



**VIRCHEM® 937**

TECHNICAL PRODUCTS CORP.  
1490 HIGH STREET  
PORTSMOUTH, VIRGINIA 23704

## MATERIAL SAFETY DATA SHEET

Information Telephone: 804/399-5009      Emergency Telephone: 804/399-5009      CHEMTREC Telephone: 800/424-9300

### I. IDENTIFICATION

PRODUCT NAME <b>VIRCHEM® 937</b>		REVISION DATE <b>June, 1992</b>
CHEMICAL NAME <b>Blended Polyphosphate &amp; Zinc Salt Corrosion Inhibitor</b>		FORMULA <b>(MPO<sub>3</sub>)<sub>n</sub> • H<sub>2</sub>O</b> where <b>M = Na and/or 1/2 Zn</b> n = 5
SYNONYMS <b>V-937</b>		EPA REG # <b>Not Applicable</b>
DOT HAZARD CLASS <b>Non-hazardous</b>	UN No <b>Not Applicable</b>	CAS No <b>65997-17-3</b>
DOT SHIPPING NAME <b>Not Applicable</b>	CAR NAME <b>Sodium Zinc Polyphosphate, Glassy</b>	

### II. PHYSICAL DATA

PHYSICAL STATE	<b>Solid white granular mixture</b>	DENSITY, BRK. OCC	<b>78 - 81 lb/ft<sup>3</sup> (loose) 87 - 91 lb/ft<sup>3</sup> (packed)</b>
MELTING POINT, °C	<b>No specific data</b>	SOLUBILITY IN WATER wt %	<b>3 lbs. per gallon (max.) @ 40°F</b>
DECOMPOSES °C	<b>No specific data</b>	VOLATILES VOLUME %	<b>Not Applicable</b>

### III. HAZARDOUS COMPONENTS GREATER THAN 1%

MATERIAL	PEL	TLV	CAS. No.	%
<b>Zinc Sulfate</b>	<b>No Data</b>	<b>No Data</b>	<b>7733-02-0</b>	<b>15 - 30</b>
<b>NON-HAZARDOUS COMPONENTS</b>				<b>70 - 85</b>

This Product contains a toxic chemical or chemicals (as listed above) subject to the reporting requirements of Section 313 - Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CARCINOGENICITY **Not listed by NTP, IARC, or OSHA.**

### IV. FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY	<b>Non-flammable solid.</b>
NORMAL EXTINGUISHING AGENT	<b>Not Applicable</b>
SPECIAL FIRE FIGHTING PRECAUTIONS	<b>Not Applicable.</b>
UNUSUAL FIRE AND EXPLOSION HAZARDS	<b>Not Applicable.</b>

### V. REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID	<b>No specific data</b>
INCOMPATIBILITY	<b>Magnesium</b>	
HAZARDOUS REACTION	<b>When heated to decomposition can emit highly toxic fumes of PO<sub>x</sub>.</b>	

To the best of our knowledge, the information contained herein is accurate. However, Technical Products Corp. assumes no liability whatsoever for the accuracy or completeness of the information. Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are



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**VI. HEALTH HAZARD DATA**

ACUTE EFFECTS OF EXPOSURE		TLV	No specific data	REL	No specific data
ORAL EXPOSURE	Slightly toxic.				
SKIN CONTACT	No specific information. May cause skin irritation.				
INHALATION	No specific information.				
EYE CONTACT	No specific information. May cause eye irritation.				
CHRONIC EFFECTS OF EXPOSURE	No specific information.				
OTHER HEALTH DATA	No specific information.  Maximum use level per Standard 60:5 mg/l.				

**EMERGENCY AND FIRST AID PROCEDURES**

SWALLOWING	No specific information. Consult a physician.
SKIN	Flush area with copious amounts of water for 15 minutes. Consult a physician.
INHALATION	Remove to fresh air. Consult a physician.
EYES	Flush area with copious amounts of water for 15 minutes. Consult a physician.

**VII. SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Sweep up or flush area with large quantities of water. Spills should be contained to prevent contamination of surface and groundwater supplies.
WASTE DISPOSAL METHOD	Disposal should be in accordance with federal, state and local regulations regarding zinc and phosphate.

**VIII. SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION	Paper dust mask should be used to prevent prolonged inhalation of dust.		
PROTECTIVE GLOVES	Rubber gloves.	EYE PROTECTION	Chemical workers goggles.
VENTILATION	None.	SPECIAL EQUIPMENT	Eyewash fountain, safety shower.

**IX. SPECIAL PRECAUTIONS**

**HANDLING AND STORAGE**

Contact with water produces an acidic solution. Avoid contact with skin and clothing. Do not get in eyes. Material is slightly hygroscopic. Store in cool dry place. Surface coated with V-937 can be very slippery.

OTHER

None.

M A T E R I A L   S A F E T Y   D A T A   S H E E T

REV: 05/18/93

CHEMTECH PRODUCTS, INC.  
 1655 DES PERES ROAD  
 SUITE 304  
 ST. LOUIS, MO 63131  
 PHONE: (314) 966-1400

HEALTH = 3      REACTIVITY = 0  
 FIRE = 0        EQUIPMENT = -

FOR EMERGENCIES INVOLVING  
 SPILL, LEAK, FIRE OR EXPOSURE, CALL  
 1-800-424-9300  
 DAY OR NIGHT

HAZARD RATINGS:  
 0 = LEAST      1 = SLIGHT  
 2 = MODERATE   3 = HIGH  
 4 = EXTREME

SECTION I ===== PRODUCT DESCRIPTION =====

PRODUCT NAME:            SODIUM FLUORIDE, COARSE  
 SYNONYMS:                SODIUM FLUORIDE; SODIUM MONOFLUORIDE  
 CHEMICAL FAMILY:        INORGANIC SALT

SECTION II ===== PRODUCT COMPOSITION =====

INGREDIENT	%	CAS #	TLV
SODIUM FLUORIDE	97-100	7681-49-4	2.5 MG(F)/M3
SODIUM SILICOFLUORIDE	0-2.5	16893-85-9	2.5 MG(F)/M3

SECTION III ===== PHYSICAL PROPERTIES =====

BOILING RANGE:            1704 C / 3099 F  
 SPECIFIC GRAVITY (WATER=1):    NOT APPLICABLE  
 BULK DENSITY:             2.56 G/CC @ 41 C  
 VAPOR PRESSURE AT 20C (MM OF HG):    NOT APPLICABLE  
 VAPOR DENSITY (AIR=1):        NOT APPLICABLE  
 SOLUBILITY IN WATER:        4% @ 25 C  
 EVAPORATION RATE:         NOT APPLICABLE  
 % VOLATILES:                NOT APPLICABLE  
 APPEARANCE AND ODOR:    WHITE GRANULAR SOLID; LITTLE OR NO ODOR.

SECTION IV ===== FIRE AND EXPLOSION DATA =====

LOWER FLAMMABILITY LIMITS (% IN AIR): NOT FLAMMABLE  
 FLASH POINT (AND METHOD):        NOT FLAMMABLE  
 FLAMMABILITY CLASSIFICATION:    NOT FLAMMABLE

RECOMMENDED EXTINGUISHING MEDIA: DOES NOT BURN OR SUPPORT COMBUSTION.  
 USE EXTINGUISHING MEDIA SUITABLE FOR SURROUNDING MATERIALS.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD BE EQUIPPED WITH APPROPRIATE PROTECTIVE APPAREL AND A NIOSH-APPROVED RESPIRATOR. USE WATER TO COOL CONTAINERS EXPOSED TO FIRE.

UNUSUAL FIRE/EXPLOSION HAZARDS: THERMAL DECOMPOSITION MAY RELEASE HAZARDOUS FUMES OF HYDROGEN FLUORIDE AND SODIUM OXIDES.

SECTION V ===== HEALTH INFORMATION =====

THRESHOLD LIMIT VALUE: TWA= 2.5 MG(F)/M3 OSHA PEL: TWA= 2.5 MG(F)/M3  
 ACUTE TOXICITY: LD50 (ORAL-RAT) 180 MG/KG  
 MAXIMUM USE FOR FLUORIDATION 2.3 MG/L

EFFECTS OF OVEREXPOSURE: INHALATION MAY CAUSE SEVERE MUCOUS MEMBRANE IRRITATION WITH COUGHING, SORE THROAT, SHORTNESS OF BREATH AND LABORED BREATHING. REPEATED EXPOSURE TO EXCESSIVE CONCENTRATIONS OF FLUORIDE OVER A PERIOD OF YEARS RESULTS IN INCREASED DENSITY OF BONE AND EVENTUALLY MAY CAUSE CRIPPLING FLUOROSIS. DUSTS MAY CAUSE IRRITATION TO THE SKIN WITH REDNESS AND PAIN. SODIUM FLUORIDE IS CORROSIVE WHEN IN AN AQUEOUS SOLUTION AND MAY CAUSE SEVERE BURNS. CONTACT WITH EYES MAY CAUSE SEVERE IRRITATION, REDNESS, PAIN AND BLURRED VISION. INGESTION MAY CAUSE CORROSION OF THE GASTRIC MUCOSA, NAUSEA, VOMITING, DIARRHEA, ABDOMINAL PAIN AND THIRST. SERIOUS POISONING MAY INCLUDE WEAKNESS, TREMORS, CONVULSIONS, COLLAPSE, LOW BLOOD CALCIUM LEVELS AND COMA. DEATH IS DUE TO CARDIOVASCULAR COLLAPSE, RESPIRATORY FAILURE OR VENTRICULAR FIBRILLATION. REPEATED EXPOSURE MAY CAUSE FLUOROSIS. SYMPTOMS INCLUDE WEIGHT LOSS, BRITTLENESS OF BONES, ANEMIA, WEAKNESS, STIFFNESS OF JOINTS, MOTTLING OF TOOTH ENAMEL AND OSTEOSCLEROSIS.

EMERGENCY FIRST AID PROCEDURES:

- EYE CONTACT: FLUSH WITH LARGE QUANTITIES OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.
- SKIN CONTACT: REMOVE CONTAMINATED CLOTHING AND SHOES. WASH EXPOSED AREAS WITH SOAP AND WATER. GET MEDICAL ATTENTION.
- INHALATION: REMOVE PERSON FROM CONTAMINATED AREA TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION.
- INGESTION: IF CONSCIOUS, DRINK LARGE QUANTITIES OF WATER, 1% CALCIUM CHLORIDE SOLUTION OR CALCIUM GLUCONATE. DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY!

---WARNING: THIS PRODUCT CONTAINS DETECTABLE AMOUNTS OF A CHEMICAL KNOWN  
 ---TO THE STATE OF CALIFORNIA TO CAUSE CANCER/BIRTH DEFECTS OR OTHER  
 ---REPRODUCTIVE HARM.

SECTION VI ===== REACTIVITY DATA =====

STABILITY: STABLE

CONDITIONS TO AVOID: WHEN DISSOLVED IN WATER, SODIUM FLUORIDE FORMS A CORROSIVE SOLUTION WHICH MAY ATTACK GLASS OR ALUMINUM.

INCOMPATIBILITY WITH OTHER MATERIALS: ACIDS, GLASS, ALUMINUM.

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY RELEASE HAZARDOUS FUMES OF HYDROGEN FLUORIDE AND SODIUM OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII ===== SPILL OR LEAK PROCEDURES =====

PROCEDURES IF MATERIAL IS SPILLED OR RELEASED: SWEEP OR SHOVEL UP AND PLACE INTO CONTAINERS FOR DISPOSAL. FLUSH SPILL AREA WITH PLENTY OF WATER. WEAR PROTECTIVE CLOTHING AND APPROVED RESPIRATOR WHEN CLEANING UP SPILLS.

WASTE DISPOSAL PROCEDURES: FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII ===== SPECIAL PROTECTION INFORMATION =====

RESPIRATORY PROTECTION: A NIOSH-APPROVED RESPIRATOR FOR DUST OR MIST

LOCAL EXHAUST: RECOMMENDED

PROTECTIVE GLOVES: RUBBER

EYE PROTECTION: CHEMICAL SAFETY GLASSES

OTHER PROTECTIVE EQUIPMENT: PROTECTIVE CLOTHING; EYE-WASH; SAFETY SHOWER

SECTION IX ===== ADDITIONAL PRECAUTIONS =====

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

- DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.
- USE ONLY WITH ADEQUATE VENTILATION.
- AVOID BREATHING DUSTS OR MISTS.
- DO NOT SWALLOW MATERIAL.
- WASH THOROUGHLY AFTER HANDLING.
- KEEP BAG OR CONTAINER CLOSED WHEN NOT IN USE.

OTHER PRECAUTIONS:

- STORE IN A COOL, DRY AREA.
- AVOID CONTACT WITH GLASS, METALS AND OTHER INCOMPATIBLE MATERIALS.

THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE CORRECT AS OF THE DATE HEREOF. HOWEVER, CHEMTECH PRODUCTS, INC. MAKES NO REPRESENTATION AS TO THE COMPLETENESS AND ACCURACY THEREOF. USERS MUST MAKE THEIR OWN DETERMINATION AS TO THE SUITABILITY OF THE PRODUCT FOR THEIR PURPOSES PRIOR TO USE.

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