
SECTION 01: CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME: SILQUEST A-1100 SILANE
ALL SYNONYMS : A-1100 SILQUEST SILANE
GAMMA-AMINOPROPYLTRIETHOXSILANE
GM SENSOR KIT
SILQUEST A-1100 SILANE
25645365
25645374

SAFE USE CATEGORY AND DESCRIPTION: 11 -CORROSIVES - CONCENTRATED BASE -
pH > 10

LAST UPDATED DATE: 1995-03-06

MANUFACTURER'S ID (MID): 000551333
MANUFACTURER'S NAME: OSI SPECIALTIES, INC.
MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT: US 800-822-4357 EMERGENCY
MANUFACTURER'S MAILING ADDRESS:
39 OLD RIDGEBURY ROAD
DANBURY CT 06810-5121
US

CHEMICAL NAME: GAMMA-AMINOPROPYLTRIETHOXSILANE

MOLECULAR FORMULA: NH₂(CH₂)₃Si(OC₂H₅)₃

SECTION 02: COMPOSITION & INGREDIENT INFO

CAS#	FORMULATION	W/V	CHEMICAL NAME
000064175	< 0.0000/ 0.5000%	W	ETHYL ALCOHOL
000919302	> 99.5000/ 0.0000%	W	1-PROPANAMINE, 3-(TRIETHOXSILYL)-

SECTION 2 - OTHER INFORMATION: NOTES: ADDITIONAL ETHANOL MAY BE FORMED
BY REACTION WITH MOISTURE.

THRESHOLD LIMIT VALUE: CAS# 64175: 1000 PPM TWA

PERMISSIBLE EXPOSURE LIMIT: CAS# 64175: 1000 PPM TWA

SECTION 03: HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE: REPEATED CONTACT WITH SKIN MAY CAUSE A SEVERE
CUMULATIVE DERMATITIS. LONG-TERM REPEATED ORAL EXPOSURE TO ETHANOL MAY
RESULT IN THE DEVELOPMENT OF PROGRESSIVE LIVER INJURY WITH FIBROSIS.
REPEATED EXPOSURE TO AEROSOLS FROM UNDILUTED OR AQUEOUS MATERIAL MAY
RESULT IN IRRITATION AND INJURY OF THE RESPIRATORY TRACT.
EFFECTS OF OVEREXPOSURE - SKIN: SKIN ABSORPTION: PROLONGED OR
WIDESPREAD CONTACT MAY RESULT IN THE ABSORPTION OF POTENTIALLY HARMFUL

AMOUNTS OF MATERIAL. KIDNEY DAMAGE MAY OCCUR. // SKIN CONTACT: BRIEF CONTACT MAY CAUSE SLIGHT IRRITATION WITH ITCHING, LOCAL REDNESS AND POSSIBLY SWELLING. PROLONGED CONTACT CAUSES CHEMICAL BURNS WITH LOCAL DISCOMFORT OR PAIN, SEVERE EXCESS REDNESS AND SWELLING, TISSUE DESTRUCTION, FISSURES, ULCERATION, AND POSSIBLY BLEEDING INTO THE INFLAMED AREA. EFFECTS MAY CAUSE SCAR FORMATION.

EFFECTS OF OVEREXPOSURE - EYE: CAUSES SEVERE IRRITATION, EXPERIENCED AS DISCOMFORT OR PAIN, EXCESS BLINKING AND TEAR PRODUCTION, MARKED EXCESS REDNESS AND SWELLING OF THE CONJUNCTIVA, AND CHEMICAL BURNS OF THE CORNEA. CORNEAL INJURY MAY BE SEVERE, EXTENSIVE, AND, IF NOT TREATED PROMPTLY, COULD RESULT IN PERMANENT IMPAIRMENT OF VISION.

EFFECTS OF OVEREXPOSURE - INHALATION: HIGH VAPOR CONCENTRATIONS MAY CAUSE A BURNING SENSATION IN THE THROAT AND NOSE, STINGING AND WATERING IN THE EYES. AT CONCENTRATIONS WHICH CAUSE IRRITATION, DIZZINESS, FAINTNESS, DROWSINESS, NAUSEA AND VOMITING MAY ALSO OCCUR. INHALATION OF AEROSOLS MAY CAUSE IRRITANT EFFECTS INCLUDING NASAL DISCOMFORT AND DISCHARGE, COUGH, PRODUCTION OF SPUTUM, DISCOMFORT IN THE CHEST, AND POSSIBLY DIFFICULTY WITH BREATHING.

EFFECTS OF OVEREXPOSURE - INGESTION: TOXIC. CAUSES IRRITATION OR CHEMICAL BURNS OF THE MOUTH, THROAT, ESOPHAGUS, AND STOMACH. THERE MAY BE DISCOMFORT OR PAIN IN THE MOUTH, THROAT, CHEST AND ABDOMEN, WITH DIFFICULTY IN SWALLOWING, NAUSEA, VOMITING, DIARRHEA, WEAKNESS, THIRST, DIZZINESS, FAINTNESS, DROWSINESS, HEADACHE, DECREASED AWARENESS AND RESPONSIVENESS, EUPHORIA, STAGGERING GAIT, LACK OF COORDINATION, SHORTNESS OF BREATH, LOSS OF CONSCIOUSNESS, AND DEATH.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SKIN CONTACT MAY AGGRAVATE AN EXISTING DERMATITIS. MAY AGGRAVATE AN EXISTING LIVER OR KIDNEY DISEASE. EXPOSURE TO AEROSOL MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.

SECTION 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES - SKIN: REMOVE CONTAMINATED CLOTHING. WASH SKIN WITH SOAP AND WATER. OBTAIN MEDICAL ATTENTION IF IRRITATION PERSISTS. WASH CLOTHING BEFORE REUSE.

EMERGENCY FIRST AID PROCEDURES - EYES: IMMEDIATELY FLUSH EYES WITH WATER AND CONTINUE WASHING FOR AT LEAST 15 MINUTES. OBTAIN MEDICAL ATTENTION WITHOUT DELAY, PREFERABLY FROM AN OPHTHALMOLOGIST.

EMERGENCY FIRST AID PROCEDURES - INHALATION: REMOVE TO FRESH AIR.

EMERGENCY FIRST AID PROCEDURES - INGESTION: IF PATIENT IS FULLY CONSCIOUS, GIVE TWO GLASSES OF MILK OR WATER AT ONCE. DO NOT INDUCE VOMITING. OBTAIN MEDICAL ATTENTION WITHOUT DELAY.

NOTES TO PHYSICIAN: CAUSES CHEMICAL BURNS OF THE SKIN. CAUSES CHEMICAL BURNS OF THE EYE. MODERATELY TOXIC BY SWALLOWING. // MAY CAUSE ACUTE KIDNEY INJURY (RENAL CORTICAL TUBULAR NECROSIS) BY MASSIVE PERORAL OVERDOSE OR SUSTAINED SKIN CONTACT. // DUE TO THE SEVERELY IRRITATING OR CORROSIVE NATURE OF THE MATERIAL, SWALLOWING MAY LEAD TO ULCERATION AND INFLAMMATION OF THE UPPER ALIMENTARY TRACT WITH HEMORRHAGE AND FLUID LOSS. ALSO, PERFORATION OF THE ESOPHAGUS OR STOMACH MAY OCCUR, LEADING TO MEDIASTITIS OR PERITONITIS AND THE RESULTANT COMPLICATIONS. THE STOMACH SHOULD BE EVACUATED CAREFULLY IN CASE OF INGESTION. THIS MATERIAL REACTS IMMEDIATELY WITH WATER IN THE ACID CONTENTS OF THE STOMACH TO PRODUCE ETHANOL. ALTHOUGH ETHANOL PRODUCTION MAY OCCUR, AND THERE IS A POTENTIAL FOR NEPHROTOXICITY, BECAUSE OF ITS

INTENSELY IRRITATING EFFECTS, IT IS UNLIKELY THAT LARGE VOLUMES OF THIS MATERIAL WILL BE ACUTELY INGESTED. THEREFORE, THE IRRITANT AND ASPIRATION HAZARDS FROM REGURGITATION ARE MORE SERIOUS CAUSES FOR CONCERN. IN VIEW OF THIS, IT IS RECOMMENDED THAT EMESIS NOT BE INDUCED IN THE CONSCIOUS PATIENT, MECHANICALLY OR PHARMACOLOGICALLY. IF IT IS CONSIDERED NECESSARY TO EVACUATE THE STOMACH CONTENTS, THIS SHOULD BE UNDERTAKEN WITH CAUTION IN ORDER TO AVOID PERFORATION OF INFLAMED OR ULCERATED AREAS OF THE UPPER ALIMENTARY TRACT, OR TO AVOID ASPIRATION (E.G., GASTRIC LAVAGE IN THE PRESENCE OF ENDOTRACHEAL INTUBATION).

SECTION 05: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: THIS MATERIAL IS REACTIVE WITH WATER, BUT THE REACTION WILL NOT SIGNIFICANTLY INCREASE FIRE SEVERITY. APPLY ALCOHOL-TYPE OR ALL-PURPOSE-TYPE FOAM BY MANUFACTURER'S RECOMMENDED TECHNIQUES FOR LARGE FIRES. USE CARBON DIOXIDE OR DRY CHEMICAL MEDIA FOR SMALL FIRES.

SPECIAL FIRE FIGHTING PROCEDURES: USE SELF-CONTAINED BREATHING APPARATUS AND BODY-COVERING PROTECTIVE CLOTHING.

NFPA CODES:

NFPA FLAMMABILITY CODE =	1
NFPA HEALTH CODE =	3
NFPA REACTIVITY CODE =	1

FLASH POINT TEMPS: = 96.11C/ 205.00F

FLASH POINT METHOD: PMCC

SECTION 5 - OTHER INFORMATION: EXPLOSIVE RANGE: NOT AVAILABLE

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: COLLECT FOR DISPOSAL. FLUSH THE RESIDUE WITH LARGE AMOUNTS OF WATER. WEAR SUITABLE PROTECTIVE EQUIPMENT.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DANGER! HARMFUL OR FATAL IF SWALLOWED. CAUSES EYE AND SKIN BURNS. CORROSIVE IF SWALLOWED. HARMFUL IF INHALED. HARMFUL IF ABSORBED THROUGH SKIN. ASPIRATION MAY CAUSE LUNG DAMAGE. MAY CAUSE DIZZINESS AND DROWSINESS. MAY CAUSE LIVER AND KIDNEY DAMAGE. DO NOT SWALLOW. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID BREATHING VAPOR OR MIST. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

SECTION 7 - OTHER INFORMATION: DISPOSAL: LABORATORY STUDIES INDICATE THAT THIS PRODUCT IS BIODEGRADABLE; IF THE AMOUNT OF WASTE MATERIAL IS SMALL, IT MAY BE FEASIBLE TO DISPOSE OF IT IN A BIOLOGICAL WASTEWATER TREATMENT SYSTEM.

SECTION 08: EXPOSURE CONTROLS - PROTECTION

EYE PROTECTION: MONOGOGGLES

RESPIRATORY PROTECTION: USE SELF-CONTAINED BREATHING APPARATUS IN HIGH VAPOR CONCENTRATIONS.

VENTILATION: GENERAL (MECHANICAL) ROOM VENTILATION IS EXPECTED TO BE SATISFACTORY WHERE THIS PRODUCT IS STORED AND HANDLED IN CLOSED EQUIPMENT. // SPECIAL, LOCAL VENTILATION IS NEEDED AT POINTS WHERE VAPORS CAN BE EXPECTED TO ESCAPE TO THE WORKPLACE AIR.

PERSONAL PROTECTIVE EQUIPMENT: EYE BATH, SAFETY SHOWER, CHEMICAL APRON

PROTECTIVE GLOVES (SPECIFY TYPE): PVC-COATED, BUTYL, NEOPRENE

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT TEMPS: = 220.00C/ 428.00F

MELTING/FREEZE POINT TEMPS: < - 94.00F

DENSITY TEXT: 0.95

VAPOR DENSITY TEXT: HEAVIER THAN AIR

VAPOR PRESSURE VALUES/UOM: = 1.0000MMHG

VAPOR PRESSURE TEXT: @ 20 C (68 F)

EVAPORATION RATE TEXT: SLOWER THAN N-BUTYL ACETATE

SOLUBILITY IN WATER TEXT: REACTS RAPIDLY

PH OF PRODUCT AS RECEIVED (NEAT)/TEXT: NOT AVAILABLE

APPEARANCE: CLEAR, COLORLESS

ODOR: AMINE

MOLECULAR WEIGHT VALUES: = 221.3000

PHYSICAL STATE TEXT: LIQUID

SECTION 10: STABILITY & REACTIVITY

STABILITY - CONDITIONS TO AVOID: MOISTURE. WATER

STABILITY - TEXT: STABLE

INCOMPATIBLE MATERIALS: REACTION WITH WATER OR OTHER AQUEOUS MEDIA IS RAPID AND EXOTHERMIC. THE ADDITION OF SMALL AMOUNTS OF WATER (IN THE RANGE OF 2-15%K) CAN PRODUCE AN EXOTHERMIC REACTION WHICH GENERATES ALCOHOL, TO THE EXTENT THAT THE RESULTING SOLUTION CAN REACH A TEMPERATURE WHICH EXCEEDS THE FLASH POINT OF THE NEW SOLUTION. IF A WATER SOLUTION IS DESIRED, ADD THE PRODUCT TO WATER, AND NOT VICE VERSA.

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING CAN PRODUCE THE FOLLOWING COMBUSTION PRODUCTS: OXIDES OF CARBON, NITROGEN, AND SILICON. CARBON MONOXIDE IS HIGHLY TOXIC IF INHALED; CARBON DIOXIDE IN SUFFICIENT CONCENTRATIONS CAN ACT AS AN ASPHYXIANT. // ACUTE OVEREXPOSURE TO THE PRODUCTS OF COMBUSTION MAY RESULT IN IRRITATION OF THE RESPIRATORY TRACT.

HAZARDOUS POLYMERIZATION - CONDITIONS TO AVOID: NONE KNOWN.

HAZARDOUS POLYMERIZATION TEXT: WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA UNLIMITED TEXT: NOT GENOTOXIC IN VARIOUS IN VITRO OR IN VIVO STUDIES. NO EVIDENCE FOR SYSTEMIC TOXICITY BY SHORT-TERM RECURRENT (9-DAY) APPLICATION TO THE SKIN OF RABBITS UP TO 84.0 MG/KG/DAY (6 HR/DAY, OCCLUSIVE), ALTHOUGH A CUMULATIVE LOCAL IRRITATION OCCURS. // RECURRENT EXPOSURE OF RATS TO AN AEROSOL OF A HYDROLYSATE OF THIS MATERIAL (150 MG/M³) PRODUCED INFLAMMATORY AND IRRITANT EFFECTS IN THE NASAL, LARYNGEAL AND TRACHEAL MUCOSAE, AND INFLAMMATORY REACTIONS IN THE LUNGS.

CARCINOGENICITY: ETHANOL: THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS DETERMINED THAT THE CONSUMPTION OF ALCOHOLIC BEVERAGES IS CAUSALLY RELATED TO THE OCCURRENCE OF MALIGNANT TUMORS OF THE ORAL CAVITY, PHARYNX, LARYNX, ESOPHAGUS AND LIVER IN HUMANS. THE CARCINOGENIC RESPONSE ATTRIBUTED TO DRINKING ALCOHOLIC BEVERAGES HAS NOT BEEN VERIFIED IN STUDIES WITH LABORATORY ANIMALS. ESTABLISHED USES OF DENATURED ETHANOL AND NON-BEVERAGE USES OF PURE ETHANOL ARE NOT CONSIDERED TO POSE ANY SIGNIFICANT CANCER HAZARD.

REPRODUCTIVE EFFECTS: REPEATED INGESTION OF ETHANOL BY PREGNANT MOTHERS HAS BEEN SHOWN TO ADVERSELY AFFECT THE CENTRAL NERVOUS SYSTEM OF THE FETUS, PRODUCING A COLLECTION OF EFFECTS WHICH TOGETHER CONSTITUTE THE FETAL ALCOHOL SYNDROME. THESE INCLUDE MENTAL AND PHYSICAL RETARDATION, DISTURBANCES OF LEARNING, MOTOR AND LANGUAGE DEFICIENCIES, BEHAVIORAL DISORDERS, AND SMALL SIZE HEAD.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: INCINERATE IN A FURNACE WHERE PERMITTED UNDER FEDERAL, STATE, AND LOCAL REGULATIONS. SEE SECTION 7, OTHER PRECAUTIONS.

SECTION 15: REGULATORY INFORMATION

SARA 311/312 HAZARD INDICATORS:

IMMEDIATE HEALTH INDICATOR =	Y
DELAYED HEALTH INDICATOR =	Y

SECTION 15 - OTHER INFORMATION: STATUS ON SUBSTANCE LISTS: THE CONCENTRATIONS SHOWN ARE MAXIMUM OR CEILING LEVELS (WEIGHT T) TO BE USED FOR CALCULATIONS FOR REGULATIONS. TRADE SECRETS ARE INDICATED BY

TS. // FEDERAL EPA: COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980 (CERCLA) REQUIRES NOTIFICATION OF THE NATIONAL RESPONSE CENTER OF RELEASE OF QUANTITIES OF HAZARDOUS SUBSTANCES EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITIES (RQ'S) IN 40CFR302.4. COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUTE ARE: NONE // SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III REQUIRES EMERGENCY PLANNING BASED ON THRESHOLD PLANNING QUANTITIES (TPQ'S) AND RELEASE REPORTING BASED ON REPORTABLE QUANTITIES (RQ'S) IN 40CFR355 (USED FOR SARA 302, 304, 311 AND 312). COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUTE ARE: NONE // SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III REQUIRES SUBMISSION OF ANNUAL REPORTS OF RELEASE OF TOXIC CHEMICALS THAT APPEAR IN 40CFR372 (FOR SARA 313). THIS INFORMATION MUST BE INCLUDED IN MSDS'S THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL. COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUTE ARE: NONE // TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS: THE INGREDIENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY. // STATE RIGHT-TO-KNOW: CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS TOLUENE (<L0 PPM) WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. (TOLUENE IS ON THE 1/1/91 REPRO-TOXICANT LIST.) // MASSACHUSETTS RIGHT-TO-KNOW, SUBSTANCE LIST (MSL): HAZARDOUS SUBSTANCES AND EXTRAORDINARILY HAZARDOUS SUBSTANCES ON THE MSL MUST BE IDENTIFIED WHEN PRESENT IN PRODUCTS. COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUTE ARE: NONE // PENNSYLVANIA RIGHT-TO-KNOW, HAZARDOUS SUBSTANCE LIST HAZARDOUS SUBSTANCES AND SPECIAL HAZARDOUS SUBSTANCES ON THE LIST MUST BE IDENTIFIED WHEN PRESENT IN PRODUCTS. COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUTE ARE: NONE // CALIFORNIA SCAQMD RULE 443.1 VOC'S: VOLATILE ORGANIC COMPONENTS (VOC'S) = SUBSTANCES WITH VAPOR PRESSURE OF => 0.5 MMHG AT 104'C (219.2'F). THIS PRODUCT CONTAINS 947.22 G/LITER VOC'S AND 947.22 G/LITER VOC'S (LESS WATER AND EXEMPT COMPOUNDS). // NEW JERSEY WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (LABELING REQUIREMENTS): CAS# 919-30-2

1FID: 00324310
VER DATE: 1994-05-25

C H E M I S T R I D A T E : 10/22/02
M A T E R I A L S A F E T Y D A T A S H E E T T I M E : 19:02:40
P A G E : 0001

SECTION 01: CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME: ISOPROPYL ALCOHOL 99% ANHYDROUS
ALL SYNONYMS : GM SENSOR KIT
HOT MELT ADHESIVE STICKS
ISOPROPANOL
ISOPROPYL ALCOHOL 99% ANHYDROUS
SEC-PROPYL ALCOHOL
2-PROPANOL
25645365
25645370
25645389
25645390

SAFE USE CATEGORY AND DESCRIPTION: 02 -SOLVENTS - FLASH POINT: < 100 F

LAST UPDATED DATE: 1994-05-25

MANUFACTURER'S ID (MID): 000530947
MANUFACTURER'S NAME: HYDRITE CHEMICAL CO
MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT: US 414-277-1311 OFFICE
MANUFACTURER'S MAILING ADDRESS:
300 N PATRICK BLVD
DRAWER #0948
BROOKFIELD WI 53008-0948
US

CHEMICAL FAMILY NAME: ALCOHOL

MOLECULAR FORMULA: (CH₃)₂CHOH

SECTION 02: COMPOSITION & INGREDIENT INFO

CAS# FORMULATION W/V CHEMICAL NAME
000067630 =100.0000/ 0.0000% W ISOPROPYL ALCOHOL

THRESHOLD LIMIT VALUE: CAS# 67630: 400 PPM // 400 PPM, 500 PPM STEL

PERMISSIBLE EXPOSURE LIMIT: CAS# 67630: 400 PPM // 400 PPM, 500 PPM STEL

SECTION 03: HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY TEXT: PRODUCT CAN AFFECT THE BODY IF IT IS INHALED, COMES IN CONTACT WITH THE EYES OR SKIN, OR IS SWALLOWED. IT MAY ENTER THE BODY THROUGH THE SKIN.

EFFECTS OF OVEREXPOSURE - SKIN: MAY CAUSE MILD IRRITATION TO SKIN. PROLONGED AND REPEATED CONTACT WITH SKIN CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SKIN IRRITATION AND DERMATITIS.

PROLONGED OR WIDESPREAD CONTACT MAY RESULT IN THE ABSORPTION OF POTENTIALLY HARMFUL AMOUNTS OF MATERIAL.

EFFECTS OF OVEREXPOSURE - EYE: IRRITATING TO EYES. CORNEAL INJURY MAY OCCUR.

EFFECTS OF OVEREXPOSURE - INHALATION: VAPORS MAY CAUSE IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT. INHALATION OVEREXPOSURE CAN LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION PRODUCING EFFECTS SUCH AS HEADACHES, NAUSEA, DIZZINESS, AND LOSS OF CONSCIOUSNESS. EXTREME EXPOSURES MAY CAUSE OTHER CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEATH.

EFFECTS OF OVEREXPOSURE - INGESTION: MAY CAUSE GASTROINTESTINAL IRRITATION. LIQUID INGESTION MAY RESULT IN VOMITING; ASPIRATION (BREATHING IN OF LIQUID INTO THE LUNGS) MUST BE AVOIDED AS LIQUID CONTACT WITH THE LUNGS CAN RESULT IN CHEMICAL PNEUMONITIS AND PULMONARY EDEMA/HEMORRHAGE. MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION. MAY CAUSE LIVER DAMAGE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: PRE-EXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

SECTION 3 - OTHER INFORMATION: TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM

SECTION 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES - SKIN: FLUSH AREA WITH WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. DO NOT APPLY OILS OR OINTMENTS UNLESS ORDERED BY THE PHYSICIAN.

EMERGENCY FIRST AID PROCEDURES - EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS OPEN DURING THIS FLUSHING WITH WATER. CALL A PHYSICIAN IMMEDIATELY.

EMERGENCY FIRST AID PROCEDURES - INHALATION: REMOVE VICTIM TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

EMERGENCY FIRST AID PROCEDURES - INGESTION: IF CONSCIOUS, GIVE TWO GLASSES OF WATER, THEN INDUCE VOMITING BY TOUCHING BACK OF THROAT WITH FINGER. KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS. CALL A PHYSICIAN IMMEDIATELY. NEVER INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS VICTIM.

SECTION 05: FIRE-FIGHTING MEASURES

FLAMMABLE LEL: = 2.00

FLAMMABLE UEL: = 12.00

EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, ALCOHOL FOAM

SPECIAL FIRE FIGHTING PROCEDURES: EVACUATE AREA OF UNPROTECTED PERSONNEL. WEAR PROTECTIVE CLOTHING INCLUDING A NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY. RUN-OFF FROM FIRE CONTROL MAY CAUSE POLLUTION.

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAMMABLE LIQUID. A VAPOR ACCUMULATION MAY FLASH AND/OR EXPLODE IF IGNITED. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO A SOURCE OF IGNITION. PROCESS HAZARD: SUDDEN RELEASE OF HOT ORGANIC CHEMICAL VAPORS OR MISTS FROM PROCESS EQUIPMENT OPERATING AT ELEVATED TEMPERATURE AND PRESSURE, OR SUDDEN INGRESS OF AIR INTO VACUUM EQUIPMENT, MAY RESULT IN IGNITIONS WITHOUT THE PRESENCE OF OBVIOUS IGNITION SOURCES. PUBLISHED AUTOIGNITION OR IGNITION TEMPERATURE VALUES CANNOT BE TREATED AS SAFE OPERATING TEMPERATURES IN CHEMICAL PROCESSES WITHOUT ANALYSIS OF THE ACTUAL PROCESS CONDITIONS. ANY USE OF THIS PRODUCT IN ELEVATED-TEMPERATURE PROCESSES SHOULD BE THOROUGHLY EVALUATED TO ESTABLISH AND MAINTAIN SAFE OPERATING CONDITIONS.

NFPA CODES:

NFPA FLAMMABILITY CODE =	3
NFPA HEALTH CODE =	2
NFPA REACTIVITY CODE =	1

FLASH POINT TEMPS: = 53.00F

FLASH POINT METHOD: TCC

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: FLAMMABLE MATERIAL. ELIMINATE ALL SOURCES OF IGNITION. EVACUATE UNPROTECTED PERSONNEL FROM AREA. MAINTAIN ADEQUATE VENTILATION. USE PROPER SAFETY EQUIPMENT. CONTAIN SPILL, PLACE INTO DRUMS FOR PROPER DISPOSAL. SOAK UP RESIDUE WITH NON-FLAMMABLE ABSORBENT MATERIAL. PLACE IN NON-LEAKING CONTAINERS FOR IMMEDIATE DISPOSAL. FLUSH REMAINING AREA WITH WATER TO REMOVE TRACE RESIDUE AND DISPOSE OF PROPERLY. AVOID DIRECT DISCHARGE TO SEWERS AND SURFACE WATERS. NOTIFY AUTHORITIES IF ENTRY OCCURS.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: FLAMMABLE LIQUID. STORE IN COOL, WELL-VENTILATED AREA AWAY FROM ALL SOURCES OF IGNITION AND OUT OF DIRECT SUNLIGHT. GROUND ALL EQUIPMENT TO PREVENT ACCUMULATION OF STATIC CHARGE. KEEP CONTAINERS TIGHTLY CLOSED. RELIEVE PRESSURE IN DRUMS WEEKLY. STORE AWAY FROM INCOMPATIBLE MATERIALS. DO NOT STORE IN UNLABELED OR MISLABELED CONTAINERS.

SECTION 7 - OTHER INFORMATION: OTHER PRECAUTIONS: AVOID CONTACT WITH SKIN AND EYES. DO NOT SWALLOW. USE WITH ADEQUATE VENTILATION. AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. WASH THOROUGHLY AFTER HANDLING. AVOID DUST OR MIST FORMATION. DO NOT EAT, DRINK, OR SMOKE IN WORK AREA.

SECTION 08: EXPOSURE CONTROLS - PROTECTION

EYE PROTECTION: CHEMICAL SAFETY GOGGLES. DO NOT WEAR CONTACT LENSES.

RESPIRATORY PROTECTION: IF RECOMMENDED EXPOSURE LIMITS ARE EXCEEDED WEAR: NIOSH-APPROVED ORGANIC RESPIRATOR. NIOSH-APPROVED SELF-CONTAINED

BREATHING APPARATUS. DO NOT EXCEED LIMITS ESTABLISHED BY THE RESPIRATOR MANUFACTURER. RESPIRATORY PROTECTION PROGRAMS MUST COMPLY WITH 29 CFR 1910.134.

VENTILATION: MAINTAIN ADEQUATE VENTILATION. DO NOT USE IN CLOSED OR CONFINED SPACE. KEEP LEVELS BELOW RECOMMENDED EXPOSURE LIMITS. TO DETERMINE EXPOSURE LEVELS, MONITORING SHOULD BE PERFORMED REGULARLY. USE EXPLOSION-PROOF EQUIPMENT. AVOID MIST FORMATION.

PERSONAL PROTECTIVE EQUIPMENT: EYE WASH STATION. SAFETY SHOWER. RUBBER APRON. CHEMICAL SAFETY SHOES. PROTECTIVE CLOTHING.

PROTECTIVE GLOVES (SPECIFY TYPE): NEOPRENE. NITRILE. NATURAL RUBBER.

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT TEMPS: = 180.00F

MELTING/FREEZE POINT TEMPS: = - 127.00F

SPECIFIC GRAVITY VALUES: = 0.7900

VAPOR DENSITY VALUES: = 2.1000

VAPOR PRESSURE VALUES/UOM: = 33.0000MMHG

VAPOR PRESSURE TEXT: @ 68 F

PERCENT VOLATILE BY VOLUME: = 100.0000

EVAPORATION RATE VALUES: > 1.40

EVAPORATION RATE TEXT: NBUAC

SOLUBILITY IN WATER TEXT: COMPLETE

APPEARANCE: CLEAR, COLORLESS LIQUID

ODOR: MILD ODOR

SECTION 10: STABILITY & REACTIVITY

STABILITY - CONDITIONS TO AVOID: AVOID CONTACT WITH HEAT, SPARKS, ELECTRIC ARCS, OTHER HOT SURFACES, AND OPEN FLAMES.

STABILITY - TEXT: STABLE

INCOMPATIBLE MATERIALS: STRONG OXIDIZING AGENTS. ALUMINUM. ALKALIES. AMMONIA. CHLORINATED COMPOUNDS. ALDEHYDES. AMINES. HALOGENS OR HALOGEN COMPOUNDS. STRONG INORGANIC ACIDS. ALKANOLAMINES.

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND UNIDENTIFIABLE ORGANIC MATERIALS.

HAZARDOUS POLYMERIZATION TEXT: WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

SKIN EFFECTS: LD50 SKIN: RABBIT - 13000 MG/KG

ACUTE ORAL EFFECTS: LD50 ORAL: RAT - 5840 MG/KG

ACUTE INHALATION EFFECTS: LC50 INHALATION: RAT - 1200 PPM/6 H

CARCINOGENICITY: THIS PRODUCT DOES NOT CONTAIN GREATER THAN 0.1% OF THE KNOWN OR POTENTIAL CARCINOGENS LISTED IN NTP, IARC OR OSHA.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: OBSERVE ALL LOCAL, STATE AND FEDERAL REGULATIONS. DISPOSE OF AT AN APPROVED WASTE TREATMENT FACILITY. RECLAIM (RECYCLE) SOLVENT. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE EMPTY CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION.

SECTION 14: TRANSPORT INFORMATION

DOT INFORMATION: DOT LABEL: FLAMMABLE

SHIPPING NAME: ISOPROPYL ALCOHOL

HAZARD CLASS: 3 (FLAMMABLE LIQUID)

U.N. CODE: UN 1219