



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7205 LIQUID

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

GS523

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: TRANSPORT-PLUS 7205 LIQUID

DESCRIPTION: An aqueous solution of a polycarboxylic acid

NFPA 704M/HMIS RATING 1/1 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Wash thoroughly with soap and rinse with water. Call a physician.
INGESTION: Do not induce vomiting. Give water. Call a physician.
INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: May cause irritation with prolonged contact.
SKIN CONTACT: May cause irritation with prolonged contact.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

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SECTION 5 HEALTH EFFECTS INFORMATION

(CONTINUED)

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions. *

SECTION 6 TOXICOLOGY INFORMATION

TOXICITY STUDIES: No toxicity studies have been conducted on this product. *

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear yellow	FORM: Liquid	
DENSITY:	8.7 lbs/gal.	
SPECIFIC GRAVITY:	1.05 @ 73 Degrees F	ASTM D-1298
pH (NEAT) =	9.9	ASTM E-70
VISCOSITY:	7 cps @ 73 Degrees F	ASTM D-2983
FREEZE POINT:	31 Degrees F	ASTM D-1177
BOILING POINT:	212 Degrees F @ 760 mm Hg	ASTM D-86
FLASH POINT:	Greater than 200 Degrees F (PMCC)	ASTM D-93

NOTE: These physical properties are typical values for this product. *

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 200 Degrees F (PMCC) ASTM D-93 *

EXTINGUISHING MEDIA: Not applicable *

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known *

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. *

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended. *

VENTILATION: General ventilation is recommended. *

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. *



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SECTION 10 PERSONAL PROTECTION EQUIPMENT

(CONTINUED)

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with local, state, and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

SAL 000009883



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, this product is not hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

FOOD AND DRUG ADMINISTRATION (FDA):

Federal Food, Drug and Cosmetic Act:

When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310 Boiler Water Additives.

U. S. DEPARTMENT OF AGRICULTURE (USDA):

USDA Inspection and Grading Programs - Food Safety and Inspection Service:
This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category G6.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/ formerly Sec. 307, 40 CFR 116/formerly Sec. 311:
None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

The following ingredient(s) are disclosed for compliance with State Right To Know Laws:

Sodium polymethacrylate	25086-62-8
Water	7732-18-5

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Admur, M. O., eds., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

CHEMICAL HAZARDS OF THE WORKPLACE, Proctor, N. H., and Hughes, J. P., eds., J. P. Lipincott Company, N.Y., 1981.



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SECTION 17 BIBLIOGRAPHY

(CONTINUED)

DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.

PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

Information on this MSDS has changed. The changes are indicated by asterisks on the right side of only the changed sections. This is an updated MSDS as required by OSHA's Hazard Communication Rule 29 CFR 1910.1200.

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist

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MERCURY
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MERCURY

MATERIAL SAFETY DATA SHEET

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CHEMICAL DIVISION
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CHEMTREC ASSISTANCE: (800) 424-9300

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SUBSTANCE IDENTIFICATION

SUBSTANCE: **MERCURY**

CAS-NUMBER 7439-97-6

TRADE NAMES/SYNONYMS:

COLLOIDAL MERCURY; METALLIC MERCURY; NCI-C60399; QUICK SILVER;
INORGANIC MERCURY; RCRA 0151; NA 2809; HYDRARGYRUM; ELEMENTAL MERCURY;
M-139; M-140; M-141; UN 2809; HQ; ACC14020

CHEMICAL FAMILY:
METAL

MOLECULAR FORMULA: HQ

MOLECULAR WEIGHT: 200.59

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=0 PERSISTENCE=3
NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: MERCURY
CAS# 7439-97-6

PERCENT: 100

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:

MERCURY, ALL FORMS EXCEPT ALKYL (AS HQ):
0.05 MG/M3 OSHA TWA (VAPOR); 0.1 MG/M3 OSHA CEILING (SKIN)
0.05 MG/M3 ACGIH TWA (VAPOR); 0.10 MG/M3 ACGIH TWA (ARYL & INORGANIC)-(SKIN)
0.05 MG/M3 NIOSH RECOMMENDED 10 HOUR TWA

SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING
SUBJECT TO CALIFORNIA PROPOSITION 65 CANCER AND/OR REPRODUCTIVE TOXICITY
WARNING AND RELEASE REQUIREMENTS- (JULY 1, 1990)

MERCURY:

1 POUND CERCLA SECTION 103 REPORTABLE QUANTITY

PHYSICAL DATA

DESCRIPTION: ODORLESS, SILVERY LIQUID WITH A METALIC LUSTER.

BOILING POINT: 674 F (357 C) MELTING POINT: -38 F (-39 C)

SPECIFIC GRAVITY: 13.5939 VAPOR PRESSURE: 0.002 MMHG @ 25 C

SOLUBILITY IN WATER: INSOLUBLE VAPOR DENSITY: 7.0

SOLVENT SOLUBILITY: SOLUBLE IN BOILING SULFURIC ACID, NITRIC ACID, LIPIDS;
INSOLUBLE IN ALCOHOL, ETHER, HYDROCHLORIC ACID, HYDROGEN BROMIDE,
HYDROGEN IODIDE

VISCOSITY: 1.55 CPS @ 20 C

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
NEGLEGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

FIREFIGHTING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

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FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIREFIGHTING:
MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING
WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE
IS OUT. STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK,
DOT P 5800.5, GUIDE PAGE 60).

USE AGENTS SUITABLE FOR TYPE OF FIRE; USE WATER IN FLOODING AMOUNTS AS A FOG.
AVOID BREATHING CORROSIVE AND POISONOUS VAPORS, KEEP UPWIND.

TRANSPORTATION DATA

DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101:
ORM-B

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND
SUBPART E:
NONE

DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.860
EXCEPTIONS: NONE

TOXICITY

MERCURY:
TOXICITY DATA: 150 UG/M3/46 DAYS INHALATION-WOMAN TCLO; 44,300 UG/M3/8 HOURS
INHALATION-MAN TCLO; 29 MG/M3/30 HOURS INHALATION-RABBIT LCLO;
129 MG/KG/5 HOURS CONTINUOUSLY SKIN-MAN TCLO; MUTAGENIC DATA (RTECS);
REPRODUCTIVE EFFECTS DATA (RTECS); TUMORIGENIC DATA (RTECS).
CARCINOGEN STATUS: NONE.
LOCAL EFFECTS: IRRITANT: MUCOUS MEMBRANES.
ACUTE TOXICITY LEVEL: INSUFFICIENT DATA.
TARGET EFFECTS: SENSITIZER- PULMONARY, DERMAL; NEUROTOXIN; NEPHROTOXIN;
POISONING MAY ALSO AFFECT THE RESPIRATORY AND GASTROINTESTINAL SYSTEMS.
AT INCREASED RISK FROM EXPOSURE; PERSONS WITH CHRONIC RESPIRATORY DISEASE,
NERVOUS SYSTEM DISORDERS AND KIDNEY DISEASE.

HEALTH EFFECTS AND FIRST AID

INHALATION:

MERCURY:

IRRITANT/SENSITIZER/NEUROTOXIN/NEPHROTOXIN.

28 MG/M3 IMMEDIATELY DANGEROUS TO LIFE OR HEALTH.

ACUTE EXPOSURE- INHALATION OF HIGH LEVELS OF MERCURY VAPOR MAY CAUSE ALMOST

IMMEDIATE DYSPNEA, COUGH, FEVER, NAUSEA, VOMITING, DIARRHEA, HEADACHE,

STOMATITIS, SALIVATION, GINGIVITIS, A METALLIC TASTE, AND CARDIAC

ABNORMALITIES. RESPIRATORY IRRITATION MAY OCCUR WITH CHEST PAIN AND

TIGHTNESS. SYMPTOMS MAY RESOLVE OR MAY PROGRESS TO NECROTIZING

BRONCHOLITIS, PNEUMONITIS, PULMONARY EDEMA, PNEUMOTHORAX, INTERSTITIAL

FIBROSIS, AND DEATH. ACIDOSIS AND RENAL DAMAGE MAY ALSO OCCUR.

ALLERGIC REACTIONS THAT MAY OCCUR IN PREVIOUSLY EXPOSED PERSONS INCLUDE

DERMATITIS, ENCEPHALITIS, AND DEATH.

METAL FUME FEVER, AN INFLUENZA-LIKE ILLNESS, MAY OCCUR DUE TO THE

INHALATION OF FRESHLY FORMED METAL OXIDE PARTICLES SIZED BELOW 1.5 MICRONS

AND USUALLY BETWEEN 0.02-0.05 MICRONS. SYMPTOMS MAY BE DELAYED 4-12 HOURS

AND BEGIN WITH A SUDDEN ONSET OF THIRST, AND A SWEET, METALLIC OR FOUL

TASTE IN THE MOUTH. OTHER SYMPTOMS MAY INCLUDE UPPER RESPIRATORY TRACT

IRRITATION ACCOMPANIED BY COUGHING AND A DRYNESS OF THE MUCOUS MEMBRANES.

LAZINESS AND A GENERALIZED FEELING OF MALAISE, FEVER, CHILLS, MUSCULAR

PAIN, MILD TO SEVERE HEADACHE, NAUSEA, OCCASIONAL VOMITING, EXAGGERATED

MENTAL ACTIVITY, PROFUSE SWEATING, EXCESSIVE URINATION, DIARRHEA AND

PROSTRATION MAY ALSO OCCUR. TOLERANCE TO FUMES DEVELOPS RAPIDLY, BUT IS

QUICKLY LOST. ALL SYMPTOMS USUALLY SUBSIDE WITHIN 24-36 HOURS.

CHRONIC EXPOSURE- INHALATION OF MERCURY VAPOR OVER A LONG PERIOD MAY CAUSE

MERCURIALISM, WHICH IS CHARACTERIZED BY FINE TREMORS AND ERETHISM. TREMORS

MAY AFFECT THE HANDS FIRST, BUT MAY ALSO BECOME EVIDENT IN THE FACE, ARMS,

AND LEGS. ERETHISM MAY BE MANIFESTED BY ABNORMAL SHYNESS, BLUSHING,

SELF-CONSCIOUSNESS, DEPRESSION OR DESPONDENCY, RESENTMENT OF CRITICISM,

IRRITABILITY OR EXCITABILITY, HEADACHE, FATIGUE AND INSOMNIA. IN SEVERE

CASES, HALLUCINATIONS, LOSS OF MEMORY, AND MENTAL DETERIORATION MAY OCCUR.

IN HUMANS, RENAL INVOLVEMENT MAY BE INDICATED BY PROTEINURIA, ALBUMINURIA,
ENZYMURIA, AND ANURIA. OTHER EFFECTS MAY INCLUDE SALIVATION, GINGIVITIS,
STOMATITIS, LOOSENING OF THE TEETH, BLUE LINES ON THE GUMS, DIARRHEA,
WEIGHT LOSS, ANOREXIA, SPEECH AND SENSORY DISORDERS, UNSTEADY GAIT,
CHRONIC PNEUMONITIS AND MILD ANEMIA. REPEATED EXPOSURE TO MERCURY AND ITS
COMPOUNDS MAY RESULT IN SENSITIZATION. INTRAUTERINE EXPOSURE MAY RESULT IN
TREMORS AND INVOLUNTARY MOVEMENTS IN THE INFANTS. MERCURY IS EXCRETED IN
BREAST MILK. PATERNAL REPRODUCTIVE EFFECTS AND EFFECTS ON FERTILITY HAVE
BEEN REPORTED IN MALE RATS FOLLOWING REPEATED INHALATION EXPOSURES.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING
HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD
PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND
AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN

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SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:

MERCURY:

SENSITIZER/NEUROTOXIN/NEPHROTOXIN.

ACUTE EXPOSURE- DIRECT CONTACT WITH LIQUID MAY CAUSE IRRITATION AND REDNESS. SMALL AMOUNTS OF MERCURY MAY BE ABSORBED THROUGH INTACT SKIN. ALLERGIC REACTIONS THAT MAY OCCUR IN PREVIOUSLY EXPOSED PERSONS INCLUDE DERMATITIS, ENCEPHALITIS, AND DEATH. SUBCUTANEOUS INTRODUCTION, FROM HANDLING BROKEN THERMOMETERS, MAY RESULT IN LOCAL INFLAMMATION, GRANULOMATOUS SKIN REACTIONS, AND SLIGHT SIGNS OF MERCURY POISONING INCLUDING DIGESTIVE DISORDERS, METALLIC TASTE IN THE MOUTH, AND NEUROPSYCHIC DISORDERS.

CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE MAY RESULT IN DERMAL SENSITIZATION AND SYSTEMIC EFFECTS AS DETAILED IN CHRONIC INHALATION EXPOSURE.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:

MERCURY:

ACUTE EXPOSURE- DIRECT CONTACT WITH LIQUID MAY CAUSE IRRITATION AND REDNESS. ANIMAL STUDIES INDICATE DIFFUSION AND ABSORPTION OF MERCURY INTO THE TISSUES OF THE EYE MAY OCCUR. NO CLINICAL SIGNS OF CONJUNCTIVITIS OR INFLAMMATION OCCURRED.

CHRONIC EXPOSURE- MERCURY EXPOSURE FROM INHALATION, INGESTION, OR SKIN CONTACT MAY BE INDICATED BY MERCURIALENTIS, DISCOLORATION OF THE CRYSTALLINE LENS, ON SLIT LAMP EXAMINATION OF THE EYE.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

MERCURY:

NEUROTOXIN/NEPHROTOXIN.

ACUTE EXPOSURE- MAY CAUSE BURNING OF THE MOUTH AND THROAT, THIRST, NAUSEA AND VOMITING. METALLIC MERCURY IS NOT USUALLY ABSORBED SUFFICIENTLY FROM THE GASTROINTESTINAL TRACT TO INDUCE AN ACUTE TOXIC RESPONSE. RARELY, A LARGE SINGLE DOSE MAY RESULT IN SIGNS AND SYMPTOMS OF CHRONIC INHALATION IF SUFFICIENT AMOUNTS OF MERCURY ARE RETAINED IN THE BODY.

CHRONIC EXPOSURE- REPEATED INGESTION OF SMALL AMOUNTS OF MERCURY MAY RESULT IN THE ABSORPTION OF SUFFICIENT AMOUNTS TO PRODUCE TOXIC EFFECTS AS DETAILED IN CHRONIC INHALATION EXPOSURE.

FIRST AID- REMOVE BY GASTRIC LAVAGE OR EMESIS. MAINTAIN BLOOD PRESSURE AND AIRWAY. GIVE OXYGEN IF RESPIRATION IS DEPRESSED. DO NOT PERFORM GASTRIC LAVAGE OR EMESIS IF VICTIM IS UNCONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY (DREISBACH, HANDBOOK OF POISONING, 11TH ED.). ADMINISTRATION OF GASTRIC LAVAGE OR OXYGEN SHOULD BE PERFORMED BY QUALIFIED MEDICAL PERSONNEL.

ANTIDOTE:

THE FOLLOWING ANTIDOTE HAS BEEN RECOMMENDED. HOWEVER, THE DECISION AS TO WHETHER THE SEVERITY OF POISONING REQUIRES ADMINISTRATION OF ANY ANTIDOTE AND ACTUAL DOSE REQUIRED SHOULD BE MADE BY QUALIFIED MEDICAL PERSONNEL.

MERCURY POISONING:

GIVE DIMERCAPROL 3 MG/KG (OR 0.3 ML/10 KG) EVERY 4 HOURS FOR THE FIRST 2 DAYS AND THEN 2 MG/KG EVERY 12 HOURS FOR A TOTAL OF 10 DAYS IF NECESSARY. DIMERCAPROL IS AVAILABLE AS A 10% SOLUTION IN OIL FOR INTRAMUSCULAR ADMINISTRATION. HEMODIALYSIS WILL SPEED THE REMOVAL OF THE MERCURY-DIMERCAPROL COMPLEX. PENICILLAMINE IS ALSO EFFECTIVE. GIVE UP TO 100 MG/KG/DAY (MAXIMUM 1 GR/DAY) DIVIDED INTO 4 DOSES FOR NO LONGER THAN 1 WEEK. IF A LONGER ADMINISTRATION PERIOD IS WARRANTED, DOSAGE SHOULD NOT EXCEED 40 MG/KG/DAY. GIVE THE DRUG ORALLY HALF AN HOUR BEFORE MEALS. A CHELATING AGENT SHOULD BE CONTINUED UNTIL THE URINE MERCURY LEVEL FALLS BELOW 50 UG/24 HOURS (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). ANTIDOTE SHOULD BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:

MERCURY:

ACETYLENE: FORMATION OF EXPLOSIVE COMPOUND.

ACETYLINIC COMPOUNDS: FORMATION OF EXPLOSIVE COMPOUND.

ALUMINUM: CORRODES.

AMINES: MAY FORM EXPLOSIVE COMPOUNDS.

AMMONIA + MOISTURE: FORMS EXPLOSIVE COMPOUND.

BORON DIIODOPHOSPHIDE: IGNITES IN CONTACT WITH MERCURY VAPORS.

BROMINE: VIOLENT REACTION.

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3-BROMOPROPYNE: EXPLOSION HAZARD.
CALCIUM: AMALGAM FORMATION @ 390 C IS VIOLENT.
CHLORINE: IGNITES @ 200-300 C.
CHLORINE DIOXIDE: EXPLODES.
COPPER (AND ALLOYS): MAY BE ATTACKED.
ETHYLENE OXIDE + TRACES OF ACETYLENE: MAY FORM EXPLOSIVE ACETYLIDES.
LITHIUM: AMALGAM FORMATION IS VIOLENTLY EXOTHERMIC AND MAY BE EXPLOSIVE.
METHYL AZIDE: PRODUCES SHOCK SENSITIVE MIXTURE.
METHYLSILANE + OXYGEN: PRODUCES SHOCK SENSITIVE MIXTURE.
NITRIC ACID + ALCOHOLS: FORMS FULMINATES CAPABLE OF DETONATION.
OXALIC ACID: FORMS SHOCK SENSITIVE COMPOUND.
OXIDANTS: VIOLENT REACTION.
PEROXYFORMIC ACID: EXPLOSIVE REACTION.
POTASSIUM: AMALGAM FORMATION IS VIGOROUSLY EXOTHERMIC AND MAY BE EXPLOSIVE.
RUBIDIUM: VIOLENT EXOTHERMIC REACTION.
SILVER PERCHLORATE + 3-HEXYNE: EXPLODES.
SILVER PERCHLORATE + 2-PENTYNE: EXPLODES.
SODIUM: AMALGAM FORMATION IS VIOLENTLY EXOTHERMIC.
SODIUM CARBIDE: VIGOROUS REACTION.
SULFURIC ACID (HOT): REACTS.
TETRACARBONYLNICKEL + OXYGEN: PRODUCES SHOCK SENSITIVE MIXTURE.

DECOMPOSITION:
THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE HIGHLY TOXIC VAPORS OF MERCURY AND MERCURY OXIDES.

POLYMERIZATION:
HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

STORAGE

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40CFR 262. EPA HAZARDOUS WASTE NUMBER U151.

MERCURY - REGULATORY LEVEL: 0.2 MG/L
MATERIALS WHICH CONTAIN THE ABOVE SUBSTANCE AT OR ABOVE THE REGULATORY LEVEL MEET THE EPA CHARACTERISTIC OF TOXICITY, AND MUST BE DISPOSED OF IN ACCORDANCE WITH 40 CFR PART 262. EPA HAZARDOUS WASTE NUMBER D009.

***** CONDTIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. FLAMMABLE. POISONOUS GASES MAY ACCUMULATE IN TANKS AND HOPPER CARS. MAY IGNITE COMBUSTIBLES (WOOD, PAPER, OIL, ETC.).

***** SPILL AND LEAK PROCEDURES

WATER SPILL:
THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1985 (PROPOSITION 65) PROHIBITS CONTAMINATING ANY KNOWN SOURCE OF DRINKING WATER WITH SUBSTANCES KNOWN TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY.

OCCUPATIONAL SPILL:
DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. A MERCURY SPILL KIT MAY ALSO BE USED FOR SMALL SPILLS IN THE WORKPLACE. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRE THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET PUBLISHED

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EXPOSURE LIMITS.

RESPIRATOR:
THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS, NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.
THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

MERCURY, ELEMENTAL:

0.5 MG/M3- ANY CHEMICAL CARTRIDGE RESPIRATOR WITH CARTRIDGES PROVIDING PROTECTION AGAINST MERCURY.
ANY SUPPLIED-AIR RESPIRATOR.
ANY SELF-CONTAINED BREATHING APPARATUS.

1.25 MG/M3- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.
ANY POWERED AIR-PURIFYING RESPIRATOR WITH A CANISTER PROVIDING PROTECTION AGAINST MERCURY.

2.5 MG/M3- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE.
ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE.
ANY SUPPLIED-AIR RESPIRATOR WITH A TIGHT-FITTING FACEPIECE OPERATED IN A CONTINUOUS FLOW MODE.
ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND CARTRIDGES PROVIDING PROTECTION AGAINST MERCURY.
ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST MERCURY.
ANY POWERED AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND A CANISTER PROVIDING PROTECTION AGAINST MERCURY.

20 MG/M3- ANY SUPPLIED-AIR RESPIRATOR WITH A HALF-MASK AND OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST MERCURY.
ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE AND OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

CLOTHING:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION:
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

EMERGENCY WASH FACILITIES:
WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

AUTHORIZED - FISHER SCIENTIFIC, INC.
CREATION DATE: 01/31/85 REVISION DATE: 10/10/90

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-ADDITIONAL INFORMATION-
THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

GS588



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 89RB068 CORROSION INHIBI

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

GS681

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 89RB068 CORROSION INHIBI

DESCRIPTION: An imidazoline in heavy aromatic naphtha

NFPA 704M/HMIS RATING: 3/3 HEALTH 2/2 FLAMMABILITY 0/0 REACTIVITY 0 OTHER*
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous. One or more is being claimed as a trade secret under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Heavy aromatic naphtha	64742-94-5	40-70
Proprietary imidazoline	Proprietary	40-70

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes burns to skin and eyes. Combustible. Do not get in eyes, on skin, or on clothing. Wear goggles and face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep away from heat and open flame. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.

INGESTION: Do not induce vomiting. Give water. Call a physician.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions,



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SECTION 4 FIRST AID INFORMATION

(CONTINUED)

do not induce vomiting or give water.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Corrosive to the eyes with possible permanent damage depending on the length of exposure and on the first aid action given.

SKIN CONTACT: Corrosive to the skin possibly resulting in third degree burns, depending on the length of exposure and on the first aid action given.

INGESTION: Can be harmful.

INHALATION: Prolonged inhalation of vapor may be harmful.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but acute studies have been conducted on a similar product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = 1,122 mg/kg

95% Confidence Limit = 887 - 1,420 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD₅₀ = Greater than 3,000 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING: 8.0/8.0 Extremely irritating (Corrosive)

COMMENTS: Third degree burns were apparent on all application sites.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: 110/110.0 Extremely irritating (Corrosive)



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 89RB068 CORROSION INHIBI

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SECTION 6 TOXICOLOGY INFORMATION

(CONTINUED)

COMMENTS: Caused permanent damage to the cornea and iris.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear light amber FORM: Liquid ODOR: Hydrocarbon
SOLUBILITY IN WATER: Completely
SPECIFIC GRAVITY: 0.92 @ 60 Degrees F
VISCOSITY: 39 cst @ 60 Degrees F ASTM D-445
POUR POINT: Less than -30 Degrees F ASTM D-97
FLASH POINT: 152 Degrees F (PMCC) ASTM D-93

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: 152 Degrees F (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NOx under fire conditions. Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to a rupture.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂, NOx may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 89RB068 CORROSION INHIBIT

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SECTION 10 PERSONAL PROTECTION EQUIPMENT

(CONTINUED)

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors or mists may be released.

PROTECTIVE EQUIPMENT: Wear gloves, boots, apron and a face shield with chemical splash goggles. A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

DISPOSAL: If this product becomes a waste, trace levels of benzene may cause the product to be classified as a hazardous waste under the Resource Conservation and Recovery Act (RCRA) 40CFR261. Hazardous Waste D018. Before disposal, the product should be analyzed for its benzene content, to determine if it meets the criteria of a hazardous waste under RCRA (Toxicity Characteristic Leaching Procedure {TCLP} Test).

As a hazardous liquid waste, it must be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to a licensed industrial waste landfill (Hazardous Waste Treatment, Storage and Disposal facility). A hazardous liquid waste can also be incinerated in accordance with local, state, and federal regulations.



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SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - CORROSIVE LIQUID, N.O.S. *
CORROSIVE MATERIAL UN 1760 *
CONTAINS - ORGANIC AMINE COMPOUND *

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product. *

FEDERAL REGULATIONS: *

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: *

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below. *

Heavy aromatic naphtha - Combustible, skin irritant *
Proprietary imidazoline - Corrosive to eyes/skin *

Heavy aromatic naphtha = 100 ppm TLV *
Manufacturer's recommendation *

CERCLA/SUPERFUND, 40 CFR 117, 302: *

Notification of spills of this product is not required. *

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 *
(TITLE III) - SECTIONS 302, 311, 312 AND 313: *

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): *

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance. *

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): *
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories: *

XX Immediate (acute) health hazard *
-- Delayed (chronic) health hazard *
XX Fire hazard *
-- Sudden release of pressure hazard *
-- Reactive hazard *



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 89RB068 CORROSION INHIBIT

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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/
formerly Sec. 307, 40 CFR 116/formerly Sec. 311:
None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

This product does not contain ingredients listed by State Right To Know Laws.

INTERNATIONAL REGULATIONS:

This is a WHMIS controlled product under The House of Commons of Canada Bill C-70. The product contains the following substance(s), from the Ingredient Disclosure List or has been evaluated based on its toxicological properties, to contain the following hazardous ingredient(s):

Chemical Name	CAS #	% Concentration Range
Heavy aromatic naphtha	64742-94-5	40-70
Proprietary imidazoline	Proprietary	40-70



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SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Admur, M. O., eds., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

CHEMICAL HAZARDS OF THE WORKPLACE, Proctor, N. H., and Hughes, J. P., eds., J. P. Lipincott Company, N.Y., 1981.

DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.

PATY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE



MATERIAL SAFETY DATA SHEET

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SECTION 17 BIBLIOGRAPHY

(CONTINUED)

WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

Information on this MSDS has changed. The changes are indicated by asterisks on the right side of only the changed sections. This is an updated MSDS as required by OSHA's Hazard Communication Rule 29 CFR 1910.1200.

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist

DATE CHANGED: 10/23/90

DATE PRINTED: 11/22/90

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