

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:
IODIDE REAGENT FOR RESIDUAL CHLORINE

CATALOG NO. 97710 EFFECTIVE DATE: 07/21/91

HAZARDOUS SHIPMENT LABELLING: DOT IATA
NONE NONE

PREPARED BY TITLE QUALITY ASSURANCE CHEMIST

APPROVED BY 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 |
|---|------------|------|----------|-----------|-------------------|
| SODIUM HYDROXIDE (NAOH) | 1310-73-20 | 0.1 | 2MG/M3 | 2 MG/M3 | 500 (ORL-RAT) |
| POTASSIUM IODIDE (KL) | 7681-11-0 | 7.2 | NONE | NONE | 120 (IVN-RAT) |
| **DEIONIZED WATER (H2O) | 7732-18-5 | 92.7 | NONE | NONE | 629,000 (ORL-DOG) |

III. PHYSICAL DATA

BOILING POINT 760 MM HG: FREEZING POINT: -5 DEGREES C
100 DEGREES C

SPECIFIC GRAVITY (H2O = 1): .101 VAPOR PRESSURE @: N/A*

PH @ 25 DEGREES C: 11.5 - 12.5 SOLUBILITY IN WATER, % BY WT. @:
MISCIBLE

VOLATILES, % BY WT.: N/A EVAPORATION RATE (BUTYL ACETATE = 1):
N/A

VAPOR DENSITY (AIR = 1): N/A

APPEARANCE AND ODOR: CLEAR, ODORLESS SOLUTION

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IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD): NOT FLAMMABLE AUTOIGNITION TEMPERATURE: N/D

FLAMMABLE LIMITS LOWER UPPER
IN AIR, % BY VOLUME: N/A N/A

EXTINGUISHING MEDIA: WATER, CO2, DRY CHEMICAL

SPECIAL FIRE-FIGHTING PROCEDURES:
SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

V. REACTIVITY DATA

STABILITY: UNSTABLE STABLE X CONDITIONS TO AVOID: HEATING TO DECOMPOSITION

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ACIDS (HCL, H2SO4, HNO3)

HAZARDOUS DECOMPOSITION PRODUCTS: IODINE AND NAOH FUMES WILL BE GIVEN OFF IF OVERHEATED.

HAZARDOUS POLYMERIZATION: CONDITION TO AVOID:

MAY OCCUR WILL NOT OCCUR X NONE

VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS (ACUTE AND CHRONIC): ACUTE: MAY IRRITATE SKIN. INGESTION - IRRITATION OR BURNING OF PHARYNX AND DIGESTIVE TRACT. CHRONIC: MILD TO SEVERE IRRITATION AND BURNING OF SKIN, GASTROINTESTINAL DISTURBANCES.

CARCINOGENICITY: NTP? IARC MONOGRAPHS? OSHA REGULATED?

NOT FOUND ON THESE LISTS.

SIGNS AND SYMPTOMS OF EXPOSURE: RED IRRITATED SKIN, RASHES, COUGHING, IRRITATION OF MUCOUS MEMBRANES.

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

EMERGENCY AND FIRST AID PROCEDURES: SKIN AND EYES: FLUSH WITH COPIOUS AMOUNTS OF WATER. INTERNAL: GIVE LARGE AMOUNTS OF WATER. CONSULT PHYSICIAN FOR ALL EXPOSURES.

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VII. PRECAUTIONS (SAFE HANDLING AND USE)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WHILE WEARING GLOVES, SAFETY GOGGLES, AND LAB COAT, CLEAN UP SPILL AND SET ASIDE FOR WASTE DISPOSAL.

WASTE DISPOSAL METHOD: CONSULT FEDERAL, STATE, AND LOCAL LAWS FOR PROPER DISPOSAL PRACTICES.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: NFPA RATING: SCALE(0-4); HEALTH - 1, FIRE - 0, REACTIVITY - 0, SPECIFIC - 0.

OTHER PRECAUTIONS: SARA TITLE III: NAOH IS REGULATED UNDER SECTION 313 OF THIS LAW AS WELL AS CERCLA. NOT FOUND ON CAT PROP 65 LISTING. NAOH AND KI ARE IN EPA TSCA INVENTORY.

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION: LOCAL EXHAUST NONE SPECIAL NONE
MECHANICAL (GENERAL) NONE OTHER NONE

PROTECTIVE GLOVES: YES EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LAB COAT

WORK/HYGIENIC PRACTICES: EMERGENCY EYE WASH STATION MUST 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.

N/A* NOT AVAILABLE OR 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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IODIDE REAGENT

MATERIAL SAFETY DATA SHEET

CATALOG # 977010

ORION RESEARCH INCORPORATED
529 MAIN STREET
BOSTON, MA 02129

TELEPHONE: (617) 242-3900
TELEX: 4430019

I. PRODUCT IDENTIFICATION AND USE

MANUFACTURER

ORION RESEARCH INCORPORATED
529 MAIN STREET
BOSTON, MA 02129

SUPPLIER:

ORION RESEARCH INCORPORATED

PRODUCT IDENTIFIER:

IODIDE REAGENT FOR RESIDUAL CHLORINE

PRODUCT USE:

IODIDE REAGENT

II. HAZARDOUS INGREDIENTS

| CHEMICAL AND FORMULA | CAS# | %W/W | LD50 | LC50 |
|--------------------------|-----------|------|----------------------------|------|
| SODIUM HYDROXIDE (NAOH) | 1310-73-2 | 0.1 | 500 MG/KG (ORL-RAT) | NA* |
| POTASSIUM IODIDE (NAI) | 7681-11-0 | 7.2 | 120 MG/KG (IVN-RAT) | NA |
| DE-IONIZED WATER (H2O)** | 7732-18-5 | 92.7 | 190,000 MG/KG (IPR-MUS) | NA |

*NA = NOT AVAILABLE/NOT APPLICABLE

** = NON HAZARDOUS COMPONENT.

III. PHYSICAL DATA

| | |
|--------------------------------------|--------------------------|
| PHYSICAL STATE: | LIQUID |
| APPEARANCE AND ODOR: | CLEAR, ODORLESS SOLUTION |
| ODOR THRESHOLD: | NA |
| SPECIFIC GRAVITY: | 1.01 |
| VAPOR PRESSURE: | NA |
| EVAPORATION RATE: | NA |
| BOILING POINT: | 100 C |
| FREEZING POINT: | -5 C |
| PH: | (11.5 - 12.5) |
| VAPOR DENSITY: | NA |
| COEFFICIENT OF H2O/OIL DISTRIBUTION: | UNAVAILABLE |

IV. FIRE OR EXPLOSION HAZARD

| | |
|-----------------------------|--------------------------|
| CONDITIONS OF FLAMMABILITY: | NONE |
| MEANS OF EXTINCTION: | WATER, CO2, DRY CHEMICAL |
| FLASH POINT: | NA |
| UPPER FLAMMABLE LIMIT: | NA |
| LOWER FLAMMABLE LIMIT: | NA |
| AUTO-IGNITION TEMPERATURE: | NA |

IATA CLASSIFICATION: NONE
HAZARDOUS COMBUSTION PRODUCTS: IODINE AND SODIUM HYDROXIDE FUMES
SENSITIVITY TO MECHANICAL IMPACT: NONE
SENSITIVITY TO STATIC DISCHARGE: NONE
IODIDE REAGENT

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V. REACTIVITY DATA

STABILITY: YES (PRODUCT IS STABLE)
INCOMPATIBILITY: STRONG ACIDS (HCL, H2SO4, HNO3)
HAZARDOUS DECOMPOSITION PRODUCTS: IODINE AND NAOH FUMES IF HEATED TO DECOMPOSITION.

VI. TOXICOLOGICAL PROPERTIES

SKIN AND INHALATION: MAY IRRITATE SKIN.
INGESTION: GASTRO-INTESTINAL DISTURBANCES.

HEALTH HAZARDS

ACUTE: IRRITATION OF SKIN. INGESTION-IRRITATION OR BURNING OF PHARYNX & DIGESTIVE TRACT.
CHRONIC: MILD TO SEVERE IRRITATION OF SKIN.
CARCINOGENICITY: NOT FOUND ON IARC OR ACGIH LISTS.
SIGNS & SYMPTOMS OF EXPOSURE: RED, IRRITATED SKIN, RASHES, COUGHING, IRRITATION OF MUCOUS MEMBRANES.
MEDICAL CONDITIONS AGGRAVATED: CONJUNCTIVITIS, DISEASES OF THE SKIN.

VII. PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: GLOVES, SAFETY GLASSES, LAB COAT.
SPECIFIC ENGINEERING CONTROLS: NONE.
RESPIRATORY PROTECTION: NONE.
VENTILATION: NONE.
PROCEDURES IN CASE OF LEAK OR SPILL: CLEANUP & SET ASIDE FOR WASTE DISPOSAL.
WASTE DISPOSAL: CONSULT FEDERAL, STATE, AND LOCAL LAWS FOR PROPER DISPOSAL.
HANDLING PROCEDURES & HANDLING EQUIPMENT: KEEP CONTAINER SEALED TO PROTECT PRODUCT INTEGRITY. EMERGENCY EYE WASH SHOULD BE AVAILABLE.
SPECIAL SHIPPING INFORMATION: NA
OTHER: NA

VIII. SPECIFIC FIRST AID MEASURES

EYE AND SKIN CONTACT: FLUSH WITH LARGE AMOUNTS OF WATER.
INTERNAL: GIVE LARGE AMOUNTS OF WATER. CONSULT A PHYSICIAN.

IX. PREPARATION INFORMATION

ORION RESEARCH INCORPORATED
QUALITY ASSURANCE DEPARTMENT
TELEPHONE: (617) 242-3900

IODIDE REAGENT

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