

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 STANDARD 0.1 M

CATALOG NO.: 920706
EFFECTIVE DATE: 11/18/91

HAZARDOUS SHIPMENT LABELING: DOT IATA
TESTING BY BUREAU OF EXPLOSIVES HAS INDICATED THAT THIS PRODUCT IS NOT AN OXIDIZER.

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

II. HAZARDOUS INGREDIENTS (IDENTITY INFORMATION)

HAZARDOUS COMPONENTS*

SPECIFIC CHEMICAL IDENTITY: COMMON NAME(S)	CAS NO.	%	OSHA PEL	ACGIH TLV	LD 50 MG/KG
SODIUM NITRATE (NA NO3)	7631-99-4	0.85	NONE	NONE	913 (ORL-RAT)
**DEIONIZED WATER (H2O)	7732-18-5	99.15	NONE	NONE	629,000 (ORL-DOG)

* 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): 1.0
PH @ 25 C: 5.0 - 8.5
VOLATILES, % BY WT.: NA
VAPOR DENSITY (AIR = 1): NA
APPEARANCE AND ODOR: COLORLESS, 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 INCOMPATIBLE MATERIALS

INCOMPATIBILITY (MATERIALS TO AVOID):
REDUCING AGENTS, SULFUR, CHARCOAL, TRICHLOROETHYLENE

HAZARDOUS DECOMPOSITION PRODUCTS:
OXIDES OF NITROGEN UPON HEATING 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):
LOW HAZARD BECAUSE OF THE LOW CONCENTRATION OF SALT IN THIS PRODUCT. LARGE ORAL DOSE MAY CAUSE ANEMIA, NEPHRITIS, AND METHEMAGLOBINEMIA. NO SERIOUS, ACUTE, OR CHRONIC EFFECTS WITH EITHER EXTERNAL OR INHALATION EXPOSURE.

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

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SIGNS AND SYMPTOMS OF EXPOSURE:
DIZZINESS, NAUSEA, WEAKNESS IF TAKEN IN LARGE ORAL DOSES.

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

EMERGENCY AND FIRST AID PROCEDURES:
EXTERNAL: SKIN AND EYE CONTACT - WASH OFF WITH WATER. INTERNAL: INDUCE VOMITING IN CONSCIOUS PATIENT. CONSULT PHYSICIAN.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
DILUTE WITH WATER AND VACUUM UP AREA.

WASTE DISPOSAL METHOD:
CONSULT FEDERAL, STATE, AND LOCAL LAWS BEFORE DISPOSING.

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

OTHER PRECAUTIONS:
NOTE: SODIUM NITRATE IS LISTED IN TABLE 172.101 OF TITLE 49CFR. NOT LISTED IN CAL. PROP. 65. REPORTED IN EPA TSCA INVENTORY.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NO

VENTILATION:
LOCAL EXHAUST-NO
MECHANICAL (GENERAL)-NO
SPECIAL-NO
OTHER-NO

PROTECTIVE GLOVES: NO

EYE PROTECTION: SAFETY GLASSES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NONE

WORK/HYGIENIC PRACTICES:
KEEP EMERGENCY EYE WASH 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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SHEET 1 OF 2

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SODIUM NITRATE (NANO3)	7631-99-4	0.85	NONE	NONE	913 (ORL-RAT)

**DEIONIZED WATER (H2O) 7732-18-5 99.15 NONE NONE 629,000 (ORL-DOG)

III. PHYSICAL DATA

BOILING POINT	FREEZING POINT
760 MM HG 100 'C	0 'C
SPECIFIC GRAVITY (H2O=1) 1.0	VAPOR PRESSURE @ N A*
PH @ 'C 25 5.0-8.5	SOLUBILITY IN WATER, % BY WT. @ MISCIBLE
VOLATILES, % BY WT. N A	EVAPORATION RATE (BUTYL ACETATE=1) N A
VAPOR DENSITY (AIR=1) NA	APPEARANCE AND ODOR COLORLESS, ODORLESS LIQUID

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD) N A	AUTOIGNITION TEMPERATURE NA
FLAMMABLE LIMITS IN AIR, % BY VOLUME:	LOWER UPPER
EXTINGUISHING MEDIA ANY	NA NA
SPECIAL FIRE-FIGHTING PROCEDURES N A	

UNUSUAL FIRE AND EXPLOSION HAZARDS

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COMBUSTIBLE IF ALLOWED TO DRY OUT UPON THEM.

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FORM MSDS/1191

ORION MATERIAL SAFETY DATA SHEET

SHEET 2 OF 2 NITRATE STANDARD 0.1M

PRODUCT NAME: ORION APPLICATION SOLUTION

CATALOG NO.: 920706

V. REACTIVITY DATA

STABILITY UNSTABLE STABLE X
CONDITIONS TO AVOID
STORING NEAR INCOMPATIBLE MATERIALS

INCOMPATIBILITY (MATERIALS TO AVOID)

REDUCING AGENTS, SULFUR, CHARCOAL, TRICHLOROETHYLENE

HAZARDOUS DECOMPOSITION PRODUCTS

OXIDES OF NITROGEN UPON HEATING TO DECOMPOSITION.

HAZARDOUS POLYMERIZATION: CONDITION TO AVOID

MAY OCCUR WILL NOT OCCUR X NONE

VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS (ACUTE AND CHRONIC)

LOW HAZARD BECAUSE OF THE LOW CONCENTRATION OF SALT IN THIS PRODUCT. LARGE ORAL
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KEEP TIGHTLY SEALED TO PROTECT PRODUCT INTEGRITY. NFPA RATING: SCALE (0-4);

HEALTH -1, FIRE -0, REACTIVITY -0, SPECIFIC -NONE.

OTHER PRECAUTIONS

NOTE: SODIUM NITRATE IS LISTED IN TABLE 172.101 OF TITLE 49CFR. NOT LISTED IN
CAL. PROP. 65. REPORTED IN EPA TSCA INVENTORY.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE) NO

VENTILATION LOCAL EXHAUST NO SPECIAL NO

MECHANICAL (GENERAL) NO OTHER NO

PROTECTIVE GLOVES NO EYE PROTECTION SAFETY GLASSES

OTHER PROTECTIVE CLOTHING

OR EQUIPMENT NONE

WORK/HYGENIC PRACTICES KEEP EMERGENCY EYE WASH AVAILABLE

