

MSDS

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: PUMCOOL 2000

MANUFACTURER / SUPPLIER:
PUMPELLY OIL COMPANY
1890 SWISCO ROAD
SULPHUR, LA 70665

EMERGENCY PHONE: 1-800-633-8253
IN CASE OF FIRE, SPILLS, LEAKS, OR ACCIDENTS WITH THIS HAZARDOUS MATERIAL DURING DELIVERY OF PRODUCT.

EFFECTIVE DATE: SEPTEMBER 18, 1996

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

ETHYLENE GLYCOL:
CAS #: 00107-21-1
% OF PRODUCT: 50-53%

DEIONIZED WATER:
CAS #: 007732-18-5
% OF PRODUCT: <50%

SODIUM NITRATE:
CAS #: 7631994
% OF PRODUCT: BT 1 4
EXPOSURE LIMITS - OSHA PPM: NG - TWA MG/M3: NG - ACGIH PPM: NG - ACGIH MG/M3: NG

SODIUM TETRABORATE:
CAS #: 11130124
% OF PRODUCT: BT 1 4
EXPOSURE LIMITS - OSHA PPM: NG - TWA MG/M3: 10 - ACGIH PPM: NG - ACGIH MG/M3: 1

SODIUM MERCAPTOBENZOTHAZOLE:
CAS #: 2492264
TLV - CEILING LIMIT
% OF PRODUCT: BT 1 4
EXPOSURE LIMITS - OSHA PPM: NG - TWA MG/M3: NG - ACGIH PPM: 2 - ACGIH MG/M3: NG

SODIUM NITRITE:
CAS #: 7632000
PEL / TLV - NOT ESTABLISHED
% OF PRODUCT: BT 1 4
EXPOSURE LIMITS - OSHA PPM: NG - TWA MG/M3: NG - ACGIH PPM: 2 - ACGIH MG/M3: NG

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
COLORED LIQUID. GLYCOL ODOR. NO SIGNIFICANT IMMEDIATE HAZARDS FOR EMERGENCY RESPONSE ARE KNOWN.

POTENTIAL HEALTH EFFECTS: SEE SECTION 11 FOR TOXICOLOGICAL DATA.

EYES:
MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION. CORNEAL INJURY IS UNLIKELY. VAPORS OR MISTS MAY CAUSE EYE IRRITATION.

SKIN:
PROLONGED OR REPEATED EXPOSURE MAY CAUSE SLIGHT SKIN IRRITATION. MAY CAUSE MORE SEVERE RESPONSE IF SKIN IN ABRADED (SCRATCHED OR CUT). A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS. REPEATED SKIN EXPOSURE TO LARGE QUANTITIES MAY RESULT IN ABSORPTION OF HARMFUL AMOUNTS.

INGESTION:
SINGLE DOSE ORAL TOXICITY IS BELIEVED TO BE MODERATE. EXCESSIVE EXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS (METABOLIC ACIDOSIS) AND KIDNEY FAILURE. SMALL AMOUNTS SWALLOWED INCIDENTAL TO NORMAL HANDLING OPERATIONS ARE NOT LIKELY TO CAUSE INJURY; HOWEVER, SWALLOWING AMOUNTS LARGER THAN THAT MAY CAUSE SERIOUS INJURY, EVEN DEATH. SINGLE DOSE ORAL TOXICITY IS EXPECTED TO BE MODERATE TO HUMANS EVEN THOUGH TESTS WITH ANIMALS SHOW A LOWER DEGREE OF TOXICITY. THE LETHAL DOSE IN HUMANS IS EXPECTED TO BE 100 ml (3 OUNCES) FOR ETHYLENE GLYCOL.

CHRONIC HEALTH EFFECTS:

SYSTEMATIC (OTHER TARGET ORGAN) EFFECTS:
EXCESSIVE EXPOSURE MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT. OBSERVATION IN ANIMALS INCLUDE KIDNEY AND LIVER EFFECTS AND DEPOSITION OF CALCIUM SALTS IN VARIOUS TISSUES AFTER LONG-TERM DIETARY INTAKE OF ETHYLENE GLYCOL.

CANCER INFORMATION:
ETHYLENE GLYCOL DID NOT CAUSE CANCER IN LONG TERM ANIMAL STUDIES.

TERATOLOGY (BIRTH DEFECTS):

BASED ON ANIMAL STUDIES, INGESTION OF VERY LARGE AMOUNTS OF ETHYLENE GLYCOL APPEARS TO BE THE MAJOR AND POSSIBLY ONLY ROUTE OF EXPOSURE TO PRODUCE BIRTH DEFECTS. EXPOSURES BY INHALATION (TESTED NOSE-ONLY IN ANIMALS TO PREVENT INGESTION) OR SKIN CONTACT, THE PRIMARY ROUTES OF OCCUPATIONAL EXPOSURE, HAD MINIMAL OR ESSENTIALLY NO EFFECT ON THE FETUS.

REPRODUCTIVE EFFECTS:

INGESTION OF LARGE AMOUNTS OF ETHYLENE GLYCOL HAS BEEN SHOWN TO INTERFERE WITH REPRODUCTION IN ANIMALS. SPECIFICALLY, GROWTH RETARDATION AND DECREASED LITTER SIZE IN RATS AND MICE AND MATING FREQUENCY IN MICE WERE OBSERVED.

SECTION 4 - FIRST AID MEASURES

EYES:

FLUSH WITH PLENTY OF WATER.

SKIN:

WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION:

IF SWALLOWED, INDUCE VOMITING IMMEDIATELY AS DIRECTED BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT MEDICAL PERSONNEL. SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.

NOTE TO PHYSICIAN:

EARLY ADMINISTRATION OF ETHANOL MAY COUNTER THE TOXIC EFFECTS OF ETHYLENE GLYCOL - METABOLIC ACIDOSIS AND RENAL DAMAGE. HEMODIALYSIS OR PERITONEAL DIALYSIS HAVE BEEN OF BENEFIT. NEW ENG. J. MED. 304:21 1981.

NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF PATIENT.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: NONE TO 220°F (104°C)

METHOD USED: TCC

AUTOIGNITION TEMPERATURE: 748°F, 398°C (IN AIR)

FLAMMABILITY LIMITS:

LFL: 3.2 VOL. PERCENT IN AIR (ETHYLENE GLYCOL)

UFL: NOT DETERMINED

HAZARDOUS COMBUSTION PRODUCTS:

COMBUSTION MAY PRODUCE CARBON, CARBON MONOXIDE, CARBON DIOXIDE, AND WATER. UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

OTHER FLAMMABILITY INFORMATION:

DENSE SMOKE EMITTED WHEN BURNED WITHOUT SUFFICIENT OXYGEN.

EXTINGUISHING MEDIA:

WATER, FOG, CARBON DIOXIDE, DRY CHEMICAL, FOAM. FOR LARGE-SCALE FIRES, ALCOHOL RESISTANT FOAMS ARE PREFERRED IF AVAILABLE. GENERAL PURPOSE SYNTHETIC FOAMS OR PROTEIN FOAMS MAY FUNCTION, BUT MUCH LESS EFFECTIVELY. WATER MAY BE USED TO FLUSH SPILLS AWAY FROM FIRE EXPOSURES AND TO DILUTE SPILLS TO NON-FLAMMABLE MIXTURES. IF POSSIBLE, CONTAIN FIRE RUN-OFF WATER. FOR LARGE SCALE FIRES, DIRECT WATER STREAM MAY CAUSE VIOLENT FROTHING, BUT FINE WATER SPRAY MAY HELP CONTROL SITUATION.

FIRE FIGHTING INSTRUCTIONS:

KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY UNNECESSARY ENTRY. WHEN USING WATER SPRAY, BOIL OVER MAY OCCUR WHEN THE PRODUCT TEMPERATURE REACHES THE BOILING POINT OF WATER (TANK TYPE SCENARIOS, NOT SPILLS).

THIS MATERIAL WILL NOT BURN UNTIL THE WATER IS REDUCED BELOW 25% W / W. AT THIS POINT, THE MATERIAL WILL EXHIBIT THE FLAMMABILITY CHARACTERISTICS OF ETHYLENE GLYCOL. (i.e. FLASH POINT = 223°F (111°C), LFL = 3.2 VOL%)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

(SEE SECTION 15 FOR REGULATORY INFO.)

PROTECT PEOPLE:

ISOLATE AND CONFINE SPILL AREA. SPILLS MAY BE A SLIPPING HAZARD. IF TEMPERATURE IS ABOVE FLASH POINT, COVER WITH VAPOR SUPPRESSION FOAM UNTIL IT CAN BE CLEANED UP.

PROTECT THE ENVIRONMENT:

KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS AND SOIL. MATERIAL IS MORE SENSITIVE THAN WATER AND HAS INFINITE WATER SOLUBILITY.

CLEANUP:

SMALL SPILLS: SOAK UP WITH ABSORBENT MATERIAL AND SCOOP INTO CONTAINERS. LARGE SPILLS: PREVENT CONTAMINATION OF WATERWAYS. DIKE AND PUMP INTO SUITABLE CONTAINERS. CLEAN UP RESIDUE WITH ABSORBENT MATERIAL AND WASH WITH WATER.

SECTION 7 - HANDLING AND STORAGE

HANDLING:

AVOID BODY CONTACT. PROVIDE ADEQUATE VENTILATION. ABOVE FLASH POINT VAPOR-AIR MIXTURES WILL BURN WITHIN FLAMMABLE LIMITS.

SPILL OF THESE ORGANIC LIQUIDS ON HOT FIBROUS INSULATION MAY LEAD TO LOWERING OF THE AUTOIGNITION TEMPERATURE POSSIBLY RESULTING IN SPONTANEOUS COMBUSTION.

STORAGE:

STORE IN SEALED CONTAINERS.

SECTION 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

ENGINEERING CONTROLS:

PROVIDE GENERAL AND/OR LOCAL EXHAUST VENTILATION TO CONTROL AIRBORNE LEVELS BELOW THE EXPOSURE GUIDELINES. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION:

USE SAFETY GLASSES. IF VAPOR EXPOSURE CAUSES EYE DISCOMFORT, USE A FULL-FACE RESPIRATOR.

SKIN PROTECTION:

WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS FACE SHIELD, GLOVES, BOOTS, APRON, OR FULL-BODY SUIT WILL DEPEND ON OPERATION. IF HANDS ARE CUT OR SCRATCHED, USE GLOVES IMPERVIOUS TO THIS MATERIAL EVEN FOR BRIEF EXPOSURES.

RESPIRATORY PROTECTION:

ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. FOR MOST CONDITIONS, NO RESPIRATORY PROTECTION SHOULD BE NEEDED; HOWEVER, IF MATERIAL IS HEATED OR SPRAYED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

EXPOSURE GUIDELINES:

ETHYLENE GLYCOL: ACHIG TLV AND OSHA PEL ARE 50 PPM.

PELs ARE IN ACCORD WITH THOSE RECOMMENDATION BY OSHA, AS IN THE 1989 REVISION OF PELs.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE / PHYSICAL STATE: COLORED LIQUID.

ODOR: GLYCOL LIKE.

VAP PRESS: 16 mm Hg @ 20°C, 68°F

VAP DENSITY: >1.0

BOILING POINT: 226°F, 108°C

SOL. IN WATER: INFINITE

SP. GRAVITY: 1.08 @ 60/60F, 16C

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY:

EXCELLENT THERMAL STABILITY CHARACTERISTICS AT TYPICAL USE TEMPERATURES.

CONDITIONS TO AVOID:

NONE KNOWN

INCOMPATIBILITY WITH OTHER MATERIALS:

OXIDIZING MATERIALS.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

(SEE SECTION 3 FOR POTENTIAL HEALTH EFFECTS)

FOR DETAILED TOXICOLOGICAL DATA, WRITE OR CALL THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1.

ACUTE:

INGESTION:

THE ORAL LD50 FOR RATS IS >8200 mg/kg FOR A SIMILAR MATERIAL.

SKIN:

THE LD50 FOR SKIN ABSORPTION IN RABBITS IS >2000 mg/kg FOR A SIMILAR MIXTURE.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):

IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE FOR ETHYLENE GLYCOL. ANIMAL MUTAGENICITY STUDIES WERE NEGATIVE FOR ETHYLENE GLYCOL.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:

MOVEMENT & PARTITIONING:

BASED LARGELY OR COMPLETELY ON DATA FOR MAJOR COMPONENT. BIOCONCENTRATION POTENTIAL IS LOW (BCF LESS THAN 100 OR LOG KOW LESS THAN 3). NO RELEVANT INFORMATION FOUND FOR REMAINING COMPONENTS.

DEGRADATION & TRANSFORMATION:

BASED LARGELY OR COMPLETELY ON DATA FOR MAJOR COMPONENT. BIODEGRADATION UNDER AEROBIC STATIC LABORATORY CONDITIONS IS HIGH (BOD20 OR BOD28/Th0d GREATER THAN 40%). NO RELEVANT INFORMATION FOUND FOR REMAINING COMPONENTS.

ECOTOXICOLOGY:

BASED LARGELY OR COMPLETELY ON DATA FOR MAJOR COMPONENT. MATERIAL IS PRACTICALLY NON-TOXIC TO AQUATIC ORGANISMS ON AN ACUTE BASIS (LC50 GREATER THAN 100 mg/L IN MOST SENSITIVE SPECIES). NO RELEVANT INFORMATION FOUND FOR REMAINING COMPONENTS.

SECTION 13 - DISPOSAL CONSIDERATIONS

(SEE SECTION 15 FOR REGULATORY INFORMATION)

DISPOSAL:

ANY DISPOSAL PRACTICE MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL, AND LOCAL LAWS AND REGULATION. STATE/PROVINCIAL AND LOCAL REQUIREMENTS FOR WASTE DISPOSAL MAY BE MORE RESTRICTIVE OR OTHERWISE DIFFERENT FROM FEDERAL LAWS AND REGULATION. REGULATION MAY ALSO VARY IN DIFFERENT LOCATIONS. CHEMICAL ADDITIONS, PROCESSING, STORAGE, OR OTHERWISE ALTERING THIS MATERIAL MAY MAKE THE WASTE MANAGEMENT INFORMATION PRESENTED IN THIS MSDS INCOMPLETE, INACCURATE, OR OTHERWISE INAPPROPRIATE. WASTE CHARACTERIZATION AND DISPOSAL COMPLIANCE ARE THE RESPONSIBILITY SOLELY OF THE PARTY GENERATING THE WASTE OR DECIDING TO DISCARD OR DISPOSE OF THE MATERIAL. NONE OF THESE WASTE MANAGEMENT OPTIONS SHOULD BE CONSIDERED "ARRANGING FOR DISPOSAL."

SECTION 14 - TRANSPORTATION INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.):

THIS PRODUCT IS NOT REGULATED BY D.O.T. WHEN SHIPPED DOMESTICALLY BY LAND IN QUANTITIES LESS THAN 1000 GALLONS.

SECTION 15 - REGULATORY INFORMATION

(NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED)

NOTICE:

THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN IN THIS DOCUMENT. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE OTHER SECTIONS FOR HEALTH AND SAFETY INFORMATION.

SECTION 16 - OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0