

MATERIAL SAFETY DATA SHEET

HFPA HAZARD CLASSIFICATIONS: HEALTH [2]
FIRE: [3]
REACTIVITY [0]

HAZARD RATING: LEAST-0 SLIGHT-1 MODERATE-2 HIGH-3 EXTREME-4

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COMPANY ADDRESS: 440 E. HELM

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EMERGENCY TELEPHONE NUMBERS: DAY 816-258-2291

NIGHT 800-255-3924

MSDS EFFECTIVE DATE: 10-1-97

SECTION 1

PRODUCT: ISOPROPYL ALCOHOL

CHEMICAL NAME: IPA, ISOPROPANOL, 2-PROPANOL

CHEMICAL FAMILY: ALCOHOL

CODE: 31110

SECTION II-A

PRODUCT/INGREDIENT

NO.: 1

COMPOSITION: ISOPROPYL (IPA)

CAS NUMBER: 67-63-0

PERCENT: 70 ALC. 30% WATER

SECTION II-B

ACUTE TOXICITY DATA

NO. 1

ACUTE ORAL LD50: 5840 MG/KG (RAT)

ACUTE DERMAL LD50: 13000 MG/KG (RABBIT)

ACUTE INHALATION LC50: 12000 PPM (RAT) 8 HRS

SECTION III

HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

CARCINOGENICITY: NO

EYE CONTACT

MODERATELY IRRITATING TO THE EYES.

SKIN CONTACT

MILDLY IRRITATING TO THE SKIN.

INHALATION

MAY CAUSE MILD IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT AND MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

INGESTION

IRRITATING TO THE GASTROINTESTINAL TRACT, CAUSING ABDOMINAL PAIN AND VOMITING, SOMETIMES BLOODY. INGESTION MAY CAUSE CNS DEPRESSION, LOW BLOOD PRESSURE, RAPID HEART BEAT AND LIVER DAMAGE.

SIGNS AND SYMPTOMS

IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONCIOUSNESS, RESPIRATORY DEPRESSION AND DEATH MAY OCCUR. LIVER DAMAGE MAY BE EVIDENCED BY LOSS OF APPETITE, JUANDICE (YELLOWISH SKIN COLOR) AND SOMETIMES PAIN IN THE UPPER ABDOMEN ON THE RIGHT SIDE.

AGGRAVATED MEDICAL CONDITIONS

PRE-EXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED FUNCTION FROM PRE-EXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS

INTENTIONAL ABUSE, MISUSE OR OTHER MASSIVE EXPOSURE TO ETHANOL MAY RESULT IN MULTIPLE ORGAN DAMAGE AND/OR DEATH. ETHANOL INGESTION DURING PREGNANCY HAS BEEN REPORTED TO CAUSE BIRTH DEFECTS ON SOME INFANTS. THE 44TH ITC MONOGRAPH ALSO REPORTS ETHANOL TO BE CARCINOGENIC BASED ON CHRONIC INGESTION OF ALCOHOLIC BEVERAGES.

SEE SECTION VI FOR ADDITIONAL HEALTH INFORMATION.

SECTION IV

OCCUPATIONAL EXPOSURE LIMITS

NO. 1

PEL/TWA: 400 PPM

PEL/CEILING: N/A

TLV/TWA: 400 PPM

TLV/STEL: 500 PPM

OTHER: 500 PPM (OSHA PEL/STEL)

50% ODOR RECOGNITION THRESHOLD IS 7.5 PPM.

SECTION V

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN CONTACT

N/A

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION

DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC.* IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN

*IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

SECTION VI

SUPPLEMENTAL HEALTH INFORMATION

IPAA IN RESPONSE TO A TOCA TEST RULE, SEVERAL STUDIES OF IPAA HAVE NOW BEEN COMPLETED. THE STUDIES AND THEIR RESULTS ARE AS FOLLOWS
1) BOTH MUTAGENICITY STUDIES, THE MOUSE MICRONUCLEUS AND CHO ASSAYS, WERE NEGATIVE. 2) RAT AND RABBIT ORAL TERATOGENICITY AND DEVELOPMENTAL TOXICOLOGY: A) THERE WAS NO EVIDENCE THAT IPAA CAUSED TERATOGENICITY IN RATS OR RABBITS. B) DEVELOPMENTAL TOXICITY WAS

SEEN IN RATS AT 1200 MG/KG (EVIDENCED BY DECREASED BODY WEIGHT**) WHILE NO DEVELOPMENTAL TOXICITY WAS SEEN IN THE RABBIT STUDY. FOR RATS, THE NOAEL WAS 400 MG/KG FOR RABBITS, 480 MG/KG. THIS WORK ALSO IDENTIFIED PREGNANT RABBITS TO BE APPROXIMATELY EIGHT TIMES MORE SENSITIVE TO IPA'S LETHAL EFFECTS THAN NON-PREGNANT RABBITS**.

OTHER TEST RULE RELATED STUDIES: 3) RAT ORAL REPRODUCTIVE TOXICITY: IN THE RAT REPRODUCTIVE TOXICITY STUDY, THE NOAEL FOR REPRODUCTION INDICES WAS 1000 MG/KG. HOWEVER, THERE WAS A MARKED INCREASE IN POST-WEANING PUP MORTALITY AT THIS LEVEL**: THE NOAEL FOR THIS EFFECT WAS 500 MG/KG. ALSO, THE NOAEL FOR PARTENTIAL FEMALE BODY WEIGHT DECREASE WAS 100 MG/KG. 4) IN RAT INHALATION NEUROTOXICITY AND ORAL DEVELOPMENTAL NEUROTOXICITY STUDIES, THERE WAS NO EVIDENCE THAT IPA CAUSED NEUROTOXICITY IN ADULTS (MAX. DOSE 5000 PPM) OR OFFSPRING (MAX. DOSE 1200 MG/KG). 5) SUBCHRONIC RAT AND MOUSE INHALATION TOXICITY: THE SUBCHRONIC NOAEL WAS 500 PPM BASED ON CLINICAL SIGNS OF CNS DEPRESSION (BOTH SPECIES) AND INCREASED BODY WEIGHT AND BLOOD EFFECTS (RAT ONLY) SEEN AT 1500 PPM. (NOTE: THE INFORMATION TAGGED BY "**" ABOVE WERE SUBMITTED TO EPA UNDER THE REQUIREMENTS OF TSCA 6(E).)

SECTION VII

PHYSICAL DATA

BOILING POINT: 190
SPECIFIC GRAVITY: 0.79
VAPOR PRESSURE: 32 @ 68 DEG F
MELTING POINT: -127
SOLUBILITY: (IN WATER) COMPLETE
VAPOR DENSITY: 2.1
EVAPORATION RATE (N-BUTYL ACETATE=1): 1.4
VOC: 100% @ 6.51 LB/GAL
APPEARANCE: COLORLESS MOBILE LIQUID
ODOR: MILD

SECTION VIII

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 53 DEG F -TCC
FLAMMABLE LIMITS/% VOLUME IN AIR: LOWER: 2 UPPER: 12

EXTINGUISHING MEDIA

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

WARNING: FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IX

REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, SPARKS, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 120 DEG. F. **HAZARDOUS DECOMPOSITION PRODUCTS** CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION X

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SEC. IV) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. OSHA HAS ESTABLISHED TRANSITIONAL OCCUPATIONAL EXPOSURE LIMITS FOR THIS PRODUCT AND/OR COMPONENTS OF THIS PRODUCT. REFER TO 29 CFR 1910.1000 FOR THESE TRANSITIONAL LIMITS AND REQUIREMENTS FOR MEETING THESE LIMITS.

PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR CHEMICAL GOGGLES IF THERE IS LIKELIHOOD OF CONTACT WITH EYES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL-RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT. TEST DATA FROM PUBLISHED LITERATURE AND/OR GLOVE AND CLOTHING MANUFACTURERS INDICATE THE BEST PROTECTION IS PROVIDED BY NITRILE, NEOPRENE AND NATURAL RUBBER GLOVES.

ADDITIONAL PROTECTIVE MEASURES

USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION XI

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

WARNING. FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. ***LARGE SPILLS***EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATORS AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AND ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE.***SMALL SPILLS***TAKE UP WITH ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

SECTION XII

SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE.

VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED

WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. DO NOT PRESSURIZE DRUM CONTAINERS TO EMPTY THEM. STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 120 DEG. F.

SECTION XIII

TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION

FLAMMABLE LIQUID

D.O.T. PROPER SHIPPING NAME

ISOPROPANOL

OTHER REQUIREMENTS

DOT ID NUMBER=UN1219-GUIDE SHEET 26

SECTION XIV

OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV

STATE REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES: OTHER PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THE MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

STATE LISTED COMPONENT: ISOPROPYL ALCOHOL (CAS NO.: 67-63-0)
PERCENT: 70

STATE CODE: CA, FL, IL, MA, ME, MN, NJ, PA, RI.

CA.=CALIFORNIA HAZ. SUBST. LIST: CA65=CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT LIST; FL=FLORIDA SUBST. LIST; IL= ILLINOIS TOX. SUBST. LIST; MA=MASSACHUSETTS SUBST. LIST; ME=MAINE HAZ SUBST. LIST; MN=MINNESOTA HAZ. LIST; NJ=NEW JERSEY HAZ. SUBST. LIST; PA=PENNSYLVANIA HAZ. SUBST. LIST; RI=RHODE ISLAND HAZ. SUBST. LIST.

SECTION XVI

SPECIAL NOTES

SEE ENVIRONMENTAL DATA SHEET FOR WASTE DISPOSAL AND OTHER ENVIRONMENTAL INFORMATION. THIS MSDS REVISION HAS CHANGES IN SECTIONS III, VI, XIV AND XV.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER L.T. YORK MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. L.T. YORK ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

ENVIROMENTAL DATE SHEET

EDS NUMBER> 5.120-1

PRODUCT> ISOPROPYL ALCOHOL

PRODUCT CODE> 31110

SECTION I	PRODUCT/COMPOSITION		
NO.	COMPONENT	CAS NUMBER	PERCENT
P	ISOPROPYL ALCOHOL	67-63-0	70

SECTION II SARA TITLE III INFORMATION

NO.: P

EHS RG (LBS): (*1)

EHS TPQ (LBS): (*2)

SEC 313: (*3)

313 CATEGORY: (*4)

311/312 CATAGORIES: (*5) H-1, 9-3

FOOTNOTES

*1=REPORTABLE QUANTITY OF EXTREMELY HAZARDOUS SUBSTANCE, SEC. 302

*2=THRESHOLD PLANNING QUANTITY. EXTREMELY HAZARDOUS SUBSTANCE, SEC 302

*3= TOXIC CHEMICAL. SEC 313

*4=CATEGORY AS REQUIRED BY SEC 313(40 CFR 372.65 (C)). MUST BE USED ON TOXIC RELEASE INVENTORY FORM

*5= HAZARD CATEGORY FOR SARA SEC 311/312 REPORTING

HEALTH H-1 IMMEDIATE (ACUTE) HEALTH HAZARD

H-2 DELAYED (CHRONIC) HEALTH HAZARD

PHYSICAL P-3= FIRE HAZARD

P-4=SUDDEN RELEASE OF PRESSURE HAZARD

P-5= REACTIVE HAZARD

SECTION III ENVIROMENTAL RELEASE INFORMATION

N/A

SECTION IV RCRA INFORMATION

UNDER EPA-RCRA (40 CFR 261.21). IF THE PRODUCT BECOMES A HAZ. MATERIAL, IT WOULD BE IDENTIFIABLE HAZARDOUS WASTE. HAZARDOUS WASTE IDENTIF. NO. 1. REFER TO LATEST EPA OR STATE REGULATION REGARDING PROPER DISPOSAL.

NOTICE

THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS MATERIAL SAFETY DATA SHEET ARE SUPPLIED PURSUANT TO 29 CFR 1910.1200 OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARD HAZARD COMMUNICATION RULE. THE INFORMATION AND RECOMMENDATIONS SET FOR HEREIN [HEREIN AFTER 'INFORMATION'] ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE CORRECT AS OF THE DATE HEREOF. L.T. YORK COMPANY, HOWEVER, MAKES NO REPRESENTATIONS AS TO THE COMPLETENESS OR ACCURACY THEREOF, AND INFORMATION IS SUPPLIED UPON THE EXPRESS CONDITION THAT THE PERSONS RECEIVING SAME WILL BE REQUIRED TO MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR PURPOSES PRIOR TO USE. IN NO EVENT WILL L.T. YORK BE RESPONSIBLE FOR ANY DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF, RELIANCE UPON, OR THE MISUSE OF THIS INFORMATION. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OF THE PRODUCT TO WHICH INFORMATION REFERS. THE INFORMATION AS SUPPLIED HEREIN IS SIMPLY TO BE INFORMATIVE AND INTENDED SOLELY TO ALERT THE USER OF THE SUBSTANCE WHICH IS THE SUBJECT MATTER OF THE MSDS. THE ULTIMATE COMPLIANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS CONCERNING THE USE OF THIS COMPOUND, OR COMPLIANCE WITH RESPECT TO PRODUCTS LIABILITY, RESTS SOLELY UNON THE PURCHASER THEREOF.

ROBERT CLAIBORNE
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