

ORION MATERIAL SAFETY DATA SHEET

ORION RESEARCH INCORPORATED
THE SCHRAFFT CENTER
529 MAIN STREET
BOSTON, MA 02129 USA
TELEPHONE 617-242-3900

I. PRODUCT IDENTIFICATION

PRODUCT NAME:
ORION APPLICATION SOLUTION 942906

CATALOG NO.: 942906
EFFECTIVE DATE: 4/29/91

HAZARDOUS SHIPMENT LABELING: DOT-NONE IATA-NONE

PREPARED BY: THOMAS F. FLYNN TITLE: QUALITY ASSURANCE CHEMIST
APPROVED BY: LYNN ORLOWITZ TITLE: DIRECTOR REGULATORY MATTERS

II. HAZARDOUS INGREDIENTS (IDENTITY INFORMATION)

HAZARDOUS COMPONENTS*	CAS NO.	%	OSHA PEL	ACGIH TLV	LD 50 MG/KG
SPECIFIC CHEMICAL IDENTITY: COMMON NAME(S)					
CUPRIC NITRATE (CU(NO3)2	3251-23-8	1.88	NONE	NONE	940 (ORL-RAT)
**DEIONIZED WATER	7732-18-5	98.12	NONE	NONE	190,000 (ORL-RAT)

* CHEMICALS WHICH ARE NOT CLASSIFIED AS HAZARDOUS PER U.S. OSHA GUIDELINES (29CFR PARTS 1915.2 OR 1916.2) OR THE MASSACHUSETTS SUBSTANCE LIST (105CMR670.000 APPENDIX A) WILL NOT NECESSARILY BE LISTED ON THIS FORM EVEN THOUGH ONE OR MORE MAY BE A CONSTITUENT OF THIS PRODUCT.

NA* NOT AVAILABLE OR NOT APPLICABLE.

** NON-HAZARDOUS COMPONENT.

PAGE 1

III. PHYSICAL DATA

BOILING POINT (760 MM HG): 100 C
SPECIFIC GRAVITY (H2O = 1): 1.01
PH @ 25 C: (3.5 - 7.5)
VOLATILES, % BY WT.: NA
VAPOR DENSITY (AIR = 1): NA
APPEARANCE AND ODOR: ODORLESS LIQUID
FREEZING POINT: 0 C
VAPOR PRESSURE @: NA*
SOLUBILITY IN WATER, % BY WT. @: MISCIBLE
EVAPORATION RATE (BUTYL, ACETATE = 1): NA

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD): NA
AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR, % BY VOLUME: LOWER-NA UPPER-NA
EXTINGUISHING MEDIA: ANY
SPECIAL FIRE-FIGHTING PROCEDURES: NA
UNUSUAL FIRE AND EXPLOSION HAZARDS:
NITRATE MAY RENDER OTHER MATERIALS MORE COMBUSTIBLE IF ALLOWED TO DRY OUT UPON THEM.

V. REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID: STORING NEAR HEAT OR INCOMPATIBLE CHEMICALS.

INCOMPATIBILITY (MATERIALS TO AVOID):
REDUCING AGENTS, B, BAS, CHARCOAL, S, TRICHLOROETHYLENE, NA ACETATE, TI

HAZARDOUS DECOMPOSITION PRODUCTS:
OXIDES OF NITROGEN UPON HEATING TO DECOMPOSITION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITION TO AVOID: NA

VI. HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INHALATION?-NO SKIN?-NO INGESTION?-YES

HEALTH HAZARDS (ACUTE AND CHRONIC):
ACUTE: LARGE AMOUNTS TAKEN INTERNALLY MAY BE FATAL OR CAUSE DIZZINESS, CRAMPS, CONVULSIONS, VOMITING, WEAKNESS, AND COLLAPSE. CHRONIC: CAN CAUSE ANEMIA, NEPHRITIS, AND METHEMOGLOBINEMIA.

CARCINOGENICITY: NTP? IARC MONOGRAPHS? OSHA REGULATED?
NOT FOUND ON THESE LISTS.

PAGE 2

SIGNS AND SYMPTOMS OF EXPOSURE:
DIZZINESS, NAUSEA, WEAKNESS. NO SERIOUS ACUTE OR CHRONIC EFFECTS WITH EITHER EXTERNAL OR INHALATION EXPOSURE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
HEART OR KIDNEY PROBLEMS.

EMERGENCY AND FIRST AID PROCEDURES:
SKIN AND EYES: WASH OFF WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES.
INTERNAL: INDUCE VOMITING. CONSULT PHYSICIAN.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
DILUTE WITH WATER AND COVER WITH SODA ASH, MIX AND SCOOP INTO A BEAKER OF WATER, NEUTRALIZE WITH HCL, AND SET ASIDE FOR WASTE DISPOSAL.

WASTE DISPOSAL METHOD:
CONTRACT WITH A LICENSED WASTE TRANSPORTER FOR DISPOSAL. OBSERVE ALL FEDERAL, STATE, AND LOCAL LAWS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
STORE AT ROOM TEMPERATURE AND KEEP CAP TIGHTLY SEALED. NFPA RATING:
SCALE (0-4); HEALTH-2, FIRE-1, REACTIVITY-0, SPECIFIC-NONE.

OTHER PRECAUTIONS:
SARA TITLE III: CU(NO3)2 IS A CERCLA HAZARD AND IS SUBJECT TO SECTIONS 304, 312, AND 311 OF SARA TITLE III. NOT FOUND ON CAL. PROP. 65 LISTING.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NA

VENTILATION:

LOCAL EXHAUST-NA
MECHANICAL (GENERAL)-NA
SPECIAL-NA
OTHER-NA

PROTECTIVE GLOVES: NONE

EYE PROTECTION: SAFETY GLASSES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NONE

WORK/HYGIENIC PRACTICES:

EMERGENCY EYE WASH SHOULD BE AVAILABLE.

LIABILITY IS EXPRESSLY DISCLAIMED FOR ANY LOSS OR INJURY ARISING OUT OF THE USE OF THIS INFORMATION OR THE USE OF ANY MATERIALS DESIGNATED. SAFE USE OF THE MATERIALS IS THE RESPONSIBILITY OF THE USER.

PAGE 3 (LAST PAGE)

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I. PRODUCT IDENTIFICATION

PRODUCT NAME: ORION APPLICATION SOLUTION 942906

EFFECTIVE DATE: 04/29/91

HAZAROUS SHIPMENT LABELING (DOT/IATA):

NONE / NONE

II. HAZARDOUS INGREDIENTS (IDENTIFY INFORMATION)

HAZARDOUS COMPONENTS*	SPECIFIC CHEMICAL IDENTITY	CAS#	%	OSHA PEL	ACGIH TLV	LD (50MG/KG)
	CUPRIC NITRATE CU(NO3)2	3251-23-8	1.88	NONE	NONE	940 (ORL-RAT)
**DEIONIZED WATER (H2O)		7732-18-5	98.12	NONE	NONE	190,000 (ORL-RAT)

III. PHYSICAL DATA

BOILING POINT(750MMHG): 100 C
SPECIFIC GRAVITY(H2O=1): 1.01
PH @ 25 C: (3.5 - 7.5)
VOLATILES, % BY WT: NA
VAPOR DENSITY(AIR=1): NA
APPEARANCE AND ODOR: ODORLESS LIQUID.

FREEZING POINT: 0 C
VAPOR PRESSURE: NA*
SOLUBILITY IN H2O, % BY WT: MISCIBLE
EVAPORATION RATE(BUAC=1): NA

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD): NA
AUTOIGNITION TEMPERATURE: NA
FLAMMABLE LIMITS IN AIR, % BY VOLUME: LEL: NA UEL: NA
EXTINGUISHING MEDIA: ANY.

CATALOG # 942906

PAGE 2

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(SECTION IV. CONTINUED...)
SPECIAL FIRE-FIGHTING PROCEDURES: NA

UNUSUAL FIRE & EXPLOSION HAZARDS: NITRATE MAY RENDER OTHER MATERIALS MORE
COMBUSTIBLE IF ALLOWED TO DRY OUT UPON THEM.

V. REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID: STORING NEAR HEAT OR INCOMPATIBLE CHEMICALS.

INCOMPATIBILITY (MATERIALS TO AVOID): REDUCING AGENTS, B, BAS, NA ACETATE, TI,
S, TRICHLOROROETHYLENE, CHARCOAL.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN UPON HEATING TO
DECOMPOSITION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.
CONDITION TO AVOID: NA

VI. HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INGESTION.

HEALTH HAZARDS (ACUTE & CHRONIC):
ACUTE - LARGE AMOUNTS TAKEN INTERNALLY MAY BE FATAL OR CAUSE DIZZINESS, CRAMPS,
CONVULSIONS, VOMITING, WEAKNESS AND COLLAPSE.
CHRONIC - CAN CAUSE ANEMIA, NEPHRITIS AND METHEMOGLOBINEMIA.

CARCINOGENICITY: NOT FOUND ON THESE LISTS (NTP, IARC MONOGRAPHS, OSHA REGULATED)

SIGNS AND SYMPTOMS OF EXPOSURE: DIZZINESS, NAUSEA, WEAKNESS; NO SERIOUS ACUTE
OR CHRONIC AFFECTS WITH EITHER EXTERNAL OR INHALATION EXPOSURE.

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CATALOG # 942906

PAGE 3

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VIII. CONTROL MEASURES

RESPIRATORY PROTECTION(SPECIFIC TYPE): NA

VENTILATION: NA

PROTECTIVE GLOVES: NONE

EYE PROTECTION: SAFETY GLASSES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NONE.

WORK/HYGIENIC PRACTICES: EMERGENCY EYE WASH SHOULD BE AVAILABLE.

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