

FMC

MATERIAL SAFETY DATA

TRISODIUM PHOSPHATE CRYSTALS

10101 -89 -0

U.S./CANADA VERSION

EFFECTIVE: 07/20/93

PRINTED: 03/31/98

PRINTED FOR.....

THATCHER CHEMICAL CO
1900 FORTUNE ROAD
ATTN: SAFETY DIRECTOR
SALT LAKE CITY UT 84104

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION *****

PRODUCT NAME.....

TRISODIUM PHOSPHATE CRYSTALS

SYNONYMS.....

TRISODIUM PHOSPHATE DODECAHYDRATE, TSP CRYSTALS
TSP CRYSTALLINE, TSP-X

INFORMATION PROVIDED BY...

FMC CORPORATION
1735 MARKET STREET
PHILADELPHIA PA 19103

EMERGENCY PHONE NUMBERS

CHEMTREC.....

(800) 424-9300

MEDICAL.....

(303) 595-9048 CALL COLLECT

PLANT/OTHER.....

(913) 749-8100 LAWRENCE, KS

(908) 541-3000 CARTERET, NJ

2. COMPOSITION/INFORMATION ON INGREDIENTS *****

CAS # AND COMPONENTS.....

10101-89-0 TRISODIUM PHOSPHATE CRYSTALS

3. HAZARD IDENTIFICATION *****

EMERGENCY OVERVIEW.....

AIRBORNE DUST IS IRRITATING TO NOSE AND THROAT.
PRODUCT IS NON-COMBUSTIBLE.

HEALTH EFFECTS.....

EXTREMELY IRRITATING TO UNWASHED RABBIT EYES.
IN HUMANS, EXPOSURE TO THE ALKALINE DUST IS
ASSOCIATED WITH IRRITATION OF THE EYES AND
RESPIRATORY PASSAGES. CONTINUOUS CONTACT WITH
THE SKIN OF CAUSES IRRITATION.

4. FIRST AID MEASURES *****

EYES.....

FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT
LEAST 15 MINUTES, LIFTING UPPER AND LOWER LIDS
INTERMITTENTLY. SEE AN OPHTHALMOLOGIST.

SKIN.....

WASH WITH WATER. IF IRRITATION OCCURS AND
PERSISTS, CALL A PHYSICIAN.

INHALATION.....

REMOVE FROM EXPOSURE. IF BREATHING
DIFFICULTY OR DISCOMFORT OCCURS, OBTAIN
MEDICAL ATTENTION.

INGESTION.....

RINSE MOUTH WITH WATER. RINSE MOUTH WITH
WATER. DILUTE BY GIVING 1 OR 2 GLASSES OF
WATER. DO NOT INDUCE VOMITING. NEVER GIVE
ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
SEE A PHYSICIAN IMMEDIATELY.

NOTES TO PHYSICIAN.....

STRONGLY ALKALINE, MAY REMOVE SEBACEOUS OILS
LEAVING SKIN UNPROTECTED AND MAY CAUSE CHEMICAL
BURNS. ACCESSIBLE EXPOSED TISSUES SHOULD BE
FLUSHED THOROUGHLY WITH WATER, AND ANY CORNEAL

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<p>STORAGE.....</p>	<p>7. HANDLING AND STORAGE</p> <p>USE RESPIRATORY AND EYE PROTECTION TO PREVENT IRRITATION.</p> <p>STORE IN DRY AREA FOR PRODUCT STABILITY. FOR FOOD APPLICATIONS KEEP AWAY FROM OTHER CHEMICALS.</p>
<p>CONTROL MEASURES.....</p> <p>RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT</p> <p>RESPIRATORY.....</p> <p>EYES.....</p> <p>GLOVES.....</p> <p>SPECIAL CLOTHING... AND EQUIPMENT</p> <p>FOOTWEAR.....</p>	<p>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</p> <p>PROVIDE MECHANICAL LOCAL EXHAUST VENTILATION TO PREVENT RELEASE OF DUST INTO THE WORK AREA. IF RELEASE IS EXPECTED, USE RESPIRATORY AND EYE PROTECTION AS INDICATED BELOW.</p> <p>USE APPROVED DUST RESPIRATOR.</p> <p>SAFETY GLASSES WITH SIDE SHIELDS.</p> <p>WORK GLOVES</p> <p>LONG SLEEVE SHIRT.</p> <p>SAFETY SHOES.</p>
<p>MELTING/FREEZING POINT...</p> <p>BOILING POINT.....</p> <p>VAPOR PRESSURE.....</p> <p>VAPOR DENSITY (AIR=1)...</p> <p>ROOM TEMPERATURE.....</p> <p>APPEARANCE AND STATE</p> <p>ODOR.....</p> <p>SPECIFIC GRAVITY (H2O=1)...</p> <p>SOLUBILITY IN H2O % BY WT:</p> <p>% VOLATILES.....</p> <p>EVAPORATION RATE..... (BUTYL ACETATE=1)</p> <p>PH (AS IS).....</p> <p>PH (1% SOLUTION).....</p> <p>ODOR THRESHOLD.....</p> <p>DENSITY (G/ML).....</p> <p>PARTITION COEFFICIENT..... N-OCTANOL/WATER</p> <p>FLASH POINT.....</p> <p>AUTOIGNITION TEMPERATURE..</p> <p>FLAMMABLE LIMITS UPPER... (AIR) LOWER...</p> <p>EXPLOSIVE PROPERTIES.....</p> <p>OXIDIZING PROPERTIES.....</p> <p>SOLUBILITY.....</p> <p>- FAT SOLUBILITY (SOLVENT - OIL)</p>	<p>9. PHYSICAL AND CHEMICAL PROPERTIES</p> <p>75°C, -4H2O @ 95°C</p> <p>NOT APPLICABLE</p> <p>NON-VOLATILE</p> <p>NON-VOLATILE</p> <p>WHITE CRYSTALS</p> <p>NONE</p> <p>BULK DENSITY 0.9 G/ML</p> <p>33 @ 25°C</p> <p>NON-VOLATILE</p> <p>NON-VOLATILE</p> <p>NOT APPLICABLE</p> <p>11.9</p> <p>NOT APPLICABLE</p> <p>0.92</p> <p>NOT AVAILABLE</p> <p>NON COMBUSTIBLE</p> <p>NON COMBUSTIBLE</p> <p>NOT APPLICABLE</p> <p>NOT APPLICABLE</p> <p>NONE</p> <p>NONE</p> <p>NO DATA</p>

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4. FIRST AID MEASURES

BURNS WARRANT CONSULTATION OF AN OPHTHALMOLOGIST. INGESTION MAY RESULT IN NAUSEA, VOMITING, AND BURNS, ESPECIALLY OF THE ESOPHAGUS. ATTEMPTS TO NEUTRALIZE INGESTED MATERIAL WITH ACIDS IS NOT RECOMMENDED. THIS MAY CAUSE EXCESS HEAT AND GAS PRODUCTION WHICH CAN INCREASE THE RISK OF PERFORATION. DILUTION MAY DO LIKEWISE, BUT WHEN THE DRY MATERIAL IS INGESTED, ADHERENCE OF PARTICLES TO THE ESOPHAGEAL MUCOSA MAY ASSURE PERFORATION SO THAT IMMEDIATE DRINKING OF COLD WATER OR MILK IS ADVISED. BURNS OF THE ESOPHAGUS AND/OR STOMACH SUFFICIENT TO LEAD TO PERFORATION AND/OR STRICTURE FORMATION MAY OCCUR WITHOUT OROPHARYNGEAL BURNS. ACCORDINGLY, MOST AUTHORITIES RECOMMEND LIMITED ESOPHAGOSCOPY SUFFICIENT TO DETERMINE IF DEEP AND/OR CIRCUMFERENTIAL BURNS ARE PRESENT, BECAUSE THEY ARE MOST LIKELY TO RESULT IN ESOPHAGEAL STENOSIS. PREVENTION OF THE LATTER IS CONTROVERSIAL, THOUGH MOST AUTHORITIES FAVOR EARLY CORTICOSTEROID AND/OR PROPHYLACTIC DILATION THERAPY.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA.....: NOT APPLICABLE
SPECIAL FIREFIGHTING.....: NOT APPLICABLE
PROCEDURES
DEGREE OF FIRE AND.....: NONE
EXPLOSION HAZARD
HAZARDOUS DECOMPOSITION...: NONE
PRODUCTS

6. ACCIDENTAL RELEASE MEASURES

PROCEDURE FOR RELEASE....: SWEEP UP AND RETURN TO PROCESS, IF POSSIBLE.
OR SPILL

7. HANDLING AND STORAGE

HANDLING.....: AVOID CONTACT WITH PRODUCT BY USING EYE PROTECTION AND LONG SLEEVED SHIRT. USE RESPIRATORY AND PERSONAL PROTECTIVE EQUIPMENT IF LOCAL EXHAUST IS NOT AVAILABLE OR INEFFECTIVE. OPEN AND EMPTY BAGS WITH EXHAUST SYSTEM.
VENTILATION.....: PROVIDE MECHANICAL LOCAL EXHAUST VENTILATION TO PREVENT RELEASE OF DUST INTO WORK ENVIRONMENT. IF VENTILATION IS INADEQUATE OR NOT AVAILABLE.

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----- 10. STABILITY AND REACTIVITY -----

STABILITY.....: STABLE
HAZARDOUS POLYMERIZATION.: WILL NOT OCCUR
CONDITIONS TO AVOID.....: NOT APPLICABLE
MATERIALS TO AVOID.....: NOT APPLICABLE
MAJOR CONTAMINANTS THAT..: NOT APPLICABLE
CONTRIBUTE TO INSTABILITY
INCOMPATIBILITY.....: NOT APPLICABLE
HAZARDOUS DECOMPOSITION..: NOT APPLICABLE
PRODUCTS
SENSITIVITY TO MECH.....: NONE
IMPACT
SENSITIVITY TO STATIC....: NONE
DISCHARGE

----- 11. TOXICOLOGICAL INFORMATION -----

EYE CONTACT.....: EXTREMELY IRRITATING TO UNWASHED EYES;
MODERATELY IRRITATING TO WASHED EYES (RABBIT).
THESE DATA ARE FOR TRISODIUM PHOSPHATE
ANHYDROUS.
SOURCE: FMC REPORT 186-0926 DATE: 1987
SKIN CONTACT.....: MINIMALLY IRRITATING AT 300 AND 20 MG/KG
(RABBIT). THESE DATA ARE FOR TRISODIUM
PHOSPHATE ANHYDROUS.
SOURCE: FMC REPORT 187-0956 1987
SKIN ABSORPTION.....: LD50 GREATER THAN 300 MG/KG (RABBIT). THESE
DATA ARE FOR TRISODIUM PHOSPHATE ANHYDROUS,
SOURCE: FMC REPORT 187-0956 1987
INHALATION.....: NO DATA AVAILABLE.
INGESTION.....: 20% AQUEOUS SOLUTION LD50 (RAT) = 6.5 G/KG
SOURCE: AIHA J. 43, NO. 10, 1982
ACUTE EFFECTS FROM.....: INHALATION OF HEAVY DUST MAY SEVERELY IRRITATE
OVEREXPOSURE NOSE AND THROAT. INGESTION MAY INJURE MOUTH,
THROAT, AND GASTROINTESTINAL TRACT. CONTACT
WITH EYES PRODUCES EXTREME IRRITATION.
CHRONIC EFFECTS FROM.....: ALTHOUGH NO LONG TERM HUMAN STUDIES HAVE
OVEREXPOSURE BEEN REPORTED, THERE ARE NO REPORTED
(EFFECTS CONSIDERED CHRONIC EFFECTS THAT WARRANT CONTROL
INCLUDE: BEYOND THAT REQUIRED TO AVOID IRRITATION
FROM AIRBORNE DUST.
SENSITIVITIES, TERATOGENICITY, MUTAGENICITY
CARCINOGENICITY, REPRODUCTIVE TOXICITY AND
TERATOGENICITY, ANY MEDICAL CONDITIONS GENERALLY RECOGNIZED AS
MUTAGENICITY, BEING AGGRAVATED BY EXPOSURE WERE EXAMINED AND
SYNERGISTIC NO INFORMATION WAS FOUND OR AVAILABLE.
PRODUCTS, AND ANY
MEDICAL CONDITIONS
GENERALLY RECOGNIZED
AS BEING AGGRAVATED
BY EXPOSURE.)

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----- 12. ECOLOGICAL INFORMATION -----

ENVIRONMENTAL FATE.....: INORGANIC PHOSPHATES IN CONTACT WITH THE SOIL, SUB-SURFACE OR SURFACE WATERS MAY BE TAKEN UP BY PLANTS AND UTILIZED AS ESSENTIAL NUTRIENTS. PHOSPHATES MAY ALSO FORM PRECIPITATES, USUALLY WITH CALCIUM OR MAGNESIUM. THE RESULTANT COMPOUNDS ARE INSOLUBLE IN WATER AND BECOME A PART OF THE SOIL OR SEDIMENT. THE TERM BIODEGRADABILITY, AS SUCH, IS NOT APPLICABLE TO INORGANIC COMPOUNDS.

ENVIRONMENTAL EFFECTS.....: AQUATIC TOXICITY DATA (FOR DISODIUM PHOSPHATE)
96 HR LC50 > 100 MG/L. NON-TOXIC (RAINBOW TROUT, INLAND SILVERSIDES AND MYSID SHRIMP)
FMC STUDIES 189-1085, -1086 & -1087
48 HR EC50 > 100 MG/L. NON-TOXIC (DAPHNIA MAGNA) FMC STUDY 189-1088

----- 13. DISPOSAL CONSIDERATIONS -----

WASTE DISPOSAL METHOD.....: MAY BE DISPOSED IN SANITARY LANDFILL ACCORDING TO GOVERNMENTAL REGULATIONS.

----- 14. TRANSPORT INFORMATION -----

DOT PROPER SHIPPING NAME.: NOT REGULATED
IATA.....: NOT REGULATED
IMDG.....: NOT REGULATED
DOT CLASSIFICATION.....: NOT REGULATED
DOT LABELS.....: NOT REQUIRED
DOT MARKING.....: NOT REQUIRED
DOT PLACARD.....: NOT REQUIRED
UN NUMBER.....: NONE
HAZARDOUS SUBSTANCE/RQ...: NOT LISTED
49 STCC NUMBER.....: NOT APPLICABLE
PRECAUTIONS TO BE TAKEN...: MATERIAL IS STRONGLY BASIC (ALKALINE). TAKE CARE TO AVOID EYE CONTACT; MAY CAUSE IRRITATION.
IN TRANSPORTATION
OTHER SHIPPING.....: SHIPPED IN MULTIWALL PAPER BAGS.
INFORMATION

----- 15. REGULATORY INFORMATION -----

OSHA
EXPOSURE LIMITS
SUBSTANCE(S).....: TRISODIUM PHOSPHATE CRYSTALS
OSHA PEL-TWA.....: NOT APPLICABLE
STEL.....: NOT APPLICABLE
CEILING.....: NOT APPLICABLE
SKIN DESIGNATION.: NOT APPLICABLE
ACGIH TLV-TWA.....: NOT APPLICABLE
STEL.....: NOT APPLICABLE

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CEILING.....	NOT APPLICABLE
SKIN DESIGNATION..	NOT APPLICABLE
TARGET ORGAN EFFECTS.....	EYES AND RESPIRATORY PASSAGES
CARCINOGENIC POTENTIAL...	TRISODIUM PHOSPHATE CRYSTALS
REGULATED BY OSHA.....	NO
LISTED ON NTP REPORT....	NO
IARC GROUP 1, 2A, 2B....	NO
U.S. EPA REQUIREMENTS	
RELEASE REPORTING	
CERCLA (40 CFR 302)	
LISTED SUBSTANCE(S).....	NO
RQ.....	NOT APPLICABLE
CATEGORY.....	NOT APPLICABLE
RCRA WASTE NO.....	NOT APPLICABLE
UNLISTED SUBSTANCE(S)...	NO
RQ.....	NOT APPLICABLE
CHARACTERISTIC....	NOT APPLICABLE
RCRA WASTE NO.....	NOT APPLICABLE
SARA TITLE III SEC 313	
(40 CFR 372).....	TRISODIUM PHOSPHATE CRYSTALS
LISTED TOXIC CHEMICAL...	NO
INVENTORY REPORTING	
SARA TITLE III SEC 311/312	
(40 CFR 370)	
SUBSTANCE(S).....	TRISODIUM PHOSPHATE CRYSTALS
HAZARD CATEGORY.....	IMMEDIATE (ACUTE) HEALTH HAZARD
PLANNING THRESHOLD.....	10,000 LBS
EMERGENCY PLANNING	
SARA TITLE III SEC 302-303	
(40 CFR 355)	
LISTED SUBSTANCE(S).....	NO
RQ.....	NOT APPLICABLE
PLANNING THRESHOLD.....	NOT APPLICABLE
U.S. TSCA STATUS.....	CLASSIFIED AS A MIXTURE OF TRISODIUM PHOSPHATE ANHYDROUS (CAS NO. 7601-54-9) AND WATER AS DEFINED BY EPA
CANADA	
INGREDIENT DISCLOSURE LIST	
SUBSTANCE(S).....	TRISODIUM PHOSPHATE CRYSTALS
CONTROLLED PRODUCT.....	NO
HAZARD SYMBOLS.....	MATERIALS CAUSING OTHER TOXIC EFFECTS.
CLASS & DIVISION.....	CLASS D, DIV.2, SUBDIV. B
PRODUCT IDENTIFICATION NO:	3811
DOMESTIC SUBSTANCE LIST...	LISTED
CEPA PRIORITY LIST.....	NOT LISTED
CARCINOGENICITY	
ACGIH APPENDIX A.....	NOT LISTED
A1 - CONFIRMED HUMAN....	NOT APPLICABLE
A1 - SUSPECTED HUMAN....	NOT APPLICABLE

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----- 15. REGULATORY INFORMATION -----

IARC GROUP 1 OR 2.....: NO

LABEL LANGUAGE (US/CANADA) HEALTH.....: AIRBORNE DUST IS IRRITATING TO NOSE AND THROAT. DIRECT CONTACT WITH EYES MAY PRODUCE IRRITATION. NOT APPLICABLE

PHYSICAL.....: STORE IN DRY AREA FOR PRODUCT QUALITY ASSURANCE. HANDLING AND STORAGE....: USE RESPIRATORY AND EYE PROTECTION IF DUST IS EXPECTED.

FIRST AID.....: IMMEDIATELY FLUSH EYES AND SKIN WITH PLENTY OF WATER. IF IRRITATION OCCURS AND PERSISTS, OBTAIN MEDICAL ATTENTION.

STATE REGULATIONS.....: CALIFORNIA PROPOSITION 65 -SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986. THIS ACT REQUIRES THE GOVERNMENT OF CALIFORNIA TO DEVELOPE LISTS OF CARCINOGENS AND REPRODUCTIVE TOXINS AND THAT NO PERSONS DOING BUSINESS SHALL KNOWINGLY EXPOSE ANY INDIVIDUAL TO A CHEMICAL ON THOSE LISTS WITHOUT FIRST GIVING CLEAR AND REASONABLE WARNING TO SUCH INDIVIDUAL. FOOD GRADE COMPLIES WITH FDA GRAS AND IS SANCTIONED FOR USE IN FOOD. USDA SANCTIONED FOR MEATS. TECHNICAL GRADE CONTAINS UP TO 30 PPM ARSENIC, 1 PPM CADMIUM AND 2 PPM LEAD FROM THE LISTS.

----- 16. OTHER INFORMATION -----

PRODUCT USES.....: INDUSTRIAL AND HOUSEHOLD CLEANERS, WATER CONDITIONER, PHOTO DEVELOPER BATH INGREDIENT, PAINT REMOVER, DENTURE CLEANERS, EMULSIFIER AND PH CONTROL AGENT FOR FOODS. MAY BE USED TO TREAT DRINKING WATER UP TO 41.5 MG/L.

NFPA 704

HEALTH.....: 2

FLAMMABILITY.....: 0

REACTIVITY.....: 0

SPECIAL HAZARD.....: (DEGREE OF HAZARD
0 = NO HAZARD
4 = SEVERE HAZARD)

THE CONTENTS AND FORMAT OF THIS MSDS ARE IN ACCORDANCE WITH OSHA HAZARD COMMUNICATION AND CANADA'S WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)