Product ID:HOUGHTO-SAFE 273 MSDS Date:10/06/1995 FSC:9150 NIIN:01-080-5962 MSDS Number: BPMJZ === Responsible Party === Company Name: HOUGHTON INTL INC Address: MADISON AND VAN BUREN AVE Box:930 **City:VALLEY FORGE** State:PA ZIP:19482-0930 Country:US Info Phone Num:215-666-4000 Emergency Phone Num:215-666-4105 Resp. Party Other MSDS Num.:012713 Preparer's Name: ROBERT E. WILLIAMS Chemtrec Ind/Phone:(800)424-9300 CAGE:73277 === Contractor Identification === Company Name: HOUGHTON E F AND CO Address:3431 CARRIAGE DR Box:25930 City:SANTA ANA State:CA ZIP:92799 Country:US Phone:714-545-8467 CAGE:97451 **Company Name: HOUGHTON INTERNATIONAL INC** Address: MADISON AND VAN BUREN AVES Box:930 **City:VALLEY FORGE** State:PA ZIP:19482-0930 Country:US Phone:610-666-4105 Contract Num:SP0450-99-C-5215 CAGE:73277 **Company Name**

:SALATHE OIL CO INC Address:2226 PETERS RD Box:City:HARVEY State:LA ZIP:70058 Country:US Phone:504-366-4542 CAGE:0T5C6

Ingred Name:ETHYLENE GLYCOL (SARA 313) (CERCLA) CAS:107-21-1 RTECS #:KW2975000 Minumum % Wt:30. Maxumum % Wt:60. Other REC Limits:NONE RECOMMENDED ACGIH TLV:C STEL39PPM,A4,VAP96 EPA Rpt Qty:1 LB DOT Rpt Qty:1 LB

Ingred Name:2-DIETHYLAMINOETHANOL CAS:100-37-8 RTECS #:KK5075000 &It; Wt:1. Other REC Limits:NONE RECOMMENDED OSHA PEL:S, 10 PPM ACGIH TLV:S, 2 PPM; 9596

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER. Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO Health Hazards Acute and Chronic:CHRONIC EFFECTS: UNKNOWN FOR THIS PRODUCT. ACUTE EFFECTS: INHALATION-AVOID BREATHING PRODUCT MIST. BREATHING MISTS IN EXCESS OF THE STEL MAY CAUSE IRRITATION OF UPPER R ESPIRATORY TRACT. SKIN-MILD IRRI TANT. EYE-MODERATE IRRITANT. INGESTION-AVOID INGESTION. SWALLOWING LARGE AMOUNTS OF ETHYLENE GYLCOL HAS CAUSED BIRTH DEFECTS IN LABORATORY ANIMALS. Explanation of Carcinogenicity:NONE Medical Cond Aggravated by Exposure:PERSONS WITH CHRONIC RESPIRATORY DISEASE MAY SHOW INCREASED SYMPTOMS DUE TO IRRITATION.

First Aid:INHALATION-REMOVE TO SOURCE OF FRESH AIR. SKIN-WASHWITH SOAP

ND WATER. EYE-FLUSH WITH WATER FOR 15 MINUTES; CONSULT PHYSICIAN. INGESTION-INDUCE VOMITING; CONSULT PHYSICIAN.

Extinguishing Media: PRODUCT IS A FIRE RESISTANT FLUID; NOT FLAMMABLE AS USED Fire Fighting Procedures: IF WATER IS REMOVED PRODUCT WILL BURN. USE WATER, CARBON DIOXIDE, FOAM, DRY CHEMICAL. Unusual Fire/Explosion Hazard:NONE. Spill Relea se Procedures:MATERIAL NOT CONSIDERED A POLLUTANT IF EFFECTIVE WASTE DISPOL METHODS ARE UTILIZED. (COD-882,000 PPM). FLUSH AREA WITH WATER FOR SMALL QUANTITIES; FOR LARGE QUANTITIES DIKE TO CONTAIN & EITHER REUSE O R DISPOSE OF DEPENDING ON CONDITION. Handling and Storage Precautions: AVOID CONTACT W/STRONG OXIDIZERS.CAVOID INGESTION. WASH THOROUGHLY AFTER HANDLING. Other Precautions:NOT REQUIRED. ======== ==== Exposure Controls/Personal Protection =========== Respiratory Protection: REQUIRED ONLY IF TLV IS EXCEEDED. Ventilation: EXHAUST TYPE IF MISTING; OTHERWISE GENERAL TYPE IS SATISFACTORY. Protective Gloves: RUBBER FOR PROLONGED CONTACT IF SKIN IS SENSITIVE Eye Protection: SAFETY GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS. Other Protective Equipment:NOT REQUIRED. Work Hygienic Practices:WASH THOROUGHLY. Supplemental Safety and Health _____ HCC:V6 Boiling Pt:=101.7C, 215.F Vapor Pres: AS WATER Vapor Density: AS WATER Spec Gravity:1.08 pH:9.5 (NEAT) Evaporation Rate & amp; Reference: AS WATER.

Solubility in Water:COMPLETE. Appearance and Odor:RED FLUID, SLIGHT AMMONIACAL ODOR. Percent Volatiles by Volume:30 TO 60

Stability Indicator/Materials to Avoid:YES STRONG OXIDIZERS. Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER. Hazardous Decompos ition Products:THERMAL:OXIDES OF CARBON AND NITROGEN.

Waste Disposal Methods:PROCESS THROUGH SEWEGE OR WASTE DISPOSAL SYSTEM WHICH PROVIDES BIOLOGICAL OXIDATION. (IF WATER CONTENT IS BELOW 35%, MATERIAL MAY BE BURNED W/FUEL OIL.)

SARA Title III Information: THIS PRODUCT CONTAINS NO TOXIC CHEMICAL SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 3

13 OF TITLE III

OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372 OTHER THAN A M AXIMUM OF: 35% ETHYLENE GLYCOL (107-21-1)

Federal Regulatory Information:CERCLA REPORTABLE QUANTITY (LBS): NONE. RCRA HAZARDOUS WASTE NUMBER: N/A.

State Regulatory Information: MICHIGAN CRITICAL MATERIALS REGISTER - ACT 293. HAZARDOUS WASTE MANAGEMENT ACT - ACT 64. WE HEREBY STATE THAT HOUGHTO-SAFE 273, DOES NOT CONTAIN ANY OF THE COMPONENTS LISTED IN THE ABOV

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