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ACCT: 888235-01
CAT NO: S459500

PO NBR: N/A

D-SORBITOL
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MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC
CHEMICAL DIVISION
1 REAGENT LANE
FAIR LAWN NJ 07410
(201) 796-7100

EMERGENCY NUMBER: (201) 796-7100
CHEMTREC ASSISTANCE: (800) 424-9300

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SUBSTANCE IDENTIFICATION

SUBSTANCE: **D-SORBITOL** CAS-NUMBER 50-70-4

TRADE NAMES/SYNONYMS:
D-GLUCITOL; SORBITOL; L-GULITOL; SORBIT; SORBOL; SORBIC-OLAN; SORBO;
SORBOSTYL; NIVITIN; CHOLAXINE; KARION; SIONIT; SORILANDE;
DIAKARMON; D-SORBITE; HEXAHYDRIC ALCOHOL; 1,2,3,4,5,6-HEXANOL; C6H14O6;
S459; S460; BP439;; ACC06175

CHEMICAL FAMILY:
ALCOHOL, ALIPHATIC

MOLECULAR FORMULA: C6-H14-O6

MOLECULAR WEIGHT: 182.17

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

COMPONENTS AND CONTAMINANTS

COMPONENT: D-SORBITOL PERCENT: 100
CAS# 50-70-4

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:
NO OCCUPATIONAL EXPOSURE LIMITS ESTABLISHED BY OSHA, ACGIH, OR NIOSH.

PHYSICAL DATA

DESCRIPTION: ODORLESS, COLORLESS OR WHITE, HYGROSCOPIC POWDER, GRANULES OR
FLAKES WITH A SWEET TASTE. BOILING POINT: 563 F (295 C) @ 3.5 MMHG

MELTING POINT: 167 F (75 C) SPECIFIC GRAVITY: 1.489

PH: 6.0-7.0 @ 70% SOLN SOLUBILITY IN WATER: 55% @ 25 C

SOLVENT SOLUBILITY: SOLUBLE IN ACETIC ACID, ISOPROPNOL, ACETONE, BUTANOL,
CYCLOHEXANOL, PHENOL, DIMETHYLFORMAMIDE, ACETAMIDE SOLUTIONS, PYTIDINE,
GLYCEROL, PROPYLENE GLYCOL; SLIGHTLY SOLUBLE IN ALCOHOL.

VISCOSITY: 110 CPS @ 25 C

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
SLIGHT FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

DUST-AIR MIXTURES MAY IGNITE OR EXPLODE.

FLASH POINT: 542 F (283 C) (OC) UPPER EXPLOSIVE LIMIT: 22 G/FT3

LOWER EXPLOSIVE LIMIT: 4 G/FT3 AUTOIGNITION TEMP.: 1200 F (649 C)

FIREFIGHTING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIREFIGHTING:
MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DO NOT SCATTER

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SPILLED MATERIAL WITH HIGH-PRESSURE WATER STREAMS. DIKE FIRE-CONTROL WATER FOR
LATER DISPOSAL (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE
PAGE 31).

USE AGENTS SUITABLE FOR TYPE OF SURROUNDING FIRE. AVOID BREATHING HAZARDOUS
VAPORS, KEEP UPWIND.

TOXICITY

D-SORBITOL:
TOXICITY DATA:
ANHYDROUS: 1700 MG/KG/DAY ORAL-WOMAN TDLO; 15,900 MG/KG ORAL-RAT LD50;
17,800 MG/KG ORAL-MOUSE LD50; 29,600 MG/KG SUBCUTANEOUS-RAT LD50; 24 GM/KG
SUBCUTANEOUS-MOUSE LD50; 7100 MG/KG INTRAVENOUS-RAT LD50; 9480 MG/KG
INTRAVENOUS-MOUSE LD50; 15 GM/KG INTRAPERITONEAL-MOUSE LD50; MUTAGENIC
DATA (RTECS).
MONOHYDRATE: NO DATA AVAILABLE.
CARCINOGEN STATUS: NONE.
ACUTE TOXICITY LEVEL: RELATIVELY NON-TOXIC BY INGESTION.
TARGET EFFECTS: NO DATA AVAILABLE.
AT INCREASED RISK FROM EXPOSURE: PERSONS WITH DIABETES MELLITUS, OR
PREEXISTING HYPONATREMIA.

HEALTH EFFECTS AND FIRST AID

INHALATION:
D-SORBITOL:
ACUTE EXPOSURE- NO DATA AVAILABLE.
CHRONIC EXPOSURE- NO DATA AVAILABLE.
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING
HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST.
TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.
SKIN CONTACT:
D-SORBITOL:
ACUTE EXPOSURE- NO DATA AVAILABLE.
CHRONIC EXPOSURE- NO DATA AVAILABLE.
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:
D-SORBITOL:
ACUTE EXPOSURE- NO DATA AVAILABLE.
CHRONIC EXPOSURE- NO DATA AVAILABLE.
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE,
OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL
REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.
INGESTION:
D-SORBITOL:
ACUTE EXPOSURE- INGESTION MAY PRODUCE A LAXATIVE EFFECT WITH FLATULENCE,
ABDOMINAL PAIN, DISTENTION, DIARRHEA AND VOMITING. URTICARIA HAS
BEEN REPORTED FOLLOWING INGESTION. DOSES OF 26 GM/KG ADMINISTERED TO
RATS PRODUCED DEPRESSION AND DEATH IN 1 TO 12 HOURS.
CHRONIC EXPOSURE- REPEATED INGESTION MAY CAUSE DIARRHEA.
FIRST AID- TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION
IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD LOWER THAN HIPS TO PREVENT
ASPIRATION.
ANTIDOTE:
NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.
INCOMPATIBILITIES:
D-SORBITOL:
ACIDS (STRONG): INCOMPATIBLE.
ALKALI (STRONG): INCOMPATIBLE.
OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.
REDUCING MATERIALS: INCOMPATIBLE.
SEE ALSO ALCOHOLS.
ALCOHOLS:
ACETALDEHYDE: VIOLENT CONDENSATION REACTION.
BARIUM PERCHLORATE: FORMATION OF HIGHLY EXPLOSIVE PERCHLORIC ESTER ON
REFLUXING.
CHLORINE: FORMATION OF HIGHLY EXPLOSIVE ALKYL HYPOCHLORITES.
DIETHYL ALUMINUM BROMIDE: SPONTANEOUS IGNITION.

ETHYLENE OXIDE: POSSIBLE EXPLOSION.
 HEXAMETHYLENE DIISOCYANATE: POSSIBLE EXPLOSION IN ABSENCE OF SOLVENT.
 HYDROGEN PEROXIDE + SULFURIC ACID: POSSIBLE EXPLOSION.
 HYPOCHLOROUS ACID: FORMATION OF HIGHLY EXPLOSIVE ALKYL HYPOCHLORITES.
 ISOCYANATES: POSSIBLE EXPLOSION IN ABSENCE OF SOLVENT.
 LITHIUM ALUMINUM HYDRIDE: VIGOROUS REACTION.
 NITROGEN TETROXIDE: POSSIBLE EXPLOSION.
 PERCHLORIC ACID (HOT): DANGEROUS INTERACTION.
 PERMONOSULFURIC ACID: POSSIBLE EXPLOSION ON CONTACT WITH PRIMARY OR SECONDARY ALCOHOLS.
 TRI-ISO-BUTYL ALUMINUM: VIOLENT REACTION.

DECOMPOSITION:

THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.

POLYMERIZATION:

HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE.

STORAGE

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

KEEP IN A TIGHTLY CLOSED CONTAINER. STORE IN A COOL, DRY, VENTILATED AREA.

CONDITIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. AVOID CONTACT WITH STRONG OXIDIZERS, EXCESSIVE HEAT, SPARKS, OR OPEN FLAME.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:

SWEEP UP AND PLACE IN SUITABLE CLEAN, DRY CONTAINERS FOR RECLAMATION OR LATER DISPOSAL. DO NOT FLUSH SPILLED MATERIAL INTO SEWER. KEEP UNNECESSARY PEOPLE AWAY.

PROTECTIVE EQUIPMENT

VENTILATION:

PROVIDE LOCAL EXHAUST VENTILATION. VENTILATION EQUIPMENT MUST BE EXPLOSION PROOF.

RESPIRATOR:

THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION.
 THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE. MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

ANY DUST AND MIST RESPIRATOR.

ANY AIR-PURIFYING RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.

ANY POWERED AIR-PURIFYING RESPIRATOR WITH A DUST AND MIST FILTER.

ANY POWERED AIR-PURIFYING RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.

ANY TYPE 'C' SUPPLIED-AIR RESPIRATOR OPERATED IN THE PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE OR CONTINUOUS-FLOW MODE.

ANY 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 TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

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

AUTHORIZED - FISHER SCIENTIFIC, INC.

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-ADDITIONAL INFORMATION-

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