



MATERIAL SAFETY DATA SHEET

SECTION 1 - MANUFACTURER OR SUPPLIER DATA

MSDS NUMBER
100317

MANUFACTURER'S NAME & MAILING ADDRESS U S Chemical Corporation 316 Hart Street Watertown, Wisconsin 53094 USA	PREPARED BY D. E. Kenas	SIGNATURE <i>David E. Kenas</i> R
EMERGENCY TELEPHONE NO. (24 HOUR SERVICE) Medical Emergency ONLY: 1-800-851-7145 Ext. 075	PRODUCT INFORMATION TELEPHONE NO. (8 AM TO 5 PM CST, MON - FRI) Product Information: 1-800-558-9566	

SECTION 2 - IDENTITY OF MATERIAL

PRODUCT NAME ZEAL			
PRODUCT DESCRIPTION Alkaline Non-Chlorinated Mechanical Dishmachine Detergent		FORMULA Proprietary Blend	CHEMICAL FAMILY N.A.
REGULATED IDENTIFICATION	DOT PROPER SHIPPING NAME CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS POTASSIUM HYDROXIDE)		
	SHIPPING ID NUMBER UN3266	PACKING GROUP II	HAZARD CLASS 8 (CORROSIVE MATERIAL)

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT N.A.	SPECIFIC GRAVITY (H ₂ O = 1) 1.165	PHYSICAL FORM Liquid	COLOR Orange
VAPOR PRESSURE (mm Hg) N.A.	MELTING POINT N.A.	SOLUBILITY IN WATER Complete	SCENT None Added
VAPOR DENSITY (AIR = 1) N.A.	EVAPORATION RATE (BUTYL ACETATE = 1) N.A.	pH 2500 ppm SOLUTION N.A.	pH CONCENTRATE Greater than 13
OTHER Non-Viscous, Clear Orange Solution.			

SECTION 4 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS (CHEMICAL NAME; COMMON NAME)	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	PERCENT WT./WT.
Potassium Hydroxide; Caustic Potash CAS Registry Number 1310-58-3	2 mg/m3 Ceiling Limit	2 mg/m3 Ceiling Limit	None	7.0-13.0
Sodium Silicate CAS Registry Number 1344-09-8	Not Established	Not Established	5 mg/m3 Ceiling Limit (PQ Corp.)	7.0-13.0
Trisodium Nitriлотriacetate, Monohydrate CAS Registry Number 18662-53-8	Not Established	Not Established	Not Established	1.0-5.0

This product contains no other ingredient considered hazardous according to the criteria of 29 CFR 1910.1200, OSHA. However, this product contains chemicals which may be subject to reporting requirements according to the criteria of SARA Title III, 40 CFR, Part 370, Section 311 and Section 312.

STATE RIGHT TO KNOW INFORMATION
 THIS PRODUCT CONTAINS: WATER/7732-18-5, SODIUM SILICATE/1344-09-8, POTASSIUM HYDROXIDE/1310-58-3, TRISODIUM NITRILOTRIACETATE MONOHYDRATE/18662-53-8, SODIUM POLYACRYLATE/9003-04-7

NFPA RATING: Health-3/Flammability-0/Reactivity-1 See Section 5 for Protective Equipment.
HMS RATING: Health-3/Flammability-0/Reactivity-1 See Section 5 for Protective Equipment.

CARCINOGENICITY:
 This product contains the Trisodium Salt, Monohydrate form of Nitriлотriacetic Acid, commonly known as NTA. Nitriлотriacetic Acid (CAS Registry Number 139-13-9) is a National Toxicology Program listed anticipated carcinogen and is identified as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200). However, the U. S. EPA has taken no action to restrict use of NTA in laundry detergents because "the risks of using laundry detergents containing NTA are not significant". (See the Nov. 3, 1980, Federal Register, Volume 45, pages 72778 - 72780). Therefore, we believe NTA has been shown to be safe for use under normal conditions in laundry detergents and industrial cleansers since there is not direct, prolonged human contact.

(CONTINUED IN SECTIONS 5 TO 8)

R **SECTION 5 - SAFE USAGE DATA**

PROTECTIVE EQUIPMENT TYPES	EYES Splash-proof safety glasses, safety goggles, and an eye-wash station.	
	RESPIRATORY None required with normal use.	GLOVES Rubber or Neoprene. Long type if needed.
	OTHER Wear full-cover protective clothing to prevent repeated or prolonged contact.	
VENTILATION	GENERAL MECHANICAL Satisfactory. Maintain adequate ventilation. Keep levels below recommended TLV.	
	LOCAL EXHAUST Not ordinarily needed. Avoid inhalation of mists containing this product.	
PRECAUTIONS	HANDLING & STORAGE Follow all label directions. Instruct personnel about proper use, hazards, precautions, and first-aid measures. Avoid inhalation, ingestion and contact with skin and eyes. Rotate stock regularly. Handle carefully to avoid damaging container. Keep container closed when not in use. Recommended storage temp below 100°F. Do not freeze. Keep out of children's reach.	

SECTION 6 - HEALTH HAZARD DATA

EFFECTS OF EXPOSURE	INHALATION Corrosive. Inhalation of mist may cause irritation to nose, throat and mucous membranes, pulmonary irritation, pulmonary edema, tissue damage and chemical burns.
	INGESTION Corrosive. Harmful or fatal if swallowed. May cause nausea, vomiting, and severe tissue damage to digestive tract. Corrosive to mouth, throat, stomach and to other tissues.
	SKIN & EYES SKIN: Corrosive. Contact may cause severe irritation, dermatitis, and chemical burns. EYES: Corrosive. Causes eye burns. May cause temporary or permanent vision loss and blindness.
	ACUTE & CHRONIC ACUTE: Corrosive to all body tissues. Harmful skin contact may not cause immediate pain. Permanent eye damage may result without immediate first aid treatment. CHRONIC: None Known.
ROUTES OF ENTRY	INGESTION-X SKIN ABSORPTION-X TARGET ORGANS SKIN-X EYES-X INHALATION-X Eyes, Skin, Respiratory System.

SECTION 7 - PHYSICAL HAZARD DATA

FLAMMABILITY	LEL = N.A. UEL = N.A.	FLASH POINT = N.A.	METHOD USED = N.A.
STABILITY	STABLE	X	CONDITIONS TO AVOID Avoid mixing with any other cleaning product. Mix only with water. Do not store at high temperatures. Recommended storage temperature <100°F.
	UNSTABLE		HAZARDOUS DECOMPOSITION PRODUCTS Mixing with incompatible materials may produce hydrogen, carbon monoxide, carbon dioxide, and other toxic and irritating fumes.
HAZARDOUS POLYMERIZATION	MAY OCCUR	X	CONDITIONS TO AVOID
	WILL NOT OCCUR		N.A.
INCOMPATIBILITY	MATERIALS TO AVOID	Acidic materials, organic chemicals, and various metals (Aluminum, magnesium, zinc, tin, brass or bronze) which can generate flammable hydrogen gas.	

SECTION 8 - EMERGENCY RESPONSE DATA

FIRE	EXTINGUISHING MEDIA For fires in area, use appropriate media. For example: Water spray, dry chemical, carbon dioxide, or alcohol foam.
	SPECIAL PROCEDURES Evacuate area of unprotected personnel. Wear protective clothing including a NIOSH-approved self-contained breathing apparatus.
	UNUSUAL HAZARDS Product may react with some metals such as aluminum, zinc, tin, etc., to release flammable hydrogen gas.
FIRST AID MEASURES	INGESTION: Do not induce vomiting. If patient is conscious and can swallow, administer milk or water. SKIN: Remove contaminated clothes, flood with water for 15 minutes. EYES: Flood with lukewarm (not hot) water poured from a large glass 2 or 3 inches from eyes. Remove contacts. Have patient blink as much as possible while flooding the eyes. Continue for 15 minutes. INHALATION: Move victim to fresh air. Give artificial respiration if patient is not breathing. ADMINISTER FIRST AID TREATMENT AS STATED ABOVE, THEN CALL 1-800-851-7145 Ext 075 OR CONTACT PHYSICIAN FOR FURTHER MEDICAL INSTRUCTIONS.
SPILLS RQ - N.A.	STEPS TO BE TAKEN Wear proper protective equipment including rubber boots. Stop leak if you can do so without risk. Dike or dam large spills. Ventilate area if needed. Soak up with sand or other non-combustible inert absorbent materials. Flush area with water and follow with normal clean-up procedures. Keep combustibles away! Be careful as spills are slippery.
	WASTE DISPOSAL METHOD Comply with all federal, state, and local regulations. Consult state and local authorities for restrictions on disposal of chemical waste. If approved, may be diluted and drained to a municipal sewer or waste treatment plant. Rinse empty container thoroughly with water before discarding. Please recycle empty container whenever possible.

THE DATA IN THIS MATERIAL SAFETY DATA SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR PROCESS. THE DATA CONTAINED IS BELIEVED TO BE ACCURATE. HOWEVER, SINCE USE CONDITIONS VARY AND ARE OUTSIDE OUR CONTROL, THE MANUFACTURER MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AND ASSUMES NO LIABILITY FOR FAILURE TO FOLLOW PRODUCT USE DIRECTIONS AND SAFETY PRECAUTIONS.