



MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TETRAKIS HYDROXYMETHYL PHOSPHONIUM SULFATE
UREA PRE-CONDENSATE
PRODUCT CODE: 90100
GENERAL USE: TEXTILE FLAME RETARDANT
EMERGENCY TELEPHONE:
24 HOUR EMERGENCY CHEMTREC: 1-800-424-9300

MANUFACTURER: ISOICHEM COLORS, INC.
138 BEERAN ST.
CLOVER, SC 29710
CUSTOMER SERVICE:
(800) 786-4633

SECTION II – COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENT NAME</u>	<u>%</u>	<u>OSHA (PEL)</u>	<u>ACGIH (TLV)</u>	<u>CARCINOGEN</u>
TETRAKIS HYDROXYMETHYL PHOSPHONIUM SULFATE UREA P/W 63502-25-0	70-75	NE	NE	-
FORMALDEHYDE	<0.03	2 ppm (STEL) 0.75 ppm (TWA) 0.5 ppm (ACTION LEVEL)	0.3 ppm (CEILING)	IARC 1, NTP, OSHA, ACGIH A2

SECTION III HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: NO HAZARD IN NORMAL INDUSTRIAL USE. USE GOOD HYGIENIC PRACTICES.
APPEARANCE: CLEAR TO LIGHT YELLOW, SLIGHTLY VISCOUS LIQUID
ODOR: PUNGENT ODOR

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:
HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: D

POTENTIAL HEALTH EFFECTS

EYE	MAY CAUSE EYE BURNS
SKIN CONTACT	MAY CAUSE SKIN IRRITATION
INGESTION	HARMFUL IF SWALLOWED.
INHALATION	MAY CAUSE IRRITATION IN THE RESPIRATORY TRACT
TARGET ORGANS	NO KNOWN EFFECTS.

SECTION IV – FIRST AID MEASURES

EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF NECESSARY, SEEK MEDICAL ATTENTION.
SKIN: FOR SKIN CONTACT, WASH IMMEDIATELY WITH SOAP AND WATER. IF NECESSARY, SEEK MEDICAL ATTENTION.
INGESTION: IF THE MATERIAL IS SWALLOWED, GET IMMEDIATE MEDICAL ATTENTION OR ADVICE.
INHALATION: IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

SECTION V – FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: > 96°C
METHOD: SETAFLASH CLOSED CUP
UPPPER FLAMMABLE LIMIT: NOT APPLICABLE
LOWER FLAMMABLE LIMIT: NOT APPLICABLE
FLAMMABILITY CLASSIFICATION: NOT APPLICABLE

HAZARDOUS PRODUCTS OF COMBUSTION

NO KNOWN HAZARDS.

PROPERTIES THAT COULD INCREASE FIRE OR EXPLOSION

NO KNOWN HAZARDS.

EXTINGUISHING MEDIA

FOAM (PREFERRED), DRY CHEMICAL, WATER OR CARBON DIOXIDE.

FIRE FIGHTING INSTRUCTIONS

FIREFIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING INCLUDING SELF CONTAINED BREATHING APPARATUS.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATING

HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0 SPECIAL

SECTION VI - ACCIDENTAL RELEASE MEASURES

SMALL SPILL

CONTAINMENT TECHNIQUES: DIKE THE SPILLED MATERIAL, WHERE THIS IS POSSIBLE.

CLEANUP PROCEDURES: COLLECT THE SPILLED MATERIAL WITH AN INERT ABSORBENT SUCH AS SAND OR VERMICULITE. PLACE IN PROPERLY LABELED CLOSED CONTAINER.

EQUIPMENT: SHOVEL THE MATEIRAL INTO WASTE CONTAINER.

OTHER EMERGENCY ADVICE: NO OTHER SPILL PROCEDURES NECESSARY.

LARGE SPILL

CONTAINMENT TECHNIQUES: DIKE THE SPILLED MATERIAL, WHERE THIS IS POSSIBLE.

CLEANUP PROCEDURES: NO OTHER SPILL PROCEDURES NECESSARY.

EQUIPMENT: NO ADDITIONAL INFORMATION ON EQUIPMENT.

OTHER EMERGENCY ADVICE: CAUTION! IF PRODUCT IS ABSORBED ON PAPER OR CLOTH, ARRANGE FOR DISPOSAL BY INCINERATION PROMPTLY TO PREVENT SPONTANEOUS COMBUSTION.

EVACUATION PROCEDURE

EVACUATE THE AREA PROMPTLY AND KEEP UPWIND OF THE SPILLED MATERIAL. ISOLATE THE SPILL AREA TO PREVENT PEOPLE FROM ENTERING.

SECTION VII – HANDLING AND STORAGE

HANDLING: DO NOT GET THIS MATERIAL IN YOUR EYES, ON YOUR SKIN, OR ON YOUR CLOTHING.

STORAGE: KEEP THIS MATERIAL IN A COOL, DARK, WELL-VENTILATED PLACE.

SPECIAL: THIS PRODUCT SHOULD NOT BE MIXED WITH BASES SINCE EVOLUTION OF FLAMMABLE HYDROGEN GAS COULD RESULT.

SECTION VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

PROVIDE ADEQUATE LOCAL EXHAUST VENTILATION TO MAINTAIN WORKER EXPOSURE BELOW EXPOSURE LIMITS.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: WEAR CHEMICAL GOGGLES OR A FULL FACE SHIELD.
HAND PROTECTION: USE IMPERVIOUS GLOVES.
SKIN PROTECTION: NORMAL WORK CLOTHING (LONG SLEEVED SHIRTS AND LONG PANTS) IS RECOMMENDED.
RESPIRATORY PROTECTION: A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER THERE MAY BE POTENTIAL FOR AIRBORNE EXPOSURE.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: CLEAR TO LIGHT YELLOW, LOW VISCOCITY LIQUID, PUNGENT ODOR
MELTING POINT: NOT APPLICABLE
FREEZING POINT: NOT AVAILABLE
PERCENT VOLATILE: 25 – 30 (WATER)
pH: 1% IN WATER : 4.0 – 5.0
SOLUBILITY IN WATER: COMPLETE
SPECIFIC GRAVITY: 1.37 – 1.39 @ 25°C
SPECIFIC DENSITY: NOT AVAILABLE

SECTION X – STABILITY AND REACTIVITY

STABILITY: STABLE UNDER NORMAL CONDITIONS.
CONDITIONS TO AVOID: NONE KNOWN.
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF SULFUR (INCLUDES SULFUR DI AND TRI OXIDES), PHOSPHOROUS, HYDROGEN, FORMALDEHYDE, AND PHOSPHINE GAS.
POLYMERIZATION: WILL NOT OCCUR.
MATERIALS TO AVOID: STRONG OXIDIZING AGENTS OR ALKALIES.

SECTION XI – TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

EYE EFFECTS: THIS PRODUCT MAY CAUSE EYE BURNS.
SKIN EFFECTS: THIS PRODUCT MAY CAUSE IRRITATION TO THE SKIN.
ACUTE ORAL EFFECTS (INGESTION): HARMFUL IF SWALLOWED
ACUTE INHALATION EFFECTS: THIS PRODUCT MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT.
SUBCHRONIC EFFECTS: NO KNOWN EFFECTS.

CHRONIC EFFECTS

TERATOLOGY: NO DATA AVAILABLE FOR THIS PRODUCT.
REPRODUCTIVE AND DEVELOPMENTAL TOXICITY: NO INFORMATION AVAILABLE.

ACUTE ORAL TOXICITY

ORAL LD50 RAT >200 MG/KG AMD < 500 MG/KG

OTHER TOXICOLOGICAL INFORMATION

DERMAL, RABBIT, LD50 <2,000 MG/KG

THIS MATERIAL PRODUCED MILD SKIN AND EYE BURNS IN IRRITATION TESTS WITH RABBITS. MATERIAL WAS CORROSIVE TO RABBIT EYES. HUMAN PATCH TEST RESULTS FOR COTTON FABRIC TREATED WITH THIS MATERIAL DID NOT REVEAL EVIDENCE OF SKIN IRRITATION OR SENSITIZATION. THIS MATERIAL WAS NOT MUTAGENIC IN AMES SALMONELLA ASSAY. DIRECT CONTACT WITH THIS MATERIAL MAY CAUSE SEVERE EYE AND MILD SKIN IRRITATION.

FORMALDEHYDE HAS ORAL (RAT) AND DERMAL (RABBIT) LD50 VALUES OF 100 MG/KG AND 270 MG/KG, RESPECTIVELY. THE LC50 FOLLOWING A 4-HOUR INHALATION EXPOSURE TO RATS IS 250-478 PPM (0.31-0.59 MG/L). IRRITATION OF THE NOSE AND THROAT HAS BEEN OBSERVED IN PEOPLE EXPOSED TO FORMALDEHYDE VAPOR LEVELS IN EXCESS OF 1 PPM. NORMAL BREATHING MAY BE SERIOUSLY IMPAIRED AT LEVELS ABOVE 10 PPM AND SERIOUS LUNG DAMAGE MAY OCCUR AT LEVELS EXCEEDING 50 PPM. FORMALDEHYDE HAS BEEN REPORTED TO CAUSE PULMONARY HYPERSENSITIVITY IN SOME INDIVIDUALS WHO WERE EXPOSED TO CONCENTRATIONS KNOWN TO CAUSE IRRITATION; HOWEVER, NO PULMONARY SENSITIZATION HAS BEEN DEMONSTRATED IN LABORATORY ANIMAL STUDIES. FORMALDEHYDE SOLUTIONS CAN CAUSE SEVERE EYE AND MODERATE SKIN IRRITATION. REPEATED SKIN EXPOSURE TO SOLUTIONS OF 2% OR MORE FORMALDEHYDE HAS CAUSED ALLERGIC SKIN REACTIONS. FORMALDEHYDE WAS FOUND TO BE WEAKLY MUTAGENIC IN A NUMBER OF IN VITRO GENOTOXICITY TESTS AND POSITIVE IN CERTAIN IN VIVO SCREENING TESTS FOR MUTAGENICITY. FORMALDEHYDE DID NOT CAUSE BIRTH DEFECTS IN RATS INHALING CONCENTRATIONS OF 10 PPM. HOWEVER, A STUDY USING HIGHER LEVELS DID SHOW A SLIGHT BUT STATISTICALLY SIGNIFICANT REDUCTION IN MALE FETAL BODY WEIGHT. LIFETIME INHALATION OF FORMALDEHYDE VAPOR AT CONCENTRATIONS ABOVE 5 PPM FOR 6 HOURS PER DAY, CAUSED NASAL TUMORS IN LABORATORY ANIMALS. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED FORMALDEHYDE AS A GROUP 1 (KNOWN) HUMAN CARCINOGEN BASED ON EPIDEMIOLOGICAL EVIDENCE LINKING FORMALDEHYDE EXPOSURE TO THE OCCURRENCE OF NASOPHARYNGEAL CANCER, A RATE TYPE OF CANCER. IARC ALSO FOUND LIMITED EVIDENCE OF CANCER OF THE NASAL CAVITY AND PARANASAL SINUSES AND INSUFFICIENT EVIDENCE FOR AN ASSOCIATION BETWEEN FORMALDEHYDE AND LEUKEMIA. INHALATION CAUSED LIVER AND KIDNEY DAMAGE IN LABORATORY ANIMAL TESTS.

CALIFORNIA PROPOSITION 65 WARNING (APPLICABLE IN CALIFORNIA ONLY) – THIS PRODUCT CONTAINS (A) CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

SECTION XII – ECOLOGICAL INFORMATION

MOBILITY	NO INFORMATION AVAILABLE.
PERSISTENCE/DEGRADABILITY	THIS MATERIAL IS NOT BIODEGRADABLE.
BIOACCUMULATION	NO INFORMATION AVAILABLE.
AQUATIC TOXICITY	THIS MATERIAL COULD BE HARMFUL TO AQUATIC LIFE IN HIGHER CONCENTRATIONS.

SECTION XIII – DISPOSAL CONSIDERATIONS

WASTE DESCRIPTION:	WASTE MUST BE TESTED USING METHODS DESCRIBED IN 40 CFR PART 261 TO DETERMINE IF IT MEETS APPLICABLE DEFINITIONS OF HAZARDOUS WASTES.
GENERAL DISPOSAL:	CLEAN UP AND DISPOSE OF WASTE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL AGENCIES.

SECTION XIV – TRANSPORTATION INFORMATION

DOT SHIPPING INFORMATION

PROPER SHIPPING NAME:	TOXIC LIQUID, ORGANIC, N.O.S.
TECHNICAL NAME (IF N.O.S. DESCRIPTION)	CONTAINS ORGANIC PHOSPHONIUM SALT
UN/NA NUMBER:	2810
HAZARD CLASS:	6.1
PACKING GROUP:	III
EMERGENCY RESPONSE GUIDE BOOK:	154
PLACARDS/LABELS REQUIRED:	TOXIC

INTERNATIONAL INFORMATION

PROPER SHIPPING NAME

IMO	TOXIC LIQUID, ORGANIC, N.O.S., CONTAINS ORGANIC PHOSPHONIUM SALT
IATA/ICAO	TOXIC LIQUID, ORGANIC, N.O.S., CONTAINS ORGANIC PHOSPHONIUM SALT

SECTION XV – REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT: THIS PRODUCT IS LISTED ON THE US EPA TSCA INVENTORY.

TSCA EXPORT NOTIFICATION: NO LIMITS ESTABLISHED FOR THIS PRODUCT.

SECTION 311/312 CLASSIFICATION : THE FOLLOWING COMPONENTS OF THIS PRODUCT MAY BE SUBJECT TO REPORTING REQUIREMENTS PURSUANT TO SECTION 313 OF CERCLA (40 CFR 372), SECTION 12(B) OF TSCA, OR MAY BE SUBJECT TO RELEASE REPORTING REQUIREMENTS (40 CFR 307, 40 CFR 311, ETC.).

OSHA HAZARD CLASS: ACUTE: YES CHRONIC: NO FIRE HAZARD: NO
PRESSURE: NO REACTIVITY: NO

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FOR FURTHER INFORMATION, CALL **ISOCHEM COLORS** 803-222-8500. THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS MSDS SHEET ARE BASED UPON DATA BELIEVED TO BE CORRECT. NO GUARANTEE IS GIVEN, IMPLIED OR EXPRESSED FOR THIS DATA. **THIS SUPERSEDES ANY PREVIOUS MSDS SHEET.**