

\*\*UNIVERSAL INDICATOR SOL

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MATERIAL SAFETY DATA SHEET

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SUBSTANCE IDENTIFICATION

SUBSTANCE: \*\*UNIVERSAL INDICATOR SOLUTION\*\*

TRADE NAMES/SYNONYMS:  
SO-1-60; ACC40100

CERCLA RATINGS (SCALE 0-3): HEALTH=1 FIRE=3 REACTIVITY=0 PERSISTENCE=0  
NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: ISOPROPYL ALCOHOL CAS 67-63-0	PERCENT: 37.0
COMPONENT: METHANOL CAS 67-56-1	PERCENT: 0.8
COMPONENT: SODIUM HYDROXIDE CAS 1310-73-2	PERCENT: 0.003
COMPONENT: METHYL RED CAS 493-52-7	PERCENT: 0.02
COMPONENT: THYMOL BLUE CAS 76-61-9	PERCENT: 0.03
COMPONENT: BROMOTHYMOL BLUE SODIUM SALT CAS 34722-90-2	PERCENT: 0.03
COMPONENT: PHENOLPHTHALEIN CAS 81-90-3	PERCENT: 0.03
COMPONENT: WATER	PERCENT: 62.0

EXPOSURE LIMITS:

ISOPROPYL ALCOHOL  
400 PPM OSHA TWA  
400 PPM ACGIH TWA  
500 PPM ACGIH STEL  
400 PPM NIOSH RECOMMENDED TWA  
800 PPM NIOSH RECOMMENDED 15 MINUTE CEILING

PHYSICAL DATA

DESCRIPTION: CLEAR GREENISH SOLUTION WITH AN ODOR OF ALCOHOL. ODOR  
TAKEN WITH THE IRRITANCY GIVES PRODUCT SATISFACTORY WARNING PROPERTIES.  
BOILING POINT: NOT AVAILABLE MELTING POINT: NOT AVAILABLE  
SPECIFIC GRAVITY: 0.93 VAPOR PRESSURE: NOT AVAILABLE  
EVAPORATION RATE: (EITHER=1) >1 (TTE) SOLUBILITY IN WATER: COMPLETE  
VAPOR DENSITY: NOT AVAILABLE

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:  
DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT, FLAME OR SHOCK. VAPORS ARE HEAVIER  
THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO AN IGNITION SOURCE AND  
FLASH BACK.

FLASH POINT: 75 F (24 C) UPPER EXPLOSIVE LIMIT: 12.0%

LOWER EXPLOSIVE LIMIT: 2.0% FLAMMABILITY CLASS(OSHA): IC

FIREFIGHTING MEDIA:  
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY

FIREFIGHTING:  
WEAR PERSONAL PROTECTIVE EQUIPMENT. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE.  
COOL FIRE-EXPOSED CONTAINERS WITH WATER FROM SIDE UNTIL WELL AFTER FIRE IS  
OUT.

USE FLOODING AMOUNTS OF WATER AS FOG; SOLID STREAMS MAY BE INEFFECTIVE. COOL  
CONTAINERS WITH FLOODING AMOUNTS OF WATER FROM AS FAR A DISTANCE AS POSSIBLE.  
AVOID BREATHING VAPORS; KEEP UPWIND (BUREAU OF EXPLOSIVES, EMERGENCY HANDLING  
OF HAZARDOUS MATERIALS IN SURFACE TRANSPORTATION, 1981).

TOXICITY

ISOPROPYL ALCOHOL: 20 PPM EYE-HUMAN IRRITATION; 16 MG EYE-RABBIT IRRITATION;  
400 PPM INHALATION-MAN TCLO; 8600 MG/KG ORAL-LDLO; 15,710MG/KG  
ORAL-HUMAN TDLO; 5840 MG/KG ORAL-RAT LD50; 933 MG/KG INTRAPERITONEAL-MOUSE  
LD50; 16000 PPM/8 HOURS INHALATION-RAT LC50; 6150 MG/KG ORAL-DOG LD50;  
5120 MG/KG INTRAVENOUS-DOG LDLO; 1963 MG/KG INTRAVENOUS-CAT LDLO; 5000 MG/KG  
ORAL-RABBIT LDLO; 13 GM/KG SKIN-RABBIT LD50; MUTAGENIC DATA (RTECS):  
CARCINOGEN STATUS: NONE. A SKIN AND MUCOUS MEMBRANE IRRITANT, SEVERE EYE

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HEALTH EFFECTS AND FIRST AID

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INHALATION:  
IRRITANT/NARCOTIC.

20,000 PPM ISOPROPYL ALCOHOL IMMEDIATELY DANGEROUS TO LIFE OR HEALTH.  
ACUTE EXPOSURE-- ISOPROPYL ALCOHOL CAUSES DIZZINESS, INCOORDINATION, HEAD-  
ACHE, CONFUSION, PERSISTENT NAUSEA, HEMATEMESIS, ABDOMINAL PAIN, STUPOR,  
HYPOTENSION, ANEMIA, REFRACTORY NARCOSIS, AREFLEXIA, DEPRESSED RESPIR-  
ATION, DECREASED URINATION FOLLOWED BY DIURESIS, AND UREMIA.  
TENDERNESS AND EDEMA OF MUSCLES MAY ALSO OCCUR. SEVERE CASES MAY CAUSE  
COMA.

CHRONIC EXPOSURE-- SEE MUTAGENIC DATA REFERENCE IN TOXICITY SECTION.

FIRST AID-- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING  
HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST.  
GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:  
IRRITANT/NARCOTIC.

ACUTE EXPOSURE-- ISOPROPYL ALCOHOL CAUSES NARCOSIS WITH NAUSEA, VOMITING,  
HYPOTENSION, DEPRESSED RESPIRATION, ANEMIA, UREMIA, AND COMA.

CHRONIC EXPOSURE-- ISOPROPYL ALCOHOL MAY CAUSE DERMATITIS DUE TO THE  
DEFATTING ACTION ON THE SKIN. SEE MUTAGENIC DATA REFERENCE IN TOXICITY  
SECTION.

FIRST AID-- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED  
AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO  
EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL  
ATTENTION IMMEDIATELY.

EYE CONTACT:  
CORROSIVE.

ACUTE EXPOSURE: ISOPROPYL ALCOHOL VAPORS MAY BE IRRITATING AND MAY CAUSE  
PROFUSE LACRIMATION. DIRECT CONTACT CAUSES IRRITATION, BURNS AND PERM-  
ANENT CORNEAL DAMAGE.

CHRONIC EXPOSURE: PROLONGED OR REPEATED EXPOSURE TO ISOPROPYL ALCOHOL VAPORS  
MAY CAUSE CONJUNCTIVITIS.

FIRST AID-- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY  
LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS  
(AT LEAST 15-20 MINUTES). IN CASE OF BURNS, APPLY STERILE BANDAGES LOOSELY  
WITHOUT MEDICATION. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:  
NARCOTIC.

ACUTE EXPOSURE-- ISOPROPYL ALCOHOL CAUSES NARCOSIS WITH HEADACHE, NAUSEA,  
HEMATEMESIS, DIZZINESS, INCOORDINATION, ABDOMINAL PAIN, STUPOR, DEPRESSED  
RESPIRATION, OLIGURIA, UREMIA, DIURESIS, AND COMA. DEATH MAY OCCUR FROM  
RESPIRATORY PARALYSIS.

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FIRST AID- IF VICTIM IS CONSCIOUS, IMMEDIATELY GIVE 2 TO 4 GLASSES OF WATER.  
INDUCE VOMITING BY TOUCHING FINGER TO BACK OF THROAT. IF NOT BREATHING,  
GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

#### REACTIVITY

REACTIVITY:  
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:  
OXIDIZERS AND OTHER MATERIALS, EXAMPLES FOLLOW:

ISOPROPYL ALCOHOL  
PHOSGENE: IN THE PRESENCE OF IRON SALTS, MAY EXPLODE.  
NITROFORM (>50%): DISSOLVES LIBERATING HEAT AND POSSIBLY EXPLODING.  
TRINITROMETHANE: POSSIBLE EXPLOSION.  
HYDROGEN: WHEN A STREAM OF HYDROGEN ENTRAINED ISOPROPYL ALCOHOL VAPORS AND  
PALLADIUM PARTICLES, THE MIXTURE CAUGHT FIRE UPON CONTACT WITH AIR.  
POTASSIUM TERT-BUTOXIDE: IGNITION.  
DIOXYGENYL TETRAFLUOROBORATE: IGNITION AT AMBIENT TEMPERATURES.  
CHROMIUM TRIOXIDE (GRANULAR): IGNITION.  
2-BUTANONE: ACCELERATES THE PEROXIDATION OF THE ALCOHOL, RESULTING IN FORM-  
ATION OF POTENTIALLY EXPLOSIVE PRODUCTS.  
HYDROGEN PEROXIDE: FORMATION OF A SHOCK- OR HEAT-SENSITIVE, DETONATABLE  
PRODUCT.  
OXYGEN (GAS): AUTOXIDATION, ON EXPOSURE TO LIGHT, RESULTS IN FORMATION OF POT-  
ENTIALLY EXPLOSIVE KETONES AND HYDROGEN PEROXIDE.  
OLEUM: REACTS WITH AN INCREASE IN TEMPERATURE AND PRESSURE.  
ALUMINUM: DISSOLUTION IS EXOTHERMIC.  
STRONG OXIDIZERS: FIRE AND EXPLOSION HAZARD.

DECOMPOSITION:  
COMBUSTION MAY RELEASE TOXIC OXIDES OF CARBON.

POLYMERIZATION:  
WILL NOT OCCUR.

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CONDITIONS TO AVOID  
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AVOID HEATING TO THE POINT WHERE AN UNACCEPTABLE AMOUNT OF ISOPROPYL ALCOHOL  
VAPOR (OR MIST) ACCUMULATES. AVOID CONTACT WITH OR STORAGE WITH INCOMPATIBLE  
MATERIALS, INCLUDING THOSE LISTED IN THE REACTIVITY SECTION.

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SPILL AND LEAK PROCEDURES  
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OCCUPATIONAL SPILL:  
REMOVE SOURCES OF IGNITION. PROVIDE VENTILATION. ABSORB WITH VERMICULITE AND  
SCOOP INTO CONTAINER. KEEP OUT OF SEWERS AND WATER SOURCES.

#### PROTECTIVE EQUIPMENT

VENTILATION:  
PROVIDE LOCAL EXHAUST VENTILATION OR PROCESS ENCLOSURE TO MEET PERMISSIBLE

EXPOSURE LIMIT REQUIREMENTS. EQUIPMENT MUST BE EXPLOSION-PROOF. ODOR DETECTION ALONE MUST NOT BE USED AS A SUBSTITUTE FOR MONITORING METHODS.

RESPIRATOR: TO 1000 PPM (ISOPROPYL ALCOHOL)-  
EXPOSURE LIMIT CHEMICAL CARTRIDGE RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE AND A FULL FACEPIECE.

5000 PPM (ISOPROPYL ALCOHOL)-  
CHIN STYLE GAS MASK WITH AN ORGANIC VAPOR CANISTER.

>5000 PPM (ISOPROPYL ALCOHOL) INCLUDING THE IDLH LEVEL, 20,000 PPM (2%)-  
SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE  
OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

NOTE THAT AT 20,000 PPM, THIS IS THE LOWER EXPLOSIVE LIMIT: SEE FIRE AND EXPLOSION HAZARDS.

FIREFIGHTING- SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE  
OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

CLOTHING:  
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SOLUTION.

GLOVES:  
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT REPEATED OR PROLONGED CONTACT WITH THIS SOLUTION. PREFERRED MATERIALS: BUTYL, NEOPRENE AND NITRILE RUBBLE GLOVES.

EYE PROTECTION:  
EMPLOYEE MUST WEAR SPLASH-PROOF SAFETY GOGGLES AND A FACESHIELD WHENEVER THERE IS REASONABLE PROBABILITY OF CONTACT WITH THIS SOLUTION. DO NOT WEAR CONTACT LENSES WHEN WORKING WITH CHEMICALS.

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SOLUTION, THE EMPLOYER SHALL PROVIDE AN EYE-WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

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