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REPORT NUMBER: 703
MSDS NO: FM000006
EFFECTIVE DATE: 08/25/93

VAN WATERS & ROGERS INC.
MATERIAL SAFETY DATA SHEET

PAGE: 001

VERSION: 003

PRODUCT: TRISODIUM PHOSPHATE CRYSTALS

ORDER NO: 260482
PROD NO : 503653

PAULSEN & ROLES LAB
1836 N.E. 7TH AVE.

PORTLAND ,OR 97212

VAN WATERS & ROGERS INC. , SUBSIDIARY OF UNIVAR (206)889-3400
6100 CARILLON POINT , KIRKLAND , WA 98033

----- EMERGENCY ASSISTANCE -----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC
(800)424-9300

----- FOR PRODUCT AND SALES INFORMATION -----

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE AT
VW&R PORTLAND 503-222-1721 PORTLAND , OR

PRODUCT NAME:
TRISODIUM PHOSPHATE CRYSTALS
TRISODIUM PHOSPHATE CRYSTALS

SDS #: FM000006

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

PRODUCT NAME.....: TRISODIUM PHOSPHATE CRYSTALS
NONYMS.....: TRISODIUM PHOSPHATE DODECAHYDRATE, TSP CRYSTALS
TSP CRYSTALLINE, TSP-X
FORMATION 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

AND COMPONENTS.....: 10101-89-0 TRISODIUM PHOSPHATE CRYSTALS

3. HAZARD IDENTIFICATION

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SUBJECT: TRISODIUM PHOSPHATE CRYSTALS

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HAZARD 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

.....: FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT
LEAST 15 MINUTES, LIFTING UPPER AND LOWER LIDS
INTERMITTENTLY. SEE AN OPHTHALMOLOGIST.
.....: WASH WITH WATER. IF IRRITATION OCCURS AND
PERSISTS, CALL A PHYSICIAN.
ACTION.....: REMOVE FROM EXPOSURE. IF BREATHING
DIFFICULTY OR DISCOMFORT OCCURS, OBTAIN
MEDICAL ATTENTION.
TREATMENT.....: 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.
TREATMENT 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
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

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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, USE RESPIRATORY AND EYE PROTECTION TO PREVENT IRRITATION.
- STORAGE.....: STORE IN DRY AREA FOR PRODUCT STABILITY. FOR FOOD APPLICATIONS KEEP AWAY FROM OTHER CHEMICALS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- CONTROL MEASURES.....: 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.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY.....: USE APPROVED DUST RESPIRATOR.
- EYES.....: SAFETY GLASSES WITH SIDE SHIELDS.
- GLOVES.....: WORK GLOVES
- SPECIAL CLOTHING...: LONG SLEEVE SHIRT.
- AND EQUIPMENT
- FOOTWEAR.....: SAFETY SHOES.

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9. PHYSICAL AND CHEMICAL PROPERTIES

MELTING/FREEZING POINT...: 75 C, -4H2O @ 95 C
MELTING POINT.....: NOT APPLICABLE
VAPOR PRESSURE.....: NON-VOLATILE
RELATIVE DENSITY (AIR=1)...: NON-VOLATILE
APPEARANCE AND STATE.....: WHITE CRYSTALS
.....: NONE
SPECIFIC GRAVITY (H2O=1)..: BULK DENSITY 0.9 G/ML
SOLUBILITY IN H2O % BY WT: 33 @ 25 C
VOLATILITY.....: NON-VOLATILE
EVAPORATION RATE.....: NON-VOLATILE
SOLUBILITY (BUTYL ACETATE=1)
AS IS).....: NOT APPLICABLE
REFRACTIVE INDEX (1% SOLUTION).....: 11.9
FLASH POINT.....: NOT APPLICABLE
DENSITY (G/ML).....: 0.92
REFRACTIVE INDEX COEFFICIENT.....: NOT AVAILABLE
REFRACTIVE INDEX (N-OCTANOL/WATER)
FLASH POINT.....: NON COMBUSTIBLE
IGNITION TEMPERATURE...: NON COMBUSTIBLE
FLAMMABLE LIMITS UPPER...: NOT APPLICABLE
(AIR) LOWER...: NOT APPLICABLE
CORROSIVE PROPERTIES.....: NONE
OXIDIZING PROPERTIES.....: NONE
STABILITY.....: NO DATA
FAT SOLUBILITY
(SOLVENT - OIL)

10. STABILITY AND REACTIVITY

STABILITY.....: STABLE
POLYMERIZATION.....: WILL NOT OCCUR
CONDITIONS TO AVOID.....: NOT APPLICABLE
MATERIALS TO AVOID.....: NOT APPLICABLE
CONTAMINANTS THAT...: NOT APPLICABLE
CONTRIBUTE TO INSTABILITY
COMPATIBILITY.....: NOT APPLICABLE
THERMAL DECOMPOSITION...: NOT APPLICABLE
BY PRODUCTS
REACTIVITY TO MECH.....: NONE
IMPACT
REACTIVITY TO STATIC....: NONE
DISCHARGE

11. TOXICOLOGICAL INFORMATION

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.....: EXTREMELY IRRITATING TO UNWASHED EYES;
MODERATELY IRRITATING TO WASHED EYES (RABBIT).
THESE DATA ARE FOR TRISODIUM PHOSPHATE
ANHYDROUS.
SOURCE: FMC REPORT I86-0926 DATE: 1987

.....: MINIMALLY IRRITATING AT 300 AND 20 MG/KG
(RABBIT). THESE DATA ARE FOR TRISODIUM
PHOSPHATE ANHYDROUS.
SOURCE: FMC REPORT I87-0956 1987

.....: L50 GREATER THAN 300 MG/KG (RABBIT). THESE
DATA ARE FOR TRISODIUM PHOSPHATE ANHYDROUS.
SOURCE: FMC REPORT I87-0956 1987

.....: NO DATA AVAILABLE.

.....: 20% AQUEOUS SOLUTION L50 (RAY) = 6.5 G/KG
SOURCE: AIHA J. 43, NO. 10, 1982

.....: INHALATION OF HEAVY DUST MAY SEVERELY IRRITATE
NOSE AND THROAT. INGESTION MAY INJURE MOUTH,
THROAT, AND GASTROINTESTINAL TRACT. CONTACT
WITH EYES PRODUCES EXTREME IRRITATION.

.....: ALTHOUGH NO LONG TERM HUMAN STUDIES HAVE
BEEN REPORTED, THERE ARE NO REPORTED
CHRONIC EFFECTS THAT WARRANT CONTROL
BEYOND THAT REQUIRED TO AVOID IRRITATION
FROM AIRBORNE DUST.
SENSITIVITIES, TERATOGENICITY, MUTAGENICITY
SYNERGISTIC PRODUCTS, REPRODUCTIVE TOXICITY AND
ANY MEDICAL CONDITIONS GENERALLY RECOGNIZED AS
BEING AGGRAVATED BY EXPOSURE WERE EXAMINED AND
NO INFORMATION WAS FOUND OR AVAILABLE.

.....: INCLUDE:
SENSITIVITIES,
CARCINOGENICITY,
TERATOGENICITY,
MUTAGENICITY,
SYNERGISTIC
PRODUCTS, AND ANY
MEDICAL CONDITIONS
GENERALLY RECOGNIZED
AS BEING AGGRAVATED
BY EXPOSURE.)

12. ECOLOGICAL INFORMATION

.....: 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.

.....: AQUATIC TOXICITY DATA (FOR DISODIUM PHOSPHATE)
96 HR LC50 > 100 MG/L, NON-TOXIC (RAINBOW

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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

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

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

PERMISSIBLE EXPOSURE LIMITS
SUBSTANCE(S).....: TRISODIUM PHOSPHATE CRYSTALS
HAZARD PEL-TWA.....: NOT APPLICABLE
STEL.....: NOT APPLICABLE
CEILING.....: NOT APPLICABLE
SKIN DESIGNATION.: NOT APPLICABLE
OCCUPATIONAL TLV-TWA.....: NOT APPLICABLE
STEL.....: NOT APPLICABLE
CEILING.....: NOT APPLICABLE
SKIN DESIGNATION.: NOT APPLICABLE
TARGET ORGAN EFFECTS.....: EYES AND RESPIRATORY PASSAGES
MUTAGENIC POTENTIAL...: TRISODIUM PHOSPHATE CRYSTALS
REGULATED BY OSHA.....: NO
LISTED ON NTP REPORT...: NO
HCS GROUP 1, 2A, 2B...: NO
EPA REQUIREMENTS
RELEASE REPORTING
EPCRA (40 CFR 302)

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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
RA TITLE III SEC 313
(40 CFR 372).....: TRISODIUM PHOSPHATE CRYSTALS
LISTED TOXIC CHEMICAL...: NO
REPORTING THRESHOLD....: NOT APPLICABLE
INVENTORY REPORTING
RA 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
RA TITLE III SEC 302-303
(40 CFR 355)
LISTED SUBSTANCE(S).....: NO
RQ.....: NOT APPLICABLE
PLANNING THRESHOLD.....: NOT APPLICABLE
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: 2811
DOMESTIC SUBSTANCE LIST...: LISTED
EPA PRIORITY LIST.....: NOT LISTED
MUTAGENICITY
ACGIH APPENDIX A.....: NOT LISTED
A1 - CONFIRMED HUMAN...: NOT APPLICABLE
A1 - SUSPECTED HUMAN...: NOT APPLICABLE
RC GROUP 1 OR 2.....: NO
BEL LANGUAGE (US/CANADA)
HEALTH.....: AIRBORNE DUST IS IRRITATING TO NOSE AND THROAT. DIRECT CONTACT WITH EYES MAY PRODUCE IRRITATION.
PHYSICAL.....: NOT APPLICABLE
HANDLING AND STORAGE...: STORE IN DRY AREA FOR PRODUCT QUALITY ASSURANCE. USE RESPIRATORY AND EYE PROTECTION IF DUST IS EXPECTED.

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

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)

