

ORION MATERIAL SAFETY DATA SHEET

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I. PRODUCT IDENTIFICATION

PRODUCT NAME: ORION APPLICATION SOLUTION TISAB III

CATALOG NO.: 940911 EFFECTIVE DATE: 05/15/92

HAZARDOUS SHIPMENT LABELING: TESTING PER NACE (TM-01-60) HAS SHOWN THIS
PRODUCT TO BE NON-CORROSIVE.

APPROVED BY: LYNN ORLOWITZ TITLE: DIRECTOR REGULATORY MATTERS

II. HAZARDOUS INGREDIENTS (IDENTITY INFORMATION)

HAZARDOUS COMPONENTS* SPECIFIC CHEMICAL IDENTITY: COMMON NAMES (S)	CAS NO.	%	OSHA PEL	ACGIH TLV	LD LOMG/KG
AMMONIUM CHLORIDE (NH4CL)	12125-02-9	26.5	10MG/M3	10MG/M3	240 (IVN-GPG)
AMMONIUM ACETATE (NH4C2H3O2)	631-61-8	5.3	NONE	NONE	1735 (IPR-CKN)
CRESOL RED (C21H18O5S)	62625-29-0	0.006	NONE	NONE	NONE LISTED
TRANS - 1,2 - DIAMINO CYCLOHEXANE TETRAAETIC ACID (CDTA)	482-54-2	1.904	NONE	NONE	150 (IPR-MUS) LD50
**DEIONIZED WATER (H2O)	7732-18-5	66.29	NONE	NONE	629,000 (ORL-DOG)

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III. PHYSICAL DATA

BOILING POINT 760 MM HG: 100 DEGREES C

FREEZING POINT: -10 DEGREES C

SPECIFIC GRAVITY (H2O = 1): 1.20

VAPOR PRESSURE @: NA *

PH @ 25 DEGREES C: (4.8-5.2)

SOLUBILITY IN WATER, % BY WT. @: MISCIBLE

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: ORANGE LIQUID, SLIGHT ODOR

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: CO2, DRY CHEMICAL, ALCOHOL FOAM OR MIST.

SPECIAL FIRE-FIGHTING PROCEDURES:
USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

V. REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: HEAT OR FLAME

INCOMPATIBILITY (MATERIALS TO AVOID):
OXIDIZERS, HYPOCHLORITE BLEACHES, NH4, NO3, KC1O3.

HAZARDOUS DECOMPOSITION PRODUCTS:
EMITS TOXIC FUMES WHEN HEATED TO DECOMPOSITION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITION TO AVOID: NONE

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VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS (ACUTE AND CHRONIC)
ACUTE - INGESTION CAN CAUSE NAUSEA, VOMITING, AND ACIDOSIS. CHRONIC:
DIFFICULTY BREATHING, WEAKNESS, GENERALLY LOW HAZARD FOR SKIN AND INHALATION;
HOWEVER, REPEATED EXPOSURE MAY CAUSE KIN IRRITATION AND BREATHING DIFFICULTIES.

CARCINOGENICITY: NOT FOUND ON THESE LISTS.

SIGNS AND SYMPTOMS OF EXPOSURE:
COUGHING, DYSPNEA, IRRITATION OF UPPER RESPIRATORY TRACT AND STOMACH

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
RESPIRATORY AND STOMACH AILMENTS.

EMERGENCY AND FIRST AID PROCEDURES:
EYES: IRRIGATE WITH WATER AT LEAST 15 MINUTES. SKIN: WASH OFF WITH WATER.
INHALATION: FRESH AIR-ARTIFICIAL RESPIRATION IF NEEDED. INTERNAL: DILUTE
WITH LARGE AMOUNTS OF WATER AND CONSULT A PHYSICIAN.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

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

WASTE DISPOSAL METHOD:
DILUTE WITH WATER AND WASH DOWN DRAIN WITH EXCESS WATER. OBSERVE ALL FEDERAL,
STATE, AND LOCAL LAWS WHEN DISPOSING OF THIS SOLUTION.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
KEEP WELL-SEALED TO PROTECT PRODUCT INTEGRITY. AMMONIUM ACETATE IS A CERCLA
HAZARD AND IS SUBJECT TO REPORTING UNDER SECTION 304 OF SARA TITLE III.
INGREDIENTS IN THIS PRODUCT ARE LISTED IN THE TSCA INVENTORY.

OTHER PRECAUTIONS:
NO EATING OR DRINKING WHILE WORKING WITH THIS PRODUCT. NFPA RATING: SCALE
(0-4); HEALTH - 1, FIRE - 1, REACTIVITY - 0, SPECIFIC - NONE.
THIS PRODUCT IS NOT AFFECTED BY CAL. PROP. 65.

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VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION: LOCAL EXHAUST: CONTROL TO EXPOSURE LIMIT SPECIAL: NO

MECHANICAL (GENERAL): NO OTHER: NO

PROTECTIVE GLOVES: YES EYE PROTECTION: SAFETY GLASSES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LAB COAT

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

* 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/NOT APPLICABLE

** NON-HAZARDOUS COMPONENT

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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