I.  PRODUCT IDENTIFICATION

PRODUCT NAME:  ORION APPLICATION SOLUTION PH 7.00 BUFFER
CATALOG NO.:  910107 OR 330007           EFFECTIVE DATE:  06/01/91
HAZARDOUS SHIPMENT LABELING:  DOT:  NA     IATA: NA
PREPARED BY:  THOMAS F. FLYNN      TITLE:  QUALITY ASSURANCE CHEMIST
APPROVED BY:  LYNN ORLowitz        TITLE:  DIRECTORY REGULATORY MATTERS

II.  HAZARDOUS INGREDIENTS (IDENTITY INFORMATION)

<table>
<thead>
<tr>
<th>HAZARDOUS COMPONENTS*</th>
<th>CAS NO.</th>
<th>%</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>LD 50 MG/KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIFIC CHEMICAL IDENTITY: COMMON NAMES(S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POTASSIUM PHOSPHATE (KH2PO4)</td>
<td>7778-77-0</td>
<td>0.284</td>
<td>NONE</td>
<td>NONE</td>
<td>NONE LISTED</td>
</tr>
<tr>
<td>SODIUM PHOSPHATE (NA2HPO4)</td>
<td>7558-79-4</td>
<td>0.413</td>
<td>NONE</td>
<td>NONE</td>
<td>298(IVN-DOG)</td>
</tr>
<tr>
<td>SODIUM CHROMATE (NA2CRO4)</td>
<td>7775-11-3</td>
<td>0.013</td>
<td>50 MG/M3</td>
<td>50 MG/M3</td>
<td>57(IPR-RAT)</td>
</tr>
<tr>
<td>POTASSIUM DICHROMATE (K2CRO7)</td>
<td>778-50-9</td>
<td>0.00305</td>
<td>50 MG/M3</td>
<td>50 MG/M3</td>
<td>37(IPR-RAT)</td>
</tr>
<tr>
<td>**DEIONIZED WATER (H2O)</td>
<td>7732-18-5</td>
<td>99.28645</td>
<td>NONE</td>
<td>NONE</td>
<td>190,000(IPR-MUS)</td>
</tr>
</tbody>
</table>

III.  PHYSICAL DATA

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:  7.00
SOLUBILITY IN WATER, % BY WT. @:  MISCIBLE
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
-----------------------------------------------------------------------------------
STABILITY:  STABLE

CONDITIONS TO AVOID:  NONE

INCOMPATIBILITY (MATERIALS TO AVOID):  MG AND NA* METALS

HAZARDOUS DECOMPOSITION PRODUCTS:  WHEN HEATED, PHOSPHATES CAN EMIT HIGHLY
TOXIC FUMES; BUT, FOR THE AMOUNT OF PHOSPHATES PRESENT IN THIS SOLUTION, IT CAN
BE CONSIDERED NON-HAZARDOUS.

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 FOR ACUTE AND CHRONIC BECAUSE OF LOW CONCENTRATION OF SALTS.

CARCINOGENICITY:  NOT FOUND ON THESE LISTS

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.

PAGE 3

VII. PRECAUTIONS (SAFE HANDLING AND USE)

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

OTHER PRECAUTIONS:
SARA TITLE III: RELEASES OF (NA2HPO4) ARE SUBJECT TO REPORTING UNDER SECTION 304 OF THIS ACT AND CERCLA. NOT AFFECTED BY CAL. PROP. 65.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE):  NONE

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

PROTECTIVE GLOVES: NO  EYE PROTECTION: SAFETY GLASSES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NO

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

* CHEMICALS WHICH ARE NOT CLASSIFIED AS HAZARDOUS PER U.S. OSHA GUIDELINES (29 CFR 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.

* LD LO.

NON-HAZARDOUS COMPONENT

NOT APPLICABLE.