

ORION MATERIAL SAFETY DATA SHEET

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I. PRODUCT IDENTIFICATION

PRODUCT NAME:
ORION APPLICATION SOLUTION - CARBON DIOXIDE STANDARD 0.1 M

CATALOG NO.: 950206
EFFECTIVE DATE: 10/03/91

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
SODIUM BICARBONATE (NAHCO3)	144-55-8	0.8	NONE	NONE	4,220 (ORL-RAT)
**DEIONIZED WATER (H2O)	7732-18-5	99.2	NONE	NONE	190,000 (IPR-MUS)

* 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: 8.0 - 8.5
VOLATILES, % BY WT.: NA
VAPOR DENSITY (AIR = 1): NA
APPEARANCE AND ODOR: CLEAR, COLORLESS SOLUTION
FREEZING POINT: -1 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: WATER, CO2, DRY CHEMICAL
SPECIAL FIRE-FIGHTING PROCEDURES: NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

V. REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID: NONE

INCOMPATIBILITY (MATERIALS TO AVOID):
BORON TRIFLUORIDE (H2SO4 + KMNO4)

HAZARDOUS DECOMPOSITION PRODUCTS:
CO2 WILL 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?-YES INGESTION?-NO

HEALTH HAZARDS (ACUTE AND CHRONIC):
ACUTE: NO ADVERSE EFFECTS HAVE BEEN REPORTED; HOWEVER, MAY CAUSE IRRITATION
AND REDNESS ON CONTACT WITH THE EYES. CHRONIC: PROLONGED EXPOSURE MAY CAUSE
IRRITATION OF SKIN AND CONJUNCTIVITIS.

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

SIGNS AND SYMPTOMS OF EXPOSURE: RED, IRRITATED SKIN.

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

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EMERGENCY AND FIRST AID PROCEDURES:
WASH AFFECTED AREA WITH SOAP AND LARGE AMOUNTS OF WATER FOR AT LEAST 15
MINUTES. CONSULT PHYSICIAN.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

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

WASTE DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH 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-NONE.
CERCLA RATINGS: SCALE (0-4); HEALTH-1, FIRE-0, REACTIVITY-0, PERSISTENCE-
NONE.

OTHER PRECAUTIONS:
SARA TITLE III - THE CHEMICALS IN THIS PRODUCT DO NOT APPEAR ON ANY OF THE
SARA LISTS. NOT AFFECTED BY 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: YES

EYE PROTECTION: NO

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LAB COAT

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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