

KEYSTONE ANILINE CORPORATION  
2501 WEST FULTON STREET  
CHICAGO, ILLINOIS 60612  
CORPORATE OFFICE: 312.666.2015  
HEALTH & SAFETY FAX 312.666.8530

TRADE NAME RHODAMINE WT LIQUID  
PRODUCT ID 703-010-27  
PREPARED FOR  
EMERGENCY PHONE Call CHEMTEL 800.255.3924  
HEALTH & SAFETY TEL: 312.666.2015

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

!!!!!!!

N O T E: DO NOT DETACH THIS GUIDANCE COVER SHEET FROM THE REST OF THIS DOCUMENT.  
This page indicates the Keystone Trade Name and Product ID. This identifying  
information must be referenced when ordering products or making inquiries.

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A) YOUR CERTIFICATION OF COMPLIANCE UNDER FEDERAL AND STATE REGULATIONS

IMPORTANT NOTE: THIS DOCUMENT IS YOUR OFFICIAL CERTIFICATION OF COMPLIANCE as stated  
in each applicable section. It is compiled in accordance with OSHA's Hazard  
Communication standard (29 CFR 1910.1200), and other federal and state regulations.  
NOTE: NO ADDITIONAL COMPANY CERTIFICATION OF COMPLIANCE IS REQUIRED WHEN COMPLIANCE  
IS INDICATED IN THE APPROPRIATE SECTION OF THIS DOCUMENT. To avoid use of outdated  
information, please completely destroy ALL previously dated MSDS' that are on file.

B) ABOUT THE FORMAT OF THIS MATERIAL SAFETY DATA SHEET

New and updated MSDS' are presented in the ANSI Z400.1 Sixteen-section format All  
available information is included in systematic updates.

C) ABOUT THE PURPOSE AND AVAILABILITY OF THIS DOCUMENT

Under the federal OSHA Hazard Communication Standard and some State Right to Know  
laws, employers using this product in their operation must make this MSDS available  
to all employees handling this product in any manner. The MSDS must be readily  
available for review by all persons concerned.

This MSDS is designed to effectively communicate Health and Physical Hazards to the  
material handler and all other responsible persons concerned with Health and  
Environmental protection and regulatory compliance. Distributors receiving this MSDS  
are obligated to readily provide a copy to their customers, affiliates, and agents.

D) THE PRODUCT USER RESPONSIBILITY NOTICE

This type of document cannot cover all possible unique situations. It is the product  
user's responsibility to provide a safe workplace, and to pass on all Health, Safety  
and Environmental information to all employees and customers that may handle this  
product. Under 29 CFR 1910.1200, all product users and handlers must be informed of  
U.S. OSHA requirements, and the need to be familiar with them.

E) ABOUT CUSTOMER INQUIRIES

This MSDS includes all technical and Regulatory information available on the  
Effective Date. Please Fax technical questions directly to the appropriate  
laboratory. Chicago Lab Fax: 312-666-8530, or Los Angeles Lab Fax: 562-921-3461.  
Fax all health, safety & environmental questions to the Chicago office at  
312-666-2015. Note: Product information requests will be expedited by providing:  
1) The eight digit Keystone Product ID Number, 2) The complete Keystone Trade Name  
and 3) Detailed comments explaining the nature of our client's request or problem.

EFFECTIVE DATE SUPERSEDES

06-18-01 11-24-99

SECTION 1 CHEMICAL IDENTIFICATION

C.I. NAME : ACID RED 388
CAS NUMBER : PROPRIETARY
CHEMICAL FAMILY : XANTHENE DYE
PHYSICAL FORM : LIQUID

SECTION 2 INGREDIENTS HAZARDOUS UNDER OSHA 29 CFR PART 1910.1200 APPENDIX A & B

Table with 5 columns: COMPONENT NAME, CAS NUMBER, PEL, TLV, %. Row 1: TRIMELLITIC ACID\*, 528-44-9, NE, NE, 2.6

\*READ & UNDERSTAND SECTIONS 3, 8 & 11 FOR HEALTH & SAFETY INFORMATION. WEAR ALL PROTECTIVE EQUIPMENT AND CLOTHING AS DESCRIBED IN SECTION 8.

SECTION 3 HAZARD IDENTIFICATION AND EMERGENCY OVERVIEW

HMIS RATINGS

HEALTH 2
FLAMMABILITY 1
REACTIVITY 1
PROTECTION H, O, Q

EMERGENCY OVERVIEW:

POSSIBLE EXPOSURES: EYES, SKIN, BREATHING VAPORS/MIST, ACCIDENTAL SWALLOWING

POSSIBLE HEALTH EFFECTS:

EYE CONTACT: CAUSES IRRITATION.\* 1
SKIN CONTACT: CAN CAUSE IRRITATION.\* 1
BREATHING VAPOR OR MIST: NE. TAKE PRECAUTIONS. 1
SWALLOWING: NE. WASH HANDS AFTER HANDLING & BEFORE EATING & DRINKING

\* EXPECTATIONS BASED ON PRODUCT COMPONENT

SENSITIZATION: NK
TARGET ORGANS: EYES SKIN 1

CANCER INFORMATION:

PRODUCT AND COMPONENTS NOT KNOWN TO US TO BE CARCINOGENS
NTP: NK
IARC: NK
OSHA: NR

1 PRECAUTIONS:

TO HELP PROTECT YOURSELF AGAINST ANY UNFORSEEN IRRITATION OR ALLERGIC REACTIONS, AS PRECAUTIONS WORKERS SHOULD ALWAYS BE SURE TO WEAR ALL THE PROPERLY SELECTED PROTECTIVE EQUIPMENT AND CLOTHING AS INSTRUCTED IN SECTION 8 OF THIS MATERIAL SAFETY DATA SHEET. AS PRECAUTIONS, WASH YOUR HANDS AND FACE AFTER HANDLING AND BEFORE EATING, DRINKING, SMOKING OR USING RESTROOM FACILITIES. AFTER EACH SHIFT, CLEAN ALL PROTECTIVE EQUIPMENT, WASH ALL WORK CLOTHES, AND SHOWER. CHECK SECTION 11 FOR TOXICOLOGY INFORMATION.

UNUSUAL HAZARDS NK

SECTION 4 FIRST AID INSTRUCTIONS

EYE CONTACT: IMMEDIATELY RINSE WITH PLENTY OF CLEAN FLOWING WATER FOR AT LEAST 20 MINUTES, HOLDING EYELIDS OPEN TO RINSE COMPLETELY. CALL A DOCTOR AND GET MEDICAL HELP QUICKLY, AS A PRECAUTION.

SKIN CONTACT: REMOVE AFFECTED CLOTHING. WASH AFFECTED SKIN AREA WITH PLENTY OF SOAP AND WATER. RINSE WITH PLENTY OF WATER. WASH ALL WORK CLOTHES BEFORE WEARING AGAIN. IF ANY REDNESS, SWELLING, ITCHING, OR PAIN OF THE SKIN STARTS, SEE A DOCTOR QUICKLY, AS A PRECAUTION.

BREATHING PRODUCT VAPOR/MIST: MOVE PERSON TO FRESH AIR. IF PERSON IS HAVING DIFFICULTY BREATHING, GIVE OXYGEN. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. GET EMERGENCY MEDICAL HELP QUICKLY. CALL 911 IF AVAILABLE

IN YOUR AREA, OR OTHER MEDICAL EMERGENCY NUMBER.

SWALLOWING OF PRODUCT: IF SWALLOWED, GIVE PERSON SEVERAL GLASSES OF WATER AND FORCE VOMITING. NEVER GIVE ANY FLUIDS OR FORCE VOMITING IF THE PERSON IS UNCONSCIOUS, OR IS HAVING CONVULSIONS, OR HAS NO GAG REFLEX. CONTACT A DOCTOR QUICKLY TO GET MEDICAL HELP, CALL 911, OR OTHER MEDICAL EMERGENCY SERVICES AVAILABLE IN YOUR AREA.

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SECTION 5 FIRE FIGHTING INSTRUCTIONS

FLASH POINT : NA  
TYPES OF EXTINGUISHERS : CO2, DRY CHEMICAL, WATER FOG  
FIREFIGHTING DIRECTIONS: WEAR SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST POSSIBLY TOXIC FUMES. WEAR FULL FIRE-PROTECTIVE CLOTHING.

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SECTION 6 ACCIDENTAL SPILLS OR RELEASES

WEAR A NIOSH APPROVED VAPOR/MIST RESPIRATOR, WITH ALL PROTECTIVE CLOTHING & EQUIPMENT AS DIRECTED IN SECTION 8 OF THIS MSDS.

ENVIRONMENTAL PROTECTION: PREVENT LIQUID FROM ENTERING FLOOR DRAINS. FOR LARGE SPILLS, DIKE AND CONTAIN WITH ABSORBENT MATERIAL OR SPILL BARRIERS. DO NOT RELEASE TO SEWERS OR ANY BODIES OF WATER WITHOUT PROPER PERMISSION FROM ALL GOVERNMENTAL AUTHORITIES WITH JURISDICTION IN YOUR LOCALITY.

CONTAIN AND CLEAN UP SPILL IMMEDIATELY. SOAK UP & SOLIDIFY SPILLS USING A SUITABLE ABSORBENT SUCH AS "OIL DRY", "FULLER'S EARTH", SAND OR OTHER APPROPRIATE MATERIAL. SCOOP SOLIDIFIED MATERIAL & ABSORBENT INTO PROPER WASTE DISPOSAL CONTAINER AND SEAL. DISPOSE OF ACCORDING TO ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL REGULATIONS. CONTACT APPROPRIATE AGENCIES FOR GUIDANCE ON HOW TO PROCEED. CONSIDER ALTERNATIVES AS SHOWN IN SECTION 13, DISPOSAL CONSIDERATIONS/ENVIRONMENTAL PROTECTION PROCEDURES. ALSO, SEE SECTION 13 FOR ANY ADDITIONAL DIRECTIONS PROVIDED.

RCRA STATUS CHECK REGULATORY INFORMATION, SECTION 15

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SECTION 7 HANDLING AND STORAGE

STORE PRODUCT IN THE ORIGINAL OR IN EQUIVALENT WATER-PROOF CONTAINERS. RESEAL CONTAINERS TIGHTLY AFTER EACH USE. KEEP IN A COOL, DRY AREA AWAY FROM EXCESSIVE HEAT. DO NOT STORE IN DIRECT SUNLIGHT.

SHELF LIFE UP TO ONE YEAR WHEN STORED CAREFULLY AS INSTRUCTED ABOVE.

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SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

NOTE: WHEN SELECTING PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING, FOLLOW ALL OF THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS THAT APPLY TO YOUR SPECIFIC OPERATIONS AND PROCESSING CONDITIONS. TAKE INTO CONSIDERATION ALL CONDITIONS AND ALL CHEMICALS TO BE HANDLED OR PROCESSED

EYE PROTECTION: WEAR SPLASH-PROOF CHEMICAL SAFETY GOGGLES CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS.

SKIN PROTECTION: WEAR CHEMICALLY RESISTANT RUBBER GLOVES, SELECTED WITH YOUR SPECIFIC PROCESSING CONDITIONS IN MIND. WEAR AN APRON WHEN USING. WEAR COVERALLS AND BOOTS TO MINIMIZE SKIN CONTACT. AS PRECAUTIONS, WASH HANDS & FACE WITH MILD SOAP & WATER BEFORE EATING, DRINKING, SMOKING, OR USING RESTROOM. AFTER EACH SHIFT, CLEAN ALL PROTECTIVE EQUIPMENT, WASH WORK CLOTHES, AND SHOWER.

LUNG, THROAT & NASAL PROTECTION: WEAR NIOSH APPROVED ORGANIC VAPOR/MIST RESPIRATOR FOR YOUR PARTICULAR OPERATION AND MATERIALS BEING HANDLED.

OTHER PROTECTION: EYE WASH FOUNTAINS & DRENCH SHOWERS SHOULD BE LOCATED WITHIN 100 FEET OR A 10 SECOND WALK OF THE WORK AREA PER ANSI Z358.1-1990

VENTILATION: LOCAL EXHAUST IS RECOMMENDED

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION : RED LIQUID; NO ODOR  
BOILING POINT : NE  
MOLECULAR WEIGHT : 509  
WATER SOLUBILITY : MISCIBLE  
PH @ 1.0% : 10.5  
VAPOR DENSITY : TS HEAVIER THAN AIR

EVAPORATION RATE : IS SLOWER THAN BUTYL ACETATE  
% TOTAL VOC : NE (BY WGT.)  
% NON-VOLATILES : NE (BY VOL.)  
SPECIFIC GRAVITY : 1.13  
DENSITY : 9.41 (LBS. PER GAL.)  
% WATER CONTENT : NE (BY WGT.)

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SECTION 10 STABILITY AND REACTIVITY

STABILITY : STABLE  
CONDITIONS TO AVOID : NK  
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR  
INCOMPATIBLE MATERIALS : NK  
HAZARDOUS DECOMPOSITION PRODUCTS: BURNING CAN PRODUCE OXIDES OF CARBON,  
NITROGEN AND/OR SULFUR.

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SECTION 11 TOXICOLOGY INFORMATION

ORAL LD50 (RAT): NE  
DERMAL LD50 (RAT): NE  
INHALATION LC50 (RAT): NE

EYE EFFECTS (RABBIT): NE. TAKE PRECAUTIONS. 1  
SKIN EFFECTS (RABBIT): NE. TAKE PRECAUTIONS. 1  
BREATHING EFFECTS: NE. TAKE PRECAUTIONS. 1

1) NO ANIMAL TOXICITY DATA IS CURRENTLY AVAILABLE FOR 100% PRODUCT. AS A  
PRECAUTION IT IS RECOMMENDED THAT ALL WORKERS WEAR ALL OF THE PROTECTIVE  
CLOTHING & EQUIPMENT DESCRIBED IN SECTION 8. READ SECTION 8.

GENERAL PRECAUTIONS: ALWAYS PRACTICE GOOD INDUSTRIAL HYGIENE, HANDLE WITH  
CARE, AVOID PERSONAL CONTACT. DO NOT GET INTO EYES OR ON SKIN, DO NOT  
BREATHE VAPOR OR MISTS OF PRODUCT, DO NOT SWALLOW. BE SURE TO WASH HANDS  
WITH SOAP & WATER AND RINSE WELL AFTER HANDLING PRODUCT AND BEFORE EATING,  
DRINKING, SMOKING, OR USING RESTROOM FACILITIES. BE SURE TO SHOWER AFTER  
EACH SHIFT, WASH ALL WORK CLOTHING, AND COMPLETELY CLEAN ALL PROTECTIVE  
EQUIPMENT AFTER EACH SHIFT. SEE SECTION 2.

MUTAGENICITY: RHODAMINE WT WAS POSITIVE IN A SALMONELLA/MAMMALIAN MICRO-  
SOME ASSAY (NESTMANN AND KOWBEL, 1979). G. DOUGLAS, AS REFERENCED, STATED  
THAT IMPURITIES IN THE DYE MAY HAVE CAUSED THE MUTAGENIC EFFECTS SEEN OR  
ALTERNATIVELY THE DYE CAN BE A POINT MUTAGEN. DOUGLAS FURTHER REPORTED  
THAT TAKING THE DATA ALTOGETHER FROM HIS STUDY, "...RHODAMINE WT APPEARS  
NOT TO REPRESENT A MAJOR GENOTOXIC HAZARD".

ADDITIONAL INFORMATION: RHODAMINE WT WAS TESTED IN A BATTERY OF IN VITRO  
AND IN VIVO MAMMALIAN ASSAYS RESULTING IN NEGLIGIBLE, LOW LEVELS OF  
GENOTOXIC ACTIVITY EVEN AT VERY HIGH CONCENTRATIONS. NO EVIDENCE OF IN  
VIVO GENETIC ACTIVITY WAS OBSERVED EITHER IN TERMS OF BONE MARROW  
MICRONUCLEI OR SPERM ABNORMALITIES. (G.R. DOUGLAS ET AL, "COMPARATIVE  
MAMMALIAN IN VITRO AND IN VIVO STUDIES ON THE MUTAGENIC ACTIVITY OF  
RHODAMINE WT", MUTATION RESEARCH, 118, 1983, 117-125).

TERATOGENICITY: THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY MATERIAL THAT HAS  
BEEN IDENTIFIED AS A TERATOGEN.

MEDICAL CONDITIONS WORSENER BY EXPOSURE: PERSONS WITH BREATHING AND LUNG  
PROBLEMS CAN BE AFFECTED BY BREATHING IN ANY TYPE OF VAPORS OR MISTS.  
AS A PRECAUTION TO PROTECT HEALTH AND MINIMIZE POSSIBLE OR UNEXPECTED  
REACTIONS, ANY PERSONS WITH ASTHMA, ALLERGIES, OR OTHER BREATHING-RELATED  
PROBLEMS SHOULD NOT HANDLE, NOR BE EXPOSED TO ANY PRODUCTS OR CONDITIONS  
WHERE VAPORS OR MISTS OF ANY CHEMICAL PRODUCTS MAY BE PRESENT.

REFERENCES:

- 1) EPA LETTER, 8/2/88, RECOMMENDED GUIDELINES, EFFECTIVE THROUGH 4/7/90
- 2) GRADIENT CORPORATION LETTER, 11/20/89, RISK ASSESSMENT.

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SECTION 12 ECOLOGICAL DATA

BOD 5: NE  
COD: NE  
FISH TOXICITY: LC50 >320 MG/L RAINBOW TROUT (96 HR);  
LC50 170 MG/L DAPHNIA MAGNA  
SEED TOXICITY: NE  
CWA TOXIC POLLUTANTS: NK  
ADDITIONAL INFORMATION: NO DEVELOPMENTAL ABNORMALITIES OR TOXICITY TO  
OYSTER LARVAE AT 100 MG/L.

SECTION 13 DISPOSAL CONSIDERATIONS/ENVIRONMENTAL PROTECTION PROCEDURES

DISPOSAL METHODS

IT IS RECOMMENDED THAT YOU SELECT AN ALTERNATIVE BELOW ACCORDING TO THE FOLLOWING ORDER OF PREFERENCE, DEPENDING ON ENVIRONMENTAL IMPACT:

- 1) RECYCLE OR REWORK MATERIAL IF AT ALL POSSIBLE
- 2) INCINERATE MATERIAL AT AN APPROVED FACILITY
- 3) TREAT AT AN ACCEPTABLE WASTE TREATMENT FACILITY, OR MUNICIPAL WASTE TREATMENT PLANT AFTER PROPER TESTING & APPROVAL WASTE SAMPLES.

IF DISPOSED OF IN IT'S ORIGINAL UNUSED FORM, THIS MATERIAL SHOULD BE TREATED, AND DISPOSED OF AT AN APPROVED SITE OR FACILITY, IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE & LOCAL ENVIRONMENTAL REGULATIONS. YOU MUST CONTACT THE PROPER GOVERNMENT AGENCIES FOR ADDITIONAL DIRECTIONS. ALL WASTE MATERIAL & WASTE WATER SHOULD BE DISPOSED OF CORRECTLY, UNDER ALL FEDERAL, STATE, CITY & COUNTY LAWS.

RCRA STATUS: SEE SECTION 15, REGULATORY INFORMATION

DO NOT RELEASE ANY CHEMICALS, DYES, OR DYE SOLUTIONS INTO ANY WATERWAYS OR SEWER SYSTEMS WITHOUT PROPER GOVERNMENT PERMISSION AT ALL LEVELS.

CONTAINER REUSE: AN "EMPTY" CONTAINER CAN CONTAIN PRODUCT RESIDUE, AND SHOULD NOT BE REUSED. IF NOT PROFESSIONALLY CLEANED & RECONDITIONED, CRUSHING OR OTHER MEANS IS RECOMMENDED TO PREVENT UNAUTHORIZED REUSE.

SECTION 14 TRANSPORT INFORMATION

DOT STATUS (HIGHWAY AND RAIL) NR

IATA STATUS (AIR): NR

SECTION 15 REGULATORY INFORMATION

AICS (AUSTRALIA): NOT LISTED

CAL. PROP. 65: CADMIUM (<1), TOTAL CHROMIUM (8), LEAD (1.5), COBALT (1), NICKEL (2). HEXAVALENT CHROMIUM IS A LISTED SUBSTANCE. MINUTE TRACES MAY BE PRESENT IN THE TOTAL PPM CHROMIUM. NOTE: PPM QUANTITIES APPLY TO 100% PRODUCT. FOR COLOR USED AT A FEW PERCENT OR LESS, WHEN MAKING CAL. PROP. 65 DETERMINATION FOR END-PRODUCTS, CALCULATE ACTUAL SUBSTANCE PRESENT. EXAMPLE: WITH 3% COLOR USED IN END PRODUCT, AND CHROMIUM PRESENT AT <10 PPM IN 100% DYE, ACTUAL AMOUNT PRESENT FROM COLOR = 0.30 PPM = 0.00005%.

CERCLA: NH

CLEAN AIR ACT:

TITLE III (HAPS): NK

TITLE V (VOCS): SEE SECTION 9

TITLE VI (ODCS): NOT MANUFACTURED WITH NOR CONTAINING CLASS I OR II ODCS

CONEG-TYPICAL METALS PRESENT IN PPM:

CADMIUM <1.0

CHROMIUM 8.0 (TOTAL INCLUDING HEXAVALENT CR+6)

LEAD 1.5

MERCURY NE

DSL (CANADA): COMPONENTS LISTED. THE COMPONENTS OF THIS PRODUCT ARE INCLUDED ON THE CANADIAN DOMESTIC SUBSTANCE LIST. THIS PRODUCT DOES CONTAIN TRIMELITIC ACID WHICH IS NOT ON THE DSL BUT WHICH IS PRESENT ONLY AS AN IMPURITY-BYPRODUCT AND THUS NOT SUBJECT TO THE DSL LISTING REQUIREMENT.

ECL (KOREA): NOT LISTED

EINECS (EUROPE): COMPONENTS LISTED

ENCS (JAPAN): NOT LISTED

FDA STATUS: NL

NSF INTERNATIONAL: RHODAMINE WT LIQUID HAS BEEN CERTIFIED BY THE NATIONAL SANITATION FOUNDATION INTERNATIONAL (NSF) TO THE REQUIREMENTS OF ANSI/NSF STANDARD 60: DRINKING WATER TREATMENT CHEMICALS - HEALTH EFFECTS, FOR USE IN TRACING DRINKING WATER UNDER THE FOLLOWING CONDITION:

"CONCENTRATIONS OF RHODAMINE WT LIQUID IN DRINKING WATER ARE NOT TO EXCEED 0.1PPB (PARTS PER BILLION) AND THE EXPOSURE (END USE) IS TO BE INFREQUENT" ACCORDING TO THE ENVIRONMENTAL AND WATER QUALITY OPERATIONAL STUDIES BY THE U.S. ARMY CORPS OF ENGINEERS, "RHODAMINE WT HAS BEEN CHOSEN AS THE DYE MOST SUITABLE FOR USE IN INFLOW STUDIES..." AND "POSES NO KNOWN ENVIRONMENTAL OR HEALTH HAZARDS WHEN USED IN UNPOLLUTED WATERS."

(THE SUITABILITY OF THIS DYE FOR A SPECIFIC WATER TRACING APPLICATION SHOULD BE EVALUATED BY A QUALIFIED HYDROLOGIST. A MANUFACTURER OF FLUOROMETERS, SUCH AS TURNER DESIGNS\* SHOULD BE CONSULTED FOR DETAILED APPLICATION INFORMATION. FOR PRECISE SCIENTIFIC WORK, THE USER SHOULD CARRY OUT HIS OWN MEASUREMENTS ON THE STARTING MATERIAL SINCE THERE MAY BE SOME VARIATION FROM LOT TO LOT.)

OTHER TYPICAL DATA IN PPM

COBALT 1.0  
COPPER 8.0  
MANGANESE 1.0  
NICKEL 2.0  
ZINC 3.0

< = NOT FOUND AT TEST LEVEL SHOWN IF PRESENT, UNMEASURABLE TRACE IS BELOW LEVEL INDICATED.

RCRA: NOT HAZARDOUS IN IT'S PURCHASED FORM. HOWEVER, UNDER RCRA, IT IS THE PRODUCT USER'S RESPONSIBILITY TO DETERMINE AT TIME OF DISPOSAL IF ANY MATERIAL CONTAINING THE PRODUCT OR DERIVED FROM THE PRODUCT IS A HAZARDOUS WASTE.

SARA 311/312: IMMEDIATE/ACUTE HEALTH HAZARD : YES  
                  DELAYED/CHRONIC HEALTH HAZARD : NO  
                  FIRE HAZARD : NO  
                  SUDDEN RELEASE OF PRESSURE HAZARD: NO  
                  REACTIVITY HAZARD : NO

SARA 313: NR

TSCA: COMPONENTS LISTED

USDA: NL

WHMIS: D-2-B

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SECTION 16 OTHER INFORMATION

REVISION DATE: 11-24-99 REVISED SECTION 15 (NATIONAL INVENTORIES)  
REVISION DATE: 11-24-98 REVISED TO ADD MW TO SECTION 9  
REVISION DATE: 06-18-01 GENERAL REVIEW

ACRONYM LIST

NA = NOT APPLICABLE TO THIS MATERIAL  
NC = NOT CERTAIN, UNDETERMINED  
ND = NO DATA IS CURRENTLY AVAILABLE  
NE = NOT ESTABLISHED, NO TESTING IS PLANNED  
NH = NOT HAZARDOUS UNDER CITED REGULATIONS  
NK = NONE KNOWN  
NL = NOT LISTED OR APPROVED UNDER THESE REGULATIONS  
NR = NOT REGULATED OR REPORTABLE

PK = CALCULATED BY PROCESS KNOWLEDGE WITH FORMULATION DATA

NIOSH = NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION CONTAINED HEREIN. THIS MATERIAL SAFETY DATA SHEET WAS PREPARED TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200, AND SUPERSEDES ANY PREVIOUS INFORMATION. PREVIOUSLY DATED SHEETS ARE INVALID & UNAPPLICABLE