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The Version Date and Number for this MSDS is : 12/21/2004 - #003

PRODUCT NAME:
POLYBOR (R) / SOLUBOR

MSDS #: BXPO

MATERIAL SAFETY DATA SHEET
DATE OF ISSUE DECEMBER 2003
SUPERSEDES MAY 2000 VERSION
POLYBOR(R) / SOLUBOR

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POLYBOR /SOLUBOR

GRADE: TECHNICAL

PRODUCT USE: FLAME RETARDANT

CHEMICAL FORMULA: NA2B8O13 4H2O

CHEMICAL NAME/SYNONYMS: DISODIUM OCTABORATE
TETRAHYDRATE

CHEMICAL FAMILY: INORGANIC BORATES

CAS REGISTRY NUMBER: 12280-03-4
(REFER TO SECTION 15 FOR TSCA/DSL CHEMICAL INVENTORY LISTING)

MANUFACTURER:

U.S. BORAX INC.
26877 TOURNEY ROAD
VALENCIA, CA 91355-1847

EMERGENCY PHONE NUMBERS
24 HR. MEDICAL INFO. SERVICE: (661) 284-5200
CHEMTREC (SPILLS): (800) 424-9300

2 COMPOSITION/INFORMATION ON INGREDIENTS

THIS PRODUCT CONTAINS GREATER THAN 99 PERCENT (%) DISODIUM OCTABORATE TETRAHYDRATE, NA2B8O13 4H2O, WHICH IS HAZARDOUS UNDER THE OSHA HAZARD COMMUNICATION STANDARD AND UNDER THE CANADIAN CONTROLLED PRODUCTS REGULATIONS OF THE HAZARDOUS PRODUCTS ACT (WHMIS), BASED ON ANIMAL CHRONIC TOXICITY

STUDIES. REFER TO SECTIONS 3 AND 11 FOR DETAILS ON HAZARDS.

3 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

POLYBOR / SOLUBOR IS A WHITE, ODORLESS, POWDERED SUBSTANCE THAT IS NOT FLAMMABLE, COMBUSTIBLE, OR EXPLOSIVE AND HAS LOW ACUTE ORAL AND DERMAL TOXICITY.

POTENTIAL ECOLOGICAL EFFECTS

LARGE AMOUNTS OF POLYBOR / SOLUBOR CAN BE HARMFUL TO PLANTS AND OTHER SPECIES. THEREFORE, RELEASES TO THE ENVIRONMENT SHOULD BE MINIMIZED.

POTENTIAL HEALTH EFFECTS

ROUTES OF EXPOSURE: INHALATION IS THE MOST SIGNIFICANT ROUTE OF EXPOSURE IN OCCUPATIONAL AND OTHER SETTINGS. DERMAL EXPOSURE IS NOT USUALLY A CONCERN BECAUSE POLYBOR / SOLUBOR IS POORLY ABSORBED THROUGH INTACT SKIN.

INHALATION: OCCASIONAL MILD IRRITATION EFFECTS TO NOSE AND THROAT MAY OCCUR FROM INHALATION OF POLYBOR / SOLUBOR DUST AT LEVELS GREATER THAN 10 MG/M3.

EYE CONTACT: POLYBOR / SOLUBOR IS NON-IRRITATING TO EYES IN NORMAL INDUSTRIAL USE.

SKIN CONTACT: POLYBOR / SOLUBOR DOES NOT CAUSE IRRITATION TO INTACT SKIN.

INGESTION: PRODUCTS CONTAINING POLYBOR / SOLUBOR ARE NOT INTENDED FOR INGESTION. POLYBOR / SOLUBOR HAS A LOW ACUTE TOXICITY. SMALL AMOUNTS (E.G., A TEASPOONFUL) SWALLOWED ACCIDENTALLY ARE NOT LIKELY TO CAUSE EFFECTS; SWALLOWING AMOUNTS LARGER THAN THAT MAY CAUSE GASTROINTESTINAL SYMPTOMS.

CANCER: POLYBOR / SOLUBOR IS NOT A KNOWN CARCINOGEN.

REPRODUCTIVE/DEVELOPMENTAL: ANIMAL INGESTION STUDIES IN SEVERAL SPECIES, AT HIGH DOSES, INDICATE THAT BORATES CAUSE REPRODUCTIVE AND DEVELOPMENTAL EFFECTS. A HUMAN STUDY OF OCCUPATIONAL EXPOSURE TO BORATE DUST SHOWED NO ADVERSE EFFECT ON REPRODUCTION.

TARGET ORGANS: NO TARGET ORGAN HAS BEEN IDENTIFIED IN HUMANS. HIGH DOSE ANIMAL INGESTION STUDIES INDICATE THE TESTES ARE THE TARGET ORGANS IN MALE ANIMALS.

SIGNS AND SYMPTOMS OF EXPOSURE: SYMPTOMS OF ACCIDENTAL OVER-EXPOSURE TO POLYBOR / SOLUBOR MIGHT INCLUDE NAUSEA, VOMITING AND DIARRHEA, WITH DELAYED EFFECTS OF SKIN REDNESS AND

PEELING. THESE SYMPTOMS HAVE BEEN ASSOCIATED WITH THE

ACCIDENTAL OVER-EXPOSURE TO THE CHEMICALLY RELATED SUBSTANCE BORIC ACID.

REFER TO SECTION 11 FOR DETAILS ON TOXICOLOGICAL DATA.

4 FIRST AID MEASURES

INHALATION: IF SYMPTOMS SUCH AS NOSE OR THROAT IRRITATION ARE OBSERVED, REMOVE PERSON TO FRESH AIR.

EYE CONTACT: USE EYE WASH FOUNTAIN OR FRESH WATER TO CLEANSE EYE. IF IRRITATION PERSISTS FOR MORE THAN 30 MINUTES, SEEK MEDICAL ATTENTION.

SKIN CONTACT: NO TREATMENT NECESSARY BECAUSE NON-IRRITATING.

INGESTION: SWALLOWING SMALL QUANTITIES (ONE TEASPOON) WILL CAUSE NO HARM TO HEALTHY ADULTS. IF LARGER AMOUNTS ARE SWALLOWED, GIVE TWO GLASSES OF WATER TO DRINK AND SEEK MEDICAL ATTENTION.

NOTE TO PHYSICIANS: OBSERVATION ONLY IS REQUIRED FOR ADULT INGESTION IN THE RANGE OF 4-8 GRAMS OF POLYBOR / SOLUBOR. FOR INGESTION OF LARGER AMOUNTS, MAINTAIN ADEQUATE KIDNEY FUNCTION AND FORCE FLUIDS. GASTRIC LAVAGE IS RECOMMENDED FOR SYMPTOMATIC PATIENTS ONLY. HEMODIALYSIS SHOULD BE RESERVED FOR MASSIVE ACUTE

INGESTION OR PATIENTS WITH RENAL FAILURE. BORON ANALYSES OF URINE OR BLOOD ARE ONLY USEFUL FOR DOCUMENTING EXPOSURE AND SHOULD NOT BE USED TO EVALUATE SEVERITY OF POISONING OR TO GUIDE TREATMENT¹. REFER TO SECTION 11 FOR DETAILS.

5 FIRE FIGHTING MEASURES

GENERAL HAZARD: NONE, BECAUSE POLYBOR / SOLUBOR IS NOT FLAMMABLE, COMBUSTIBLE OR EXPLOSIVE. THE PRODUCT IS ITSELF A FLAME RETARDANT.

EXTINGUISHING MEDIA: ANY FIRE EXTINGUISHING MEDIA MAY BE USED ON NEARBY FIRES.

FLAMMABILITY CLASSIFICATION (29 CFR 1910.1200): NON-FLAMMABLE SOLID.

6 ACCIDENTAL RELEASE MEASURES

GENERAL: POLYBOR / SOLUBOR IS A WATER-SOLUBLE WHITE POWDER THAT MAY, AT HIGH CONCENTRATIONS, CAUSE DAMAGE TO TREES OR VEGETATION BY ROOT ABSORPTION. (REFER TO ECOLOGICAL INFORMATION, SECTION 12, FOR SPECIFIC INFORMATION.)

LAND SPILL: VACUUM, SHOVEL OR SWEEP UP POLYBOR / SOLUBOR AND PLACE IN CONTAINERS FOR DISPOSAL IN ACCORDANCE WITH APPLICABLE LOCAL REGULATIONS. AVOID CONTAMINATION OF WATER BODIES DURING CLEANUP AND DISPOSAL. NO PERSONAL PROTECTIVE EQUIPMENT IS NEEDED TO CLEANUP LAND SPILLS.

SPILLAGE INTO WATER: WHERE POSSIBLE, REMOVE ANY INTACT CONTAINERS FROM THE WATER. ADVISE LOCAL WATER AUTHORITY THAT NONE OF THE AFFECTED WATER SHOULD BE USED FOR IRRIGATION OR FOR THE ABSTRACTION OF POTABLE WATER UNTIL NATURAL DILUTION RETURNS THE BORON VALUE TO ITS NORMAL ENVIRONMENTAL BACKGROUND LEVEL.

(REFER TO SECTIONS 12, 13 AND 15 FOR ADDITIONAL INFORMATION.)

POLYBOR / SOLUBOR IS A NON-HAZARDOUS WASTE WHEN SPILLED OR DISPOSED OF, AS DEFINED IN THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) REGULATIONS (40 CFR 261). (REFER TO REGULATORY INFORMATION, SECTION 15, FOR ADDITIONAL REFERENCES.)

7 HANDLING AND STORAGE

GENERAL: NO SPECIAL HANDLING PRECAUTIONS ARE REQUIRED, BUT DRY, INDOOR STORAGE IS RECOMMENDED. TO MAINTAIN PACKAGE INTEGRITY AND TO MINIMIZE CAKING OF THE PRODUCT, BAGS SHOULD BE HANDLED ON A FIRST-IN, FIRST-OUT BASIS. GOOD HOUSEKEEPING PROCEDURES SHOULD BE FOLLOWED TO MINIMIZE DUST GENERATION AND ACCUMULATION.

STORAGE TEMPERATURE: AMBIENT

STORAGE PRESSURE: ATMOSPHERIC

SPECIAL SENSITIVITY: MOISTURE (CAKING)

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: USE LOCAL EXHAUST VENTILATION TO KEEP AIRBORNE CONCENTRATIONS OF POLYBOR / SOLUBOR DUST BELOW PERMISSIBLE EXPOSURE LEVELS.

PERSONAL PROTECTION: WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE LIMITS, NIOSH/MSHA CERTIFIED RESPIRATORS SHOULD BE USED. EYE GOGGLES AND GLOVES ARE NOT REQUIRED FOR NORMAL INDUSTRIAL EXPOSURES, BUT MAY BE WARRANTED IF ENVIRONMENT IS EXCESSIVELY DUSTY.

OCCUPATIONAL EXPOSURE LIMITS: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) IS TREATED BY OSHA, CAL OSHA AND ACGIH AS "PARTICULATE NOT OTHERWISE CLASSIFIED" OR "NUISANCE DUST". THE OSHA/PEL (PERMISSIBLE EXPOSURE LEVEL) IS 15 MG/M3 TOTAL DUST AND 5 MG/M3 RESPIRABLE DUST. THE CAL

OSHA/PEL IS 10 MG/M3. THE ACGIH/TLV (THRESHOLD LIMIT VALUE) IS 10 MG/M3.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: WHITE, ODORLESS, CRYSTALLINE SOLID
BULK DENSITY: 320 TO 480 KG/M3
VAPOR PRESSURE: NEGLIGIBLE @ 20 C
SOLUBILITY IN WATER: 9.7% @ 20 C; 34.3% @ 50 C
MELTING POINT: 815 C
PH @ 20 C: 8.3 (3.0% SOLUTION)
7.6 (10.0% SOLUTION)
MOLECULAR WEIGHT: 412.52

10 STABILITY AND REACTIVITY

GENERAL: POLYBOR / SOLUBOR IS A STABLE PRODUCT.
INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

REACTION WITH STRONG REDUCING AGENTS, SUCH AS METAL HYDRIDES OR

ALKALI METALS, WILL GENERATE HYDROGEN GAS, WHICH COULD CREATE AN EXPLOSIVE HAZARD.

HAZARDOUS DECOMPOSITION: NONE.

11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

INGESTION: LOW ACUTE ORAL TOXICITY; LD50 IN RATS IS 2,550 MG/KG OF BODY WEIGHT.

SKIN/DERMAL: LOW ACUTE DERMAL TOXICITY; LD50 IN RABBITS IS GREATER THAN 2,000 MG/KG OF BODY WEIGHT. POLYBOR / SOLUBOR IS POORLY ABSORBED THROUGH INTACT SKIN.

INHALATION: LOW ACUTE INHALATION TOXICITY; LC50 IN RATS IS GREATER THAN 2.0 MG/L (OR G/M3).

SKIN IRRITATION: NON-IRRITANT.

EYE IRRITATION: DRAIZE TEST IN RABBITS PRODUCED MILD EYE IRRITATION EFFECTS. YEARS OF OCCUPATIONAL EXPOSURE TO POLYBOR / SOLUBOR INDICATES NO ADVERSE EFFECTS ON HUMAN EYE. THEREFORE POLYBOR / SOLUBOR IS NOT CONSIDERED TO BE A HUMAN EYE IRRITANT IN NORMAL INDUSTRIAL USE.

SENSITIZATION: POLYBOR / SOLUBOR IS NOT A SKIN SENSITIZER.

OTHER

REPRODUCTIVE/DEVELOPMENTAL TOXICITY: ANIMAL FEEDING STUDIES IN RAT, MOUSE AND DOG, AT HIGH DOSES, HAVE DEMONSTRATED EFFECTS ON FERTILITY AND TESTES². STUDIES WITH THE CHEMICALLY RELATED BORIC ACID IN THE RAT, MOUSE AND RABBIT, AT HIGH DOSES, DEMONSTRATE DEVELOPMENTAL EFFECTS ON THE FETUS, INCLUDING FETAL WEIGHT LOSS AND MINOR SKELETAL VARIATIONS^{3, 4}. THE DOSES ADMINISTERED WERE MANY TIMES IN EXCESS OF THOSE TO WHICH HUMANS WOULD NORMALLY BE EXPOSED⁵.

CARCINOGENICITY/MUTAGENICITY: NO EVIDENCE OF CARCINOGENICITY IN MICE⁶. NO MUTAGENIC ACTIVITY WAS OBSERVED FOR BORIC ACID IN A BATTERY OF SHORT-TERM MUTAGENICITY ASSAYS. HUMAN DATA: HUMAN EPIDEMIOLOGICAL STUDIES SHOW NO INCREASE IN PULMONARY DISEASE IN OCCUPATIONAL POPULATIONS WITH CHRONIC EXPOSURES TO BORIC ACID DUST AND SODIUM BORATE DUST. A RECENT EPIDEMIOLOGY STUDY UNDER THE CONDITIONS OF NORMAL OCCUPATIONAL EXPOSURE TO BORATE DUSTS INDICATED NO EFFECT ON FERTILITY⁷.

12 ECOLOGICAL INFORMATION

ECOTOXICITY DATA

GENERAL: BORON (B) IS THE ELEMENT IN DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) WHICH IS USED BY CONVENTION TO REPORT BORATE PRODUCT ECOLOGICAL EFFECTS. IT OCCURS NATURALLY IN SEAWATER AT AN AVERAGE CONCENTRATION OF 5 MG B/L AND GENERALLY OCCURS IN FRESHWATER AT CONCENTRATIONS UP TO 1 MG B/L. IN DILUTE AQUEOUS SOLUTIONS THE PREDOMINANT BORON SPECIES PRESENT IS UNDISSOCIATED BORIC ACID. TO CONVERT DISODIUM OCTABORATE TETRAHYDRATE INTO THE EQUIVALENT BORON (B) CONTENT, MULTIPLY BY 0.2096.

PHYTOTOXICITY: BORON IS AN ESSENTIAL MICRONUTRIENT FOR HEALTHY GROWTH OF PLANTS; HOWEVER, IT CAN BE HARMFUL TO BORON SENSITIVE PLANTS IN HIGH QUANTITIES. CARE SHOULD BE TAKEN TO MINIMIZE THE AMOUNT OF POLYBOR / SOLUBOR RELEASED TO THE ENVIRONMENT.

ALGAL TOXICITY:
GREEN ALGAE, SCENEDESMUS SUBSPICATUS
96-HR EC10 = 24 MG B/L*

INVERTEBRATE TOXICITY8:
DAPHNIDS, DAPHNIA MAGNA STRAUS
24-HR EC50 = 242 MG B/L*

TEST SUBSTANCE: * SODIUM TETRABORATE

FISH TOXICITY:
SEAWATER9:
DAB, LIMANDA LIMANDA
96-HR LC50 = 74 MG B/L*

FRESHWATER10:
RAINBOW TROUT, S. GAIRDNERI (EMBRYO-LARVAL STAGE)
24-DAY LC50 = 88 MG B/L*
32-DAY LC50 = 54 MG B/L*
GOLDFISH, CARASSIUS AURATUS (EMBRYO-LARVAL STAGE)
7-DAY LC50 = 65 MG B/L*
3-DAY LC50 = 71 MG B/L*

ENVIRONMENTAL FATE DATA
PERSISTENCE/DEGRADATION: BORON IS NATURALLY OCCURRING AND UBIQUITOUS IN THE ENVIRONMENT. POLYBOR / SOLUBOR DECOMPOSES IN THE ENVIRONMENT TO NATURAL BORATE.

OCTANOL/WATER PARTITION COEFFICIENT: NO VALUE. IN AQUEOUS SOLUTION DISODIUM OCTABORATE TETRAHYDRATE IS CONVERTED SUBSTANTIALLY INTO UNDISSOCIATED BORIC ACID.

SOIL MOBILITY: POLYBOR / SOLUBOR IS SOLUBLE IN WATER AND IS LEACHABLE THROUGH NORMAL SOIL.

13 DISPOSAL CONSIDERATIONS

DISPOSAL GUIDANCE: SMALL QUANTITIES OF POLYBOR / SOLUBOR CAN USUALLY BE DISPOSED OF AT LANDFILL SITES. NO SPECIAL DISPOSAL TREATMENT IS REQUIRED, BUT LOCAL AUTHORITIES SHOULD BE CONSULTED ABOUT ANY SPECIFIC LOCAL REQUIREMENTS. TONNAGE QUANTITIES OF PRODUCT ARE NOT RECOMMENDED TO BE SENT TO LANDFILLS. SUCH PRODUCT SHOULD, IF POSSIBLE, BE USED FOR AN APPROPRIATE APPLICATION.

RCRA (40 CFR 261): POLYBOR / SOLUBOR IS NOT LISTED UNDER ANY SECTIONS OF THE FEDERAL RESOURCE CONSERVATION AND RECOVERY ACT

(RCRA).

NPRI (CANADA): POLYBOR / SOLUBOR IS NOT LISTED ON THE CANADIAN NATIONAL POLLUTANT RELEASE INVENTORY.
REFER TO SECTION 15 FOR ADDITIONAL REGULATORY INFORMATION.

14 TRANSPORT INFORMATION

DOT HAZARDOUS CLASSIFICATION: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) IS NOT REGULATED BY THE U.S. DEPARTMENT OF TRANSPORTATION (DOT) AND IS THEREFORE NOT CONSIDERED A HAZARDOUS MATERIAL/SUBSTANCE.

TDG CANADIAN TRANSPORTATION: DISODIUM OCTABORATE

TETRAHYDRATE (POLYBOR / SOLUBOR) IS NOT REGULATED UNDER TRANSPORTATION OF DANGEROUS GOODS (TDG).

INTERNATIONAL TRANSPORTATION: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) HAS NO UN NUMBER, AND IS NOT REGULATED UNDER INTERNATIONAL RAIL, ROAD, WATER OR AIR TRANSPORT REGULATIONS.

15 REGULATORY INFORMATION

OSHA/CAL OSHA: THIS MSDS DOCUMENT MEETS THE REQUIREMENTS OF BOTH OSHA (29 CFR 1910.1200) AND CAL OSHA (TITLE 8 CCR 5194 (G)) HAZARD COMMUNICATION STANDARDS. REFER TO SECTION 8 FOR REGULATORY EXPOSURE LIMITS.

WHMIS CLASSIFICATION: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) IS CLASSIFIED AS CLASS D- DIVISION 2A UNDER CANADIAN WHMIS GUIDELINES.

CHEMICAL INVENTORY LISTING: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR), 12280-03-4, APPEARS ON SEVERAL CHEMICAL INVENTORY LISTS (INCLUDING THE EPA TSCA INVENTORY, CANADIAN DSL, EUROPEAN EINECS, JAPANESE MITI, AUSTRALIAN AND KOREAN LISTS) UNDER THE CAS NO. REPRESENTING THE ANHYDROUS FORM OF THIS INORGANIC SALT.

U.S. EPA TSCA INVENTORY 12008-41-2

CANADIAN DSL 12008-41-2

EINECS 234-541-0

SOUTH KOREA 9312-3213

RCRA: DISODIUM OCTABORATE TETRAHYDRATE IS NOT LISTED AS A HAZARDOUS WASTE UNDER ANY SECTIONS OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) OR REGULATIONS (40 CFR 261 ET SEQ).

SUPERFUND: CERCLA/SARA. DISODIUM OCTABORATE TETRAHYDRATE IS NOT LISTED UNDER CERCLA OR ITS 1986 AMENDMENTS, SARA, INCLUDING SUBSTANCES LISTED UNDER SECTION 313 OF SARA, TOXIC CHEMICALS, 42 USC 11023, 40 CFR 372.65, SECTION 302 OF SARA, EXTREMELY HAZARDOUS SUBSTANCES, 42 USC 11002, 40 CFR 355, OR THE CERCLA HAZARDOUS SUBSTANCES LIST, 42 USC 9604, 40 CFR 302.

SAFE DRINKING WATER ACT (SDWA): DISODIUM OCTABORATE TETRAHYDRATE IS NOT REGULATED UNDER THE SDWA, 42 USC 300G-1, 40 CFR 141 ET SEQ. CONSULT STATE AND LOCAL REGULATIONS FOR POSSIBLE WATER QUALITY ADVISORIES REGARDING BORON COMPOUNDS. CLEAN WATER ACT (CWA) (FEDERAL WATER POLLUTION CONTROL ACT): 33 USC 1251 ET SEQ.

A) DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) IS NOT ITSELF A DISCHARGE COVERED BY ANY WATER QUALITY CRITERIA OF SECTION 304 OF THE CWA, 33 USC 1314.

B) IT IS NOT ON THE SECTION 307 LIST OF PRIORITY POLLUTANTS, 33 USC 1317, 40 CFR 129.

C) IT IS NOT ON THE SECTION 311 LIST OF HAZARDOUS SUBSTANCES, 33 USC 1321, 40 CFR 116.

CANADIAN DRINKING WATER GUIDELINE: AN "INTERIM MAXIMUM ACCEPTABLE CONCENTRATION" (IMAC) FOR BORON IS CURRENTLY SET AT 5 MG B/L.

IARC: THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) (A UNIT OF THE WORLD HEALTH ORGANIZATION) DOES NOT LIST OR CATEGORIZE DISODIUM OCTABORATE TETRAHYDRATE AS A CARCINOGEN.

NTP BIENNIAL REPORT ON CARCINOGENS: DISODIUM OCTABORATE TETRAHYDRATE IS NOT LISTED.

OSHA CARCINOGEN: DISODIUM OCTABORATE TETRAHYDRATE IS NOT LISTED.

CALIFORNIA PROPOSITION 65: DISODIUM OCTABORATE TETRAHYDRATE (POLYBOR / SOLUBOR) IS NOT LISTED ON THE PROPOSITION 65 LIST OF CARCINOGENS OR REPRODUCTIVE TOXICANTS.

FEDERAL FOOD, DRUG AND COSMETIC ACT: PURSUANT TO 21 CFR 175.105, 176.180 AND 181.30, POLYBOR / SOLUBOR IS APPROVED BY THE FDA FOR USE IN ADHESIVE COMPONENTS OF PACKAGING MATERIALS, AS A COMPONENT OF PAPER COATINGS ON SUCH MATERIALS, OR FOR USE IN THE MANUFACTURE THEREOF, WHICH MATERIALS ARE EXPECTED TO COME IN CONTACT WITH DRY FOOD PRODUCTS.

CLEAN AIR ACT (MONTREAL PROTOCOL): POLYBOR / SOLUBOR WAS NOT MANUFACTURED WITH AND DOES NOT CONTAIN ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCES.

16 OTHER INFORMATION

REFERENCES

- 1) LITOVITZ T L, NORMAN S A, VELTRI J C, ANNUAL REPORT OF THE AMERICAN ASSOCIATION OF POISON CONTROL CENTERS DATA COLLECTION SYSTEM. AM. J. EMERG. MED. 4: 427-458 (1986).
- 2) WEIR R J, FISHER R S, TOXICOL. APPL. PHARMACOL. 23: 351-364 (1972).
- 3) FAIL ET AL., FUND. APPL. TOXICOL. 17: 225-239 (1991).
- 4) PRICE ET AL., J. AM. COLL. TOXICOL. 14: (2), 173 (ABST. P-17) (1995).
- 5) MURRAY F J, REGUL. TOXICOL. PHARMACOL. (DEC. 1995).
- 6) NATIONAL TOXICOLOGY PROGRAM (NTP)-TOXICOLOGY AND CARCINOGENESIS STUDIES OF BORIC ACID IN B6C3F1 MICE, TECH. REPORT SER. NO. 324, U.S. DEPT. OF HEALTH AND HUMAN SERVICES. NIH PUBL. NO. 88-2580 (1987).
- 7) WHORTON ET AL., OCCUP. ENVIRON. MED. 51: 761-767 (1994).
- 8) SCHOBERL ET AL., TENSIDE SURFACTANTS DETERGENTS 25: 99-107 (1988).
- 9) HUGMAN S J, MANCE G, WATER RESEARCH CENTRE REPORT 616-M (1983).
- 10) BUTTERWICK L, DE OUDE N, RAYMOND K, ECOTOXICOL. ENVIRON. SAFETY 17: 339-371 (1989).

SAFETY 17: 339-371 (1989).

FOR GENERAL INFORMATION ON THE TOXICOLOGY OF INORGANIC BORATES, SEE PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, 4TH ED. VOL. II, (1994), CHAP. 42, BORON; ECETOC TECH. REPORT NO. 63 (1995).

PRODUCT LABEL TEXT HAZARD INFORMATION*:

-DO NOT INGEST.

-INGESTION MAY CAUSE REPRODUCTIVE HARM OR BIRTH DEFECTS BASED ON ANIMAL

-DATA. AVOID CONTAMINATION OF FOOD OR FEED.

-NOT FOR FOOD, DRUG OR PESTICIDAL USE.

-REFER TO MSDS.

-KEEP OUT OF REACH OF CHILDREN.

*THE WHMIS PANEL FORMAT IS USED FOR CANADIAN PRODUCT.

NATIONAL FIRE PROTECTION ASSOC. (NFPA) CLASSIFICATION:

HEALTH 0

FLAMMABILITY 0

REACTIVITY 0

HAZARDOUS MATERIALS INFORMATION SYSTEMS (HMIS):

RED: (FLAMMABILITY) 0

YELLOW: (REACTIVITY) 0

BLUE: (ACUTE HEALTH) 1*

*CHRONIC EFFECTS

FOR FURTHER INFORMATION CONTACT:

U.S. BORAX INC.

OCCUPATIONAL HEALTH & PRODUCT SAFETY DEPARTMENT

(661) 287-6050

For Additional Information:

Contact: MSDS Coordinator - Univar USA
During business hours, Pacific Time - (425) 889-3400

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