

Manufacturer:

UNITED WORTH HYDROCHEM CORPORATION
413 E. MAGNOLIA, P.O. BOX 366
FORT WORTH, TEXAS 76101

EMERGENCY NUMBER: 1-817-332-8146

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL UNDER THAT STANDARD. THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE.

I. PRODUCT IDENTIFICATION

REVISION DATE: October 15, 1993
PRODUCT NAME: S-544
SYNONYMS: None
CHEMICAL FAMILY: Mixture
FORMULA: Not applicable - mixture
USE DESCRIPTION: 4 lbs. to 1000 gallons of water added to thermal closed system.
OSHA HAZARD CLASS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

II. COMPONENT DATA

PRODUCT COMPOSITION: 65 - 94% Non-Hazardous Ingredients

DESCRIPTION NAME: Molybdate
CAS NUMBER: 7631-95-0
PERCENTAGE RANGE: 5%
HAZARDOUS PER 29 CFR 1910.1200: No
EXPOSURE STANDARDS: None established

DESCRIPTION NAME: Trisodium Phosphate
CAS NUMBER: 7601-54-9
PERCENTAGE RANGE: 5 to 10%
HAZARDOUS PER 29 CFR 1910.1200: Yes
EXPOSURE STANDARDS: None established

DESCRIPTION NAME: Polymer Solution
 CAS NUMBER: Trade Secret
 PERCENTAGE RANGE: 2 to 4%
 HAZARDOUS PER 29 CFR 1910.1200: No
 EXPOSURE STANDARDS: None established

DESCRIPTION NAME: Potassium Hydroxide
 CAS NUMBER: 1310-58-3
 PERCENTAGE RANGE: 2 to 10%
 HAZARDOUS PER 29 CFR 1910.1200: Yes
 EXPOSURE STANDARDS: OSHA (PEL) ACGIH (TLV)
 TWA: None None
 Ceiling: None 2 mg/m³

DESCRIPTION NAME: Triazole
 CAS NUMBER: 64665-57-2
 PERCENTAGE RANGE: 1 to 5%
 HAZARDOUS PER 29 CFR 1910.1200: Yes
 EXPOSURE STANDARDS: None established

III. PHYSICAL DATA

APPEARANCE : Liquid
 COLOR : Light amber
 ODOR : Almost odorless
 MELT POINT/FREEZE POINT : 30°F
 BOILING POINT : 212°F
 VAPOR PRESSURE : <75 mm/hg @ 60°C
 SPECIFIC GRAVITY : 1.025 or approx. 8.4-9.5 lbs/gal
 SOLUBILITY IN WATER : 100%
 % VOLATILE BY VOLUME : 75 - 80%
 pH : 11 to 13

IV. FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:

FLAMMABLE: No
 COMBUSTIBLE: No
 PYROPHORIC: No
 FLASH POINT: >400°F
 AUTOIGNITION TEMPERATURE: No data
 NFPA RATING: None established
 EXTINGUISHING DATA: Water spray, carbon dioxide, dry chemical or foam.

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire. Closed containers may rupture or explode due to steam pressure build-up when exposed to extreme heat.

V. REACTIVITY INFORMATION

STABILITY : Stable
 POLYMERIZATION : Will not occur
 INCOMPATIBILITY : Strong acids (vigorous reaction which generates heat due to the neutralization process.) When handling this product, avoid contact with aluminum, tin, zinc and alloys containing these metals.

HAZARDOUS DECOMPOSITION: None

VI. EMPLOYEE PROTECTION RECOMMENDATIONS

EYE PROTECTION: Chemical goggles
 SKIN PROTECTION: Neoprene or rubber gloves, aprons and other splash protection as appropriate for the conditions of use.
 RESPIRATORY PROTECTION: None required under normal conditions.
 If mist is generated, wear a NIOSH/MSHA approved respirator.
 VENTILATION: Local exhaust ventilation at work area.
 OTHER: Safety showers and eyewash stations should be available. Employees must be trained in safe use and handling of hazardous chemicals.

VII. HUMAN HEALTH DATA

PRIMARY ROUTE(S) OF EXPOSURE: Eye or skin contact, inhalation
 HUMAN THRESHOLD RESPONSE DATA:
 ODOR THRESHOLD: No available data
 IRRITATION THRESHOLD: No available data

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: -No IDLH established.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE: Corrosive to all body tissues with which it comes in contact.

 EYE: Moderately irritating to the eyes, with reversible symptoms such as tearing, reddening and swelling and mucous discharge to the conjunctiva. No visual impairment expected.

 SKIN: Contact may cause mild irritation consisting of transient redness. This irritant effect would not result in permanent damage.

 INHALATION: If inhaled, mild irritation may result to the throat, upper respiratory tract and lungs.

CHRONIC: Prolonged or repeated skin contact could result in skin irritation. Possible symptoms include itching, reddening, swelling, rash and scaling. Based on animal test results, no mutagenic or teratogenic effects are expected.

CARCINOGENICITY: This product does not appear on NTP, IARC and OSHA lists for carcinogens.

VIII. EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: Flush eyes with water for at least 15 minutes. Consult physician.

SKIN CONTACT: Wash thoroughly with soap and water until no longer slippery. If irritation develops, consult a physician.

INHALATION: Remove to fresh air. Consult a physician if breathing difficulty develops.

INGESTION: DO NOT INDUCE VOMITING. If available, give several glasses of milk. If vomiting occurs spontaneously, keep airway clear. Seek medical attention immediately.

IX. SPILL OR LEAK PROCEDURES

TRANSPORTATION ACCIDENTS: Contact Chemtrec @ 800-424-9300.

SPILL MITIGATION PROCEDURES: Stop source of spill as soon as possible. Notify appropriate response personnel.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Small spills may be absorbed and neutralized with soda ash and placed in an appropriate marked container. Utilize recommended protective clothing and safety equipment.

WASTE DISPOSAL METHOD: May incinerate or dispose of in closed containers at suitable disposal site if in accordance with Federal, state and local environmental control regulations.

RCRA STATUS: Solution may meet criteria for characteristic of corrosivity. May meet other hazardous waste criteria.

SUPERFUND AMENDMENT AND REAUTHORIZATION ACT (SARA), TITLE III:

SECTION 302 - Extremely Hazardous Substances - None

SECTION 313 - Toxic Chemicals - None

X. SPECIAL PRECAUTIONS & STORAGE DATA

STORAGE TEMPERATURE (MIN/MAX):	Ambient
AVERAGE SHELF LIFE:	Greater than 2 years
SPECIAL SENSITIVITY:	None
PRECAUTIONS:	Store in dry area and always open slowly to vent any pressure from heat. Do not store near strong acids.

XI. SHIPPING DATA

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

PRODUCT LABEL: S-544
 DOT SHIPPING NAME: None
 HAZARD CLASS: None
 UN/NA NUMBER: None
 PRODUCT REPORTABLE QUANTITY: None
 DOT LABELS REQUIRED: None
 DOT PLACARDS REQUIRED: None

XII. ANIMAL TOXICITY DATA

ANIMAL TOXICITY:

ACUTE TOXICITY: Inhalation LC 50: No available data, but toxicity would be low based on toxicity of ingredients.
 Dermal LD 50: Data not established for product.
 Oral LD 50: Greater than 6500 mg/kg (Rat)
 Irritation: Eye and skin irritant.

CHRONIC TARGET ORGAN TOXICITY:

There are no known reported effects from repeated exposure.

XIII. APPROVALS

REASON FOR ISSUE: RULING OSHA 1910.1200. 29 CFR
 APPROVED BY: R. Coleman
 TITLE: President

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET (MSDS) SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. UNITED WORTH HYDROCHEM CORPORATION BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF THIS PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MATERIAL SAFETY DATA SHEET IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT UNITED WORTH HYDROCHEM CORPORATION AT THE PHONE NUMBER LISTED ON PAGE 1, TO MAKE CERTAIN THAT THIS SHEET IS CURRENT.