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POLYOXYETHYLENE (20) SORBITAN MONOLAURATE
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MATERIAL SAFETY DATA SHEET

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SUBSTANCE IDENTIFICATION

CAS-NUMBER 9005-64-5
SUBSTANCE: **POLYOXYETHYLENE (20) SORBITAN MONOLAURATE**

TRADE NAMES/SYNONYMS:
OXYETHYLATED SORBITAN MONOLAURATE; POLY(OXYETHYLENE SORBITAN LAURATE); SORBITAN POLYETHOXY MONOLAURATE; ETHOXYLATED SORBITAN MONOLAURATE; SORBITAN MONODODECANOTE; POLY(OXY-1,2-ETHANEDIYL) DERIVATIVES; POLYSORBATE 20; POLYOXYETHYLENE (20) SORBITAN MONOLAURATE; TWEEEN (R) 20; BP-337; ACC80107

CHEMICAL FAMILY:
SORBITAN FATTY ACID ESTER

ETHOXYLATED FATTY ACID

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

COMPONENTS AND CONTAMINANTS

COMPONENT: POLYOXYETHYLENE (20) SORBITAN MONOLAURATE PERCENT: 97-98
CAS# 9005-64-5

COMPONENT: WATER PERCENT: 2-3

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

PHYSICAL DATA

DESCRIPTION: LEMON YELLOW TO AMBER COLORED, OILY LIQUID WITH A FAINT CHARACTERISTIC ODOR AND WARM, BITTER TASTE. BOILING POINT: 212 F (100 C)
MELTING POINT: 14 F (-10 C) SPECIFIC GRAVITY: 1.084 @ 45 C
VISCOSITY: 400 CPS VOLATILITY: 2-3% VAPOR PRESSURE: 1.0 MMHG @ 20 C
SOLUBILITY IN WATER: SOLUBLE VAPOR DENSITY: 1
SOLVENT SOLUBILITY: SOLUBLE IN METHANOL, ETHANOL, ISOPROPANOL, PROPYLENE GLYCOL, ETHYLENE GLYCOL, ETHYL ACETATE, DIOXANE, COTTONSEED OIL; INSOLUBLE IN MINERAL OIL, MINERAL SPIRITS

FIRE AND EXPLOSION DATA

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

FLASH POINT: 300 F (149 C) (OC) FLAMMABILITY CLASS(OSHA): IIIB

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 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

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VAPORS, KEEP UPWIND.

TOXICITY

POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); IRRITATION DATA: 15 MG/3 DAYS INTERMITTENTLY SKIN-HUMAN MILD.
TOXICITY DATA: 37 GM/KG ORAL-RAT LD50; 18 GM/KG ORAL-HAMSTER LD50;
1420 MG/KG INTRAVENOUS-MOUSE LD50; 2970 MG/KG INTRAVENOUS-MOUSE LD50;
770 MG/KG INTRAVENOUS-RAT LD50; 2640 MG/KG INTRAPERITONEAL-MOUSE LD50;
3850 MG/KG INTRAPERITONEAL-RAT LD50; REPRODUCTIVE EFFECTS DATA (RTECS).
CARCINOGEN STATUS: NONE.
ACUTE TOXICITY LEVEL: RELATIVELY NONTOXIC BY INGESTION.
TARGET EFFECTS: NO DATA AVAILABLE.

HEALTH EFFECTS AND FIRST AID

INHALATION:
POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); ACUTE EXPOSURE- DUE TO THE LOW VAPOR PRESSURE, NO SIGNIFICANT HEALTH HAZARD FROM INHALATION IS LIKELY TO OCCUR AT NORMAL ROOM TEMPERATURES. INHALATION OF GENERATED MIST OR VAPORS PRODUCED FROM ELEVATED TEMPERATURES MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES. INHALATION OF HIGH LEVELS OF SOME POLYSORBATES MAY CAUSE A CHEMICAL PNEUMONITIS.
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:
POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); ACUTE EXPOSURE- THIS MATERIAL WAS NONIRRITATING ON HUMAN SUBJECT PATCH TESTS. THE PRIMARY INDEX OF THE UNDILUTED MATERIAL WAS FOUND TO BE 0.34 TO 0.96 FOLLOWING A 24-HOUR APPLICATION TO INTACT AND ABRADED SKIN OF RABBITS.
CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE MAY CAUSE IRRITATION OF THE SKIN BY REMOVING NATURAL OILS, CAUSING REDNESS, SORENESS, AND PAPULAR DERMATITIS.

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:
POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); ACUTE EXPOSURE- APPLICATION OF THE UNDILUTED MATERIAL IN RABBITS' EYES RESULTED IN MINIMAL TO MODERATE CONJUNCTIVAL IRRITATION. RINSING WITHIN 4 SECONDS OF EXPOSURE RESULTED IN LITTLE CHANGE TO COMPLETE PREVENTION. DRAIZE EYE IRRITATION SCORE WAS 5.3 OUT OF A POSSIBLE 110.
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:
POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); ACUTE EXPOSURE- INGESTION OF HIGH LEVELS CAUSED DIARRHEA AND OTHER EFFECTS SECONDARY TO LAXATION. INGESTION OF 33 CC/KG WAS LETHAL TO RATS.
INGESTION OF HIGH LEVELS OF SOME POLYSORBATES MAY CAUSE INTESTINAL OBSTRUCTION.
CHRONIC EXPOSURE- REPEATED OR PROLONGED INGESTION OF HIGH CONCENTRATIONS OF THIS MATERIAL CAUSED DIARRHEA AND OTHER EFFECTS SECONDARY TO LAXATION IN RATS AND HAMSTERS.

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:
POLYOXYETHYLENE (20) SORBITAN MONOLAURATE (ETHOXYLATED SORBITAN MONOLAURATE); OXIDIZING MATERIALS: INCOMPATIBLE.

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.

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:
STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CLEAN, DRY CONTAINERS FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE GENERAL DILUTION VENTILATION.

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 CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S) AND A FULL FACEPIECE.

ANY GAS MASK WITH ORGANIC VAPOR CANISTER (CHIN-STYLE OR FRONT- OR BACK-MOUNTED CANISTER), WITH A FULL FACEPIECE.

ANY TYPE 'C' SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH A FULL FACEPIECE, HELMET OR HOOD OPERATED IN A CONTINUOUS-FLOW MODE.

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

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.

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