**HISTOPREP(TM) MOLD RELEASE AGENT**
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**MATERIAL SAFETY DATA SHEET**

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**SUBSTANCE IDENTIFICATION**

SUBSTANCE: **HISTOPREP(TM) MOLD RELEASE AGENT**

TRADE NAMES/SYNONYMS:
SO-H-85, SH-70, ACC00685

MOLECULAR FORMULA: MIXTURE

CERCLA RATING: SCALE 0-3: HEALTH-U FIRE-3 REACTIVITY-0 PERSISTENCE-0
NFPA RATING: SCALE 0-4: HEALTH-U FIRE-3 REACTIVITY-0

**COMPONENTS AND CONTAMINANTS**

COMPONENT: 2-PROPANOL CAS#: 75-63-0
PERCENT: 92

COMPONENT: ETHYL ALCOHOL CAS#: 64-17-5
PERCENT: 4

COMPONENT: NONYLPHENOXYETHYL ETHANOL PERCENT: 4

**EXPOSURE LIMITS**

ISOPROPYL ALCOHOL (ISOPROPYL 2-PROPANOL):
400 PPM (983 MG/M3) OSHA TWA, 500 PPM (1230 MG/M3) ACGIH STEL,
500 PPM (1230 MG/M3) ACGIH STEL

**MEASUREMENT METHOD**

CHARCOAL TUBE; 2-BUTANOL/CARBON DISULFIDE; GAS
CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1400.
ALCOHOLS).

**SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL REPORTING**

ONLY PERSONS WHO MANUFACTURE BY THE STRONG ACID PROCESS ARE SUBJECT,
SUPPLIER NOTIFICATION NOT REQUIRED.

**ETHYL ALCOHOL (ETHANOL):**

1000 PPM (1880 MG/M3) OSHA TWA
1000 PPM (1880 MG/M3) ACGIH STEL

**PHYSICAL DATA**

DESCRIPTION: CLEAR, COLORLESS LIQUID
BOILING POINT: NOT AVAILABLE
MELTING POINT: NOT AVAILABLE
SPECIFIC GRAVITY: 0.9
SOLUBILITY IN WATER: SOLUBLE

**FIREFIGHTING DATA**

DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
VAPOR AIR MIXTURES ARE EXPLOSIVE.
FLASH POINT: 57 F (14 C) CC
UPPER EXPLOSIVE LIMIT: 2.0%
CARCINOGENICITY STATUS: NONE. HUMAN SUFFICIENT EVIDENCE (IARC GROUP-1 FOR ALCOHOLIC BEVERAGES). ANIMAL INADEQUATE EVIDENCE FOR THE CARCINOGENICITY OF ETHANOL.

LOCAL EFFECTS: INFLAMMATION, SKIN, EYE.

ACUTE TOXICITY LEVEL, SLIGHTLY TOXIC BY INGESTION AND ABSORPTION.

TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSION; HEPATOTOXIC.

ACUTE EXPOSURE - INGESTION: CAUSES ASHY TINT IN MOUTH AND DISCOLORATION OF VOMIT. POSSIBLY CAUSES DIGESTIVE UPSET OR DIGESTIVE UPSET AND DIARRHEA. PRODUCES LIVER DAMAGE, POSSIBLY CAUSES ABSTRACTED DIARRHEA. POSSIBLY CAUSES SLIGHTLY TOXIC BY INGESTION AND ABSORPTION. ADDITIONAL DATA: ALLERGIC REACTIONS TO ALCOHOLS HAVE BEEN REPORTED.

ETHOXYLATED NONYLPHENOL (EO-8).

IRITATION - 18 MG/2 DAYS INTERTM NT SKIN-MAMMAL MILD: 500 MG OPEN SKIN-RABBIT MILD: 5 MG EYE-RABBIT SEVERE: 20 MG EYE-RABBIT SEVERE: 20 MG EYE-RABBIT SEVERE: 40 MG EYE-RABBIT SEVERE: 40 MG EYE-RABBIT SEVERE.

TOXICITY DATA: 2500 MG/KG ORAL-RAT LD50: 2830 MG/KG SKIN-RABBIT LD50;

ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INGESTION: SLIGHTLY TOXIC DERMALLY.

TARGET EFFECTS: NO DATA AVAILABLE.

HEALTH EFFECTS AND FIRST AID

INHALATION:

ISOPROPYL ALCOHOL (ISOPROPANOL): 2-PROPANOL:

IRITANT/NARCOTIC: 12,000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE - HUMAN SUBJECTS EXPOSED TO 400 PPM FOR 5-15 MINUTES HAD MILD IRRITATION OF THE NOSE AND THROAT AT 800 PPM THE IRRITATION WAS NOT SEVERE BUT UNCOMFORTABLE. HIGHER CONCENTRATIONS MAY CAUSE EFFECTS, AS DETAILED IN ACUTE INGESTION. THE LENGTH OF TIME REQUIRED TO PRODUCE DEEP NARCOSIS IN ANIMALS WAS INVERSELY PROPORTIONAL TO THE CONCENTRATION: THE ONSET OF DEEP NARCOSIS RANAGED FROM 460 MINUTES AT 3520 PPM TO 160 MINUTES AT 34,500 PPM.

CHRONIC EXPOSURE - MICE SUBJECTED TO 10000 PPM ISOPROPYL ALCOHOL IN AIR FOR ABOUT 100 DAYS UNTIL THEY HAD ACCUMULATED 233 HOURS OF EXPOSURE WERE NARCOTIZED BUT SURVIVED. REVERSIBLE FATTY CHANGES WERE OBSERVED IN THE LIVER. MALE MICE EXPOSED TO EITHER 1000 OR 5000 PPM OF ISOPROPYL ALCOHOL VAPOR FOR 8 HOURS A DAY FOR 9 EXPOSURES EXHIBITED HYALINE DROPLETS IN THE LIVER. INHIBITION OF INDUSTRIAL EPITHELIUM AND HYPERMIA OF THE CONJUNCTIVA HAD BEEN REPORTED AS IRRITATIVE EFFECTS TO THE EYES, CONJUNCTIVITIS TO THE NOSE, AND POSSIBLY PINK TONGUE TO THE TONGUE. IN THE MANUFACTURE OF ISO PROPYL ALCOHOL BY THE ACETOACETIC ACID PROCESS INVOLVING THE FORMATION OF ISOPROPYL OILS. IT IS NOT CLEAR WHICH SUBSTANCES ARE RESPONSIBLE.

ETHYL ALCOHOL (ETHANOL):

IRITANT/NARCOTIC: 1000-10,000 PPM HAS CAUSED TEMPORARY IRRITATION OR THE UPPER RESPIRATORY TRACT AND COUGHING; AND IF CONTINUED, CENTRAL NERVOUS SYSTEM DEPRESSION WITH HEADACHE, STUPOR, FATIGUE.

ACUTE EXPOSURE - HUMAN SUBJECTS EXPOSED TO 1000 PPM OR LESS REPORTED HEADACHE, NERVOUSNESS, DIZZINESS, DULLNESS, LOSS OF APPETITE, AND DROWSINESS. A LEVEL OF 10,000 PPM HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 500 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 100 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 50 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 25 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 10 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 5 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 2 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 1 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.5 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.25 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.1 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.05 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.01 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.005 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.001 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0005 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.00025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0001 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.00005 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.000025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.00001 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.000005 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0000025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.000001 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0000005 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.00000025 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC. A LEVEL OF 0.0000001 MG PER 100 ML HAS BEEN CONSIDERED TO BE TOXIC.
AND BELLIGERENT; FOLLOWED BY GRADUAL VISUAL IMPAIRMENT, MUSCULAR INCOORDINATION, SLOWING OF REACTION TIME, SENSORY DISTURBANCES, AND SLURRING OF SPEECH. OTHER SYMPTOMS MAY INCLUDE FLUSHING OF THE FACE, DIAPHRAGMATIC PULSE, NAUSEA, VOMITING, DIARRHEA, DIARRHEA WITH MOUTH DRYNESS, AND FLUID LOSSES. INGESTION OF LARGE AMOUNTS MAY CAUSE CONFUSION, DETERIORATION, LOSS OF CONTROL, SHALLOW RESPIRATION, VOLUNTARY DEFACTION AND URINATION, DROWSINESS, STUPOR, AND POSSIBLY COMA. CONSEQUENCES DUE TO INCREASED BODY TEMPERATURE AND SHOCK WITH HYPOTENSION, DIAPHORESIS, HEADACHE, PALE SKIN, HYPERMETERS, RESPIRATORY DEPRESSION, AND DECREASED REFLEXES MAY OCCUR. DEATH MAY OCCUR FROM RESPIRATORY OR CIRCULATORY FAILURE OR LATER FROM ASPIRATION PNEUMONITIS OR PULMONARY EDEMA. RECOVERY MAY BE ACCOMPANIED BY HEADACHE, INSOMNIA, GI TRACT DISCOMFORT, RESTLESSNESS, PSYCHOSIS, UNCONTROLLABLE FEAR AND VIOLENT AND HALLUCINATIONS, EXAGGERATED REFLEXES, AND CONVULSIONS. SOME INDIVIDUALS EXPOSED BY EXTERNAL ROUTE CONTACT MAY SUFFER FROM A GENERALIZED ERYTHEMA, STOMATITIS, URTICARIA, ANIODEMA, MORBILLIFORM ERUPTIONS, OR ECZEMATOUS DERMATITIS AT SITES PREVIOUSLY AFFECTED BY EXTERNAL CONTACT. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.

CHRONIC EXPOSURE - CHRONIC INTOXICATION MAY RESULT IN WEIGHT LOSS, DEGENERATIVE CHANGES IN THE LIVER, KIDNEYS, AND BRAIN, GASTROENTERITIS WITH ANOREXIA, ABDOMINAL AND DIARRHEA, AND CYSHIRRUS OF THE LIVER. POLYURETHANES WITH PAIN, MOTOR AND SENSORY LOSS IN THE EXTREMITIES, AND OPTIC ATROPHY MAY OCCUR. PSYCHOLOGICAL SYMPTOMS, CONFUSION, IMPAIRED JUDGEMENT, AND LOSS OR IMPAIRMENT OF MENTAL ABILITIES ARE POSSIBLE. MANY YEARS OF CHRONIC EXPOSURE HAVE CAUSED ACUTE MYOCARDIAL FIBROSIS AND CIRCULATORY FAILURE.

ETHYL ALCOHOL HAS BEEN CLEARLY DEMONSTRATED TO CAUSE REPRODUCTIVE EFFECTS THE NEWBORN INS OF ALCOHOL MOTHERS MAY EXHIBIT FETAL ALCOHOL SYNDROME WITH LOW BIRTH WEIGHTS, PROMINENCE OF THE FOREHEAD AND MANDIBLE, CLEFT PALATE, MAXILLARY HYPOLASIS, SHORT PALPEBRAL FISSURES, MICROCEPHALY, ENCEPHALOCELE, PULMONARY FOLDS, SEVERE GROWTH RETARDATION, MENTAL RETARDATION, MICROCEPHALIC, CARDIAC ANOMALIES, AND POSSIBLY MALFORMATION OF THE BRAIN. NEWBORN INS OF A HIGH RISK GROUP, THAT IS WOMEN WHO DRINK MORE THAN 2 OUNCE PER DAY, SHOWED INCREASED TRENDS AND NON-ALCOHOLYS WAKE STATES AND INCREASED VIGOROUS ACTIVITY. REPRODUCTIVE EFFECTS HAVE ALSO BEEN REPORTED IN ANIMALS. HUMAN CONSUMPTION OF ALCOHOLIC BEVERAGES HAS BEEN CAUSAL IN THE OCCURRENCE OF MALIGNANT TUMORS OF THE ORAL CAVITY, PHARYNX, LARYNX, Oropharynx, AND LIVER.

ETHOXYLATED NONYLPHENOL (EO-6):

ACUTE EXPOSURE - ANIMAL STUDIES, ETHOXYLATED ALKYSJEHOLZS PRODUCED NAUSEA, VOMITING, DIARRHEA, BLOATED STOMACH, GASTROINTESTINAL IRRITATION WITH LITTLE INTESTINAL ABSORPTION OR DECOMPOSITION.

CHRONIC EXPOSURE - NINETY DAY FEEDING STUDIES PRODUCED RETARDED GROWTH IN RATS AT 1000 MG/KG/DAY AND INCREASED LIVER WEIGHTS AT 500 MG/KG/KG/DAY. IN DOGS, INCREASED LIVER WEIGHTS OCCURRED AT 1000 MG/KG/DAY.

FIRST AID - DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION.

REACTIVITY:

STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES: ISOPROPYL ALCOHOL (ISOPROPANOL) - 2-PROPANOL.

ACIDS: INCOMPATIBLE.

ACIDS ANHYDRIDES: INCOMPATIBLE.

ALUMINUM: DISSOLUTION IS EXOTHERMIC.

BARIUM PERCHLORATE: FORMATION OF EXPLOSIVE COMPOUND.

2-BUTANONE (METHYL ETHYL KETONE): ACCELERATES THE PEROXIDATION OF THE ALCOHOL.

CHROMIUM TRIOXIDE (GRANULAR): IGNITION.

COATING: MAY BE ATTACHED.

DOXYGNY TETRAFLUOROBORATE: IGNITION AT AMBIENT TEMPERATURE.

HALOGENS: INCOMPATIBLE.

HYDROGEN + PALLADIUM (PARTICLES): IGNITION ON EXPOSURE TO AIR.

HYDROGEN PEROXIDE: FORMATION OF EXPLOSIVE COMPOUND.

KETONES: MARKEDLY INCREASES THE POSIBILITY OF PEROXIDATION.

NITROFORM OR TRINITROMETHANE: DISSOLVES LIBERATING HEAT AND POSSIBLY EXPLODING.

OXIDATION TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER.

OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.

REDUCING AGENTS (STRONG): FIRE AND EXPLOSION HAZARD.

DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.

PRECAUTIONS: IN CASE OF FIRE, USE WATER, DRY POWDER, OR FOAM PROTECTOR ON FIRE. IN CASE OF DROWNING, INHIBITING INHALATION. IN CASE OF EXPOSURE, INHIBITING INHALATION. IN CASE OF EXPOSURE, INHIBITING INHALATION.

STORAGE AND DISPOSAL:

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. CONTACT THE DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

**STORAGE**

STORE IN ACCORDANCE WITH 29 CFR 1910.106.

BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY WHICH MAY MEDIATE ELECTROSTATIC SPARKS SHOULD BE STORED ON A METAL SURFACE WHICH MEETS THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

**DISPOSAL**

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 282, EPA HAZARDS WASTE NUMBER D001. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.
CONDITIONS TO AVOID

AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION. VAPORE MAY BE EXPLOSIVE AND POISONOUS. DO NOT ALLOW UNNECESSARY PERSONNEL IN AREA. DO NOT OVERHEAT CONTAINERS; CONTAINERS MAY VIOLENTLY RUPTURE AND TRAVEL A CONSIDERABLE DISTANCE IN HEAT OF FIRE.

SPILL AND LEAK PROCEDURES

SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORE. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORPTION MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING. FLAMES OR FLAMES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

PROTECTIVE EQUIPMENT

VENTILATION: PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET THE PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.


ISO PROPYL ALCOHOL:

1000 PPM - ANY POWERED, AIR-PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGES.
ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND ORGANIC VAPOR CARTRIDGES.
10,000 PPM - ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.

12,000 PPM - ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER.
ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE.
ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE.

ESCAPE - ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER.
ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACE SHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.