CAS NUMBER: 111-76-2 (S) PEL: 25 PPM (S) ACGIH TLV: TWA 25 PPM (S)  
OTHER LIMITS RECOMMENDED: STEL (75) PPM %(OPTIONAL): 5%

**SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS**

BOILING POINT 212 F SPECIFIC GRAVITY (H<sub>2</sub>O = 1):  
VAPOR PRESSURE (MM HG): NA MELTING POINT: NA  
VAPOR DENSITY (AIR = 1): NA EVAPORATION RATE (BUTYL ACETATE = 1):  
SOLUBILITY IN WATER: COMPLETE APPEARANCE: CLEAR BLUE LIQUID  
PH @77: ODOR: BUTYL

**SECTION IV: FIRE AND EXPLOSION HAZARDS**

FLASH POINT (METHOD USED): NONE TO BOILING TCC FLAMMABLE LIMITS:  
LEL: UEL: EXTINGUISHING MEDIA: ANY APPROPRIATE MEDIUM FOR EXTINGUISHING SURROUNDING FIRE  
SPECIAL FIRE FIGHTING PROCEDURES: WATER SPRAY TO COOL NEARBY CONTAINERS  
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

**SECTION V: HEALTH HAZARD DATA**

ROUTE(S) OF ENTRY: INHALATION? EYES? SKIN? INGESTION?  
(ACUTE) HEALTH HAZARDS:  
EYES: CONTACT WITH EYES WILL CAUSE EYE IRRITATION.  
SKIN: CONTACT WITH SKIN WILL CAUSE SKIN IRRITATION  
INGESTION: SWALLOWING MAY CAUSE IRRITATION TO THE THROAT, MOUTH AND DIGESTIVE TRACT ACCOMPANIED BY NAUSEA AND VOMITING.  
INHALATION: PROLONGED EXPOSURE TO VAPORS IN POORLY VENTILATED AREAS MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES OF THE RESPIRATORY TRACT.  
(CHRONIC) HEALTH HAZARDS: THIS PRODUCT IS READILY ABSORBED THROUGH THE SKIN. FREQUENT OR WIDE SPREAD CONTACT MAY ABSORB HARMFUL AMOUNTS. REPEATED OVER EXPOSURE MAY CAUSE DAMAGE TO LIVER, KIDNEYS, LUNGS AND RED BLOOD CELLS CAUSING BLOOD IN THE URINE.  
SIGNS AND SYMPTOMS OF EXPOSURE:  
EYES: WATERING OF EYES. STINGING SENSATION.  
SKIN: REMOVAL OF OILS. DRY SKIN.  
INGESTION: NAUSEA AND VOMITING.  
INHALATION: SLIGHT IRRITATION OF NOSE & EYES. HEADACHE.  
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PERSONS WITH PRE-EXISTING DERMATITIS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.  
EMERGENCY AND FIRST AID PROCEDURES:  
EYES: FLUSH EYES WITH LARGE AMOUNTS OF WATER. IF IRRITATION OCCURS OR PERSISTS OBTAIN MEDICAL ATTENTION.  
SKIN: WASH OFF WITH WATER. IF IRRITATION OCCUR OR PERSISTS. OBTAIN MEDICAL ASSISTANCE.  
INGESTION: GIVE TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. HAVE MEDICAL PERSONAL DETERMINE IF EVACUATION OF THE STOMACH IS NECESSARY. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.  
INHALATION: IF INHALED, REMOVE TO FRESH AIR. OBTAIN MEDICAL ATTENTION IF RESPIRATORY IRRITATION OCCURS OR BREATHING BECOMES DIFFICULT.

**SECTION VI: TOXICITY DATA**

CARCINOGENICITY: NO NTP? IARC MONOGRAPHS? OSHA REGULATED?  
ORAL: 2-BUTOXYETHANOL LD-50 (RAT) = 1480 MG/KG, RABBIT = 320 MG/KG  
DERMAL: 2-BUTOXYETHANOL LD-50 (RABBIT) = 490 MG/KG  
INHALATION: 2-BUTOXYETHANOL LD-50 (MOUSE) = 700 PPM/7H. HUMAN TCLO = 195 PPM/8H

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### SECTION VII: REACTIVITY DATA

STABILITY: UNSTABLE: STABLE: X

CONDITIONS TO AVOID:

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ACIDS. OXIDIZING MATERIALS.

HAZARDS DECOMPOSITION OR BYPRODUCTS: CARBON MONOXIDE AND CARBON DIOXIDE MAY BE LIBERATED AS WELL AS UNIDENTIFIED ORGANIC COMPOUNDS IN BLACK SMOKE.

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X CONDITIONS TO AVOID: NONE KNOWN

### SECTION VIII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

SMALL SPILLS: MOP UP EXCESS MATERIAL. FLUSH WITH WATER.

LARGE SPILLS: DIKE MATERIAL TO PREVENT RUN OFF. ABSORB SPILL WITH ABSORBENT MATERIAL AND PLACE IN SUITABLE CONTAINER OR PICK UP MATERIAL WITH VACUUM TRUCK. FLUSH SPILL AREA WITH WATER TO REMOVE ANY RESIDUE. NOTIFY LOCAL, STATE AND FEDERAL OFFICIALS AS REQUIRED.

WASTE DISPOSAL METHOD: MATERIAL THAT CANNOT BE USED OR CHEMICALLY REPROCESSED SHOULD BE DISPOSED OF AT AN APPROVED FACILITY IN ACCORDANCE WITH ANY APPLICABLE REGULATIONS UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: PROTECT FROM FREEZING. STORE IN A COOL DRY PLACE. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE.

OTHER PRECAUTIONS: FOR INDUSTRIAL AND INSTITUTIONAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

### SECTION IX: CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPES): GOOD ROOM VENTILATION REQUIRED

VENTILATION: NA

LOCAL EXHAUST: NA

MECHANICAL (GENERAL): IN CONFINED AREAS

SPECIAL: NA

OTHER:

PROTECTIVE GLOVES: RUBBER OR PLASTIC

EYE PROTECTION: FULL FACE SHIELD

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: EYE WASH

WORK/HYGIENIC PRACTICES: A LACK OF GOOD ROOM VENTILATION MAY REQUIRE A MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL. THE RECOMMENDATIONS DESCRIBED IN THIS MSDS ARE PROVIDED FOR GENERAL GUIDANCE FOR MINIMIZING EXPOSURE WHEN HANDLING THIS PRODUCT. BECAUSE USE CONDITIONS WILL VARY DEPENDING ON CUSTOMERS APPLICATIONS, SPECIFIC SAFE HANDLING PROCEDURES SHOULD BE DEVELOPED BY PERSONS KNOWLEDGEABLE OF THE INTENDED USE CONDITIONS AND EQUIPMENT.

### SECTION X: DOT HAZARDOUS INFORMATION

UN/NA: NA CLASSIFICATION: NA

PROPER SHIPPING NAME:

PHOTO CHEMICALLY REACTIVE? NA %

NON-PHOTO CHEMICALLY REACTIVE? NA

<4% NA >4% NA

DOT REPORTABLE QUANTITY (RQ):

### SECTION XI: MISCELLANEOUS INFORMATION

NONE

#### NOTICE

ALL INFORMATION, RECOMMENDATIONS AND SUGGESTIONS APPEARING HEREIN CONCERNING THIS PRODUCT ARE BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES: HOWEVER FURBISH CHEMICAL & SUPPLY CO. INC. MAKES NO WARRANTY, REPRESENTATION OR GUARANTY AS TO THE ACCURACY, SUFFICIENCY OR COMPLETENESS OF THE MATERIAL SET FORTH HEREIN. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY OF HIS OWN USE, HANDLING AND DISPOSAL OF THE PRODUCT. ADDITIONAL PRODUCT LITERATURE MAY BE AVAILABLE UPON REQUEST. SINCE ACTUAL USE BY OTHERS IS BEYOND OUR CONTROL, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE BY FURBISH CHEMICAL & SUPPLY CO. INC. AS TO THE EFFECTS OF SUCH USE. THE RESULTS TO BE OBTAINED OR THE SAFETY AND TOXICITY OF THE PRODUCT, NOR DOES FURBISH CHEMICAL & SUPPLY CO. INC. ASSUME ANY LIABILITY ARISING OUT OF USE BY OTHERS OF THE PRODUCT.

NA - NOT APPLICABLE S - MAY BE ABSORBED THROUGH INTACT SKIN ND - NO DATA AVAILABLE