

ORION MATERIAL SAFETY DATA SHEET

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I. PRODUCT IDENTIFICATION

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PRODUCT NAME: ORION APPLICATION SOLUTION PH 4.01 BUFFER  
CATALOG NO.: 910104 OR 330004                      EFFECTIVE DATE: 08/26/92  
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)

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HAZARDOUS COMPONENTS\*                      CAS NO.      %    OSHA PEL    ACGIH TLV    LD 50 MG/KG  
SPECIFIC CHEMICAL IDENTITY:  
COMMON NAME(S)  
  
POTASSIUM HYDROGEN PHTHALATE (KHP) 877-24-7    1.01    NONE            NONE            NA\*  
  
AMARANTH RED DYE  
(C20,H11,N2,O10,S2\*3NA)                      915-67-3    0.0005    NONE            NONE    1,000 (IPR-MUS)  
  
\*DEIONIZED WATER (H2O)                      7732-18-5    98.99    NA              NA    190,000 (IPR-MUS)

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III. PHYSICAL DATA

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BOILING POINT 760 MM HG: 100 DEGREES C  
FREEZING POINT: 0 DEGREES C  
SPECIFIC GRAVITY (H2O = 1): 1.0  
VAPOR PRESSURE @: NA  
PH @ 25 DEGREES C: 4.01  
SOLUBILITY IN WATER, % BY WT. @: MISCIBLE

VOLATILES, % BY WT.: NA

EVAPORATION RATE (BUTYL, ACETATE = 1): NA

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: LIGHT RED, ODORLESS LIQUID

IV. FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (TEST METHOD): NOT FLAMMABLE

AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR, % BY VOLUME: LOWER: NA UPPER: NA

EXTINGUISHING MEDIA: WATER, CO2, DRY CHEMICAL, FOAM OR SPRAY

SPECIAL FIRE-FIGHTING PROCEDURES: NONE, NON-FLAMMABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

V. REACTIVITY DATA

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STABILITY: STABLE

CONDITIONS TO AVOID: NONE

INCOMPATIBILITY (MATERIALS TO AVOID): HNO3

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITION TO AVOID: NONE

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VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS (ACUTE AND CHRONIC):

ACUTE - LOW HAZARD FOR ACUTE BECAUSE OF LOW CONCENTRATION OF SALTS. CHRONIC:  
POSSIBLE SKIN IRRITANT FOR PROLONGED EXPOSURE.

CARCINOGENICITY: NTP? AMARANTH IS SUSPECTED/NOT FOUND  
IARC MONOGRAPHS? (ANIMAL POSITIVE)\*\*\*  
OSHA REGULATED? NOT FOUND

SIGNS AND SYMPTOMS OF EXPOSURE: SKIN IRRITATION

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

EMERGENCY AND FIRST AID PROCEDURES:

WASH OFF CONTACT AREA WITH WATER, IF INGESTED, GIVE LARGE AMOUNTS OF WATER.  
CONTACT PHYSICIAN.

VII. PRECAUTIONS (SAFE HANDLING AND USE)

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
WASH DOWN DRAIN WITH EXCESS WATER IF LOCAL LAW ALLOWS.

WASTE DISPOSAL METHOD:

CONSULT WITH AND OBSERVE ALL FEDERAL, STATE, AND LOCAL LAWS WHEN DISPOSING OF THIS PRODUCT.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:  
SUITABLE FOR ANY GENERAL HANDLING AND STORAGE. NFPA RATING; SCALE (0-4);  
HEALTH-1, FIRE-0, REACTIVITY-1, SPECIFIC-NONE.

OTHER PRECAUTIONS:  
THIS PRODUCT IS NOT REGULATED UNDER SARA TITLE III. NOT AFFECTED BY CAL. PROP. 65.

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VIII. CONTROL MEASURES

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RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION LOCAL EXHAUST: NO SPECIAL: NO

MECHANICAL (GENERAL): NO OTHER: NO

PROTECTIVE GLOVES: YES EYE PROTECTION: SAFETY GLASSES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NO

WORK/HYGIENIC PRACTICES: NO EATING OR DRINKING WHILE WORKING WITH THIS PRODUCT.

\* 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 A CONSTITUENT OF THIS PRODUCT.

\* NOT AVAILABLE OR NOT APPLICABLE.

\*\* NON-HAZARDOUS COMPONENT.

REFERS TO AMARANTH RED DYE

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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