

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 - NITRATE INTERFERENCE SUPPRESSOR.

CATALOG NO.: 930710
EFFECTIVE DATE: 4/29/91

HAZARDOUS SHIPMENT LABELING: DOT-NONE IATA-NONE
TESTING BY BUREAU OF EXPLOSIVES HAS SHOWN THIS PRODUCT TO BE NON-CORROSIVE.

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) | | | | | |
| ALUMINUM SULFATE (AL2SO4)3 | 10043-01-3 | 1.70 | 2 MG(AL)3 | TWA 2 MG(AL)3 | 6,207 (ORL-RAT) |
| SILVER SULFATE (AG2SO4) | 10294-26-5 | 0.34 | 0.01 MG/M3 | 0.01 MG/M3 | NA |
| SULFAMIC ACID (H3SNO3) | 5329-14-6 | 0.25 | NONE | NONE | LD LO 1600 (ORL-RAT) |
| BORIC ACID (H3BO3) | 10043-35-3 | 0.13 | NONE | NONE | 3450 (ORL-RAT) |
| **DEIONIZED WATER (H2O) | 7732-18-5 | 97.58 | 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.

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III. PHYSICAL DATA

BOILING POINT (760 MM HG): 100 C
SPECIFIC GRAVITY (H2O = 1): 1.03
PH @ 25 C: (3.0 - 4.0) ADJUSTED
VOLATILES, % BY WT.: NA
VAPOR DENSITY (AIR = 1): NA
APPEARANCE AND ODOR: CLEAR, COLORLESS, ODORLESS SOLUTION.
FREEZING POINT: -6 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): NONFLAMMABLE.
AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR, % BY VOLUME: LOWER-NA UPPER-NA
EXTINGUISHING MEDIA: DRY, CO2, WATER.
SPECIAL FIRE-FIGHTING PROCEDURES:
SELF-CONTAINED BREATHING APPARATUS MUST BE WORN.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

V. REACTIVITY DATA

STABILITY: STABLE.
CONDITIONS TO AVOID:

INCOMPATIBILITY (MATERIALS TO AVOID):
ACETYLENE, AMMONIA, HYDROGEN PEROXIDE.

HAZARDOUS DECOMPOSITION PRODUCTS:
SULFUR OXIDES MAY BE GIVEN OFF IF HEATED TO DECOMPOSITION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.
CONDITION TO AVOID: NONE.

VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS (ACUTE AND CHRONIC):
ACUTE: LOW HAZARD FOR SKIN OR INHALATION. MAY CAUSE IRRITATION OR REDNESS
OF SKIN UNDER CHRONIC EXPOSURE. IRRITATION AND BURNING OF DIGESTIVE LINING
IF SWALLOWED.

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

SIGNS AND SYMPTOMS OF EXPOSURE:
ITCHING OR REDNESS OF SKIN.

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MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
DISEASES OF THE SKIN.

EMERGENCY AND FIRST AID PROCEDURES:
EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. EXTERNAL: WASH OFF SKIN
WITH WATER. CONSULT PHYSICIAN FOR INTERNAL AND EYE CONTACT EXPOSURE.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
DILUTE WITH WATER, CLEAN UP, AND SET ASIDE FOR WASTE DISPOSAL.

WASTE DISPOSAL METHOD:
CONSULT LOCAL REGULATIONS BEFORE DISPOSING OF THIS PRODUCT. OBSERVE ALL
FEDERAL, STATE, AND LOCAL LAWS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
NFPA RATING: SCALE (0-4); HEALTH-1, FIRE-0, REACTIVITY-0, SPECIFIC-0.

OTHER PRECAUTIONS:
SARA TITLE III: SUBJECT TO SECTION 312 AND 311 OF THIS LAW.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE.

VENTILATION:

LOCAL EXHAUST-NONE
MECHANICAL (GENERAL) -NONE
SPECIAL-NONE
OTHER-NONE

PROTECTIVE GLOVES: VINYL OR RUBBER.

EYE PROTECTION: SAFETY GLASSES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NA

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.

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