

OHS19435

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION  
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MDL INFORMATION SYSTEMS, INC.  
1281 Murfreesboro Road, Suite 300  
Nashville, TN 37217-2423  
1-615-366-2000

EMERGENCY TELEPHONE NUMBER:  
1-800-424-9300 (NORTH AMERICA)  
1-703-527-3887 (INTERNATIONAL)

SUBSTANCE: POTASSIUM IODIDE

## TRADE NAMES/SYNONYMS:

POTASSIUM MONOIODIDE; IODIC ACID, POTASSIUM SALT; KI-N; POTASSIUM IODIDE (KI);  
KI; OHS19435; RTECS TT2975000

CHEMICAL FAMILY: inorganic, salt

CREATION DATE: Feb 05 1985

REVISION DATE: Mar 18 2002

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SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS  
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COMPONENT: POTASSIUM IODIDE  
CAS NUMBER: 7681-11-0  
EC NUMBER (EINECS): 231-659-4  
PERCENTAGE: 100.0

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SECTION 3 HAZARDS IDENTIFICATION  
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NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0

## EMERGENCY OVERVIEW:

CHANGE IN APPEARANCE: changes color on exposure to air, deliquescent

COLOR: colorless to white

PHYSICAL FORM: granules, powder

ODOR: odorless

MAJOR HEALTH HAZARDS: eye irritation

## POTENTIAL HEALTH EFFECTS:

## INHALATION:

SHORT TERM EXPOSURE: irritation, chest pain

LONG TERM EXPOSURE: same as effects reported in long term ingestion

## SKIN CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), allergic reactions

LONG TERM EXPOSURE: irritation, allergic reactions, fever, joint pain

## EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe)

LONG TERM EXPOSURE: irritation

## INGESTION:

SHORT TERM EXPOSURE: allergic reactions, fever, nausea, vomiting, stomach pain, joint pain, internal bleeding

LONG TERM EXPOSURE: same as effects reported in short term exposure, irritation, skin disorders, diarrhea, loss of appetite, weight loss, loss of voice, headache, sleep disturbances, emotional disturbances, hormonal disorders, blood disorders, birth defects

## CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

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SECTION 4 FIRST AID MEASURES  
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INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Never make an unconscious person vomit or drink fluids. Give milk then starch solution. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention, if needed.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage.

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SECTION 5 FIRE FIGHTING MEASURES  
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FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

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FIRE FIGHTING: Move container from fire area if it can be done without risk.  
Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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SECTION 6 ACCIDENTAL RELEASE MEASURES

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OCCUPATIONAL RELEASE:

Collect spilled material in appropriate container for disposal.

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SECTION 7 HANDLING AND STORAGE

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STORAGE: Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Avoid contact with air or light. Keep separated from incompatible substances.

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SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

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EXPOSURE LIMITS:

POTASSIUM IODIDE:

No occupational exposure limits established.

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any dust, mist, and fume respirator.

Any air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a dust, mist, and fume filter.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a

separate escape supply.  
Any self-contained breathing apparatus with a full facepiece.

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SECTION 9            PHYSICAL AND CHEMICAL PROPERTIES

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PHYSICAL STATE: solid  
COLOR: colorless to white  
CHANGE IN APPEARANCE: changes color on exposure to air, deliquescent  
PHYSICAL FORM: granules, powder  
ODOR: odorless  
TASTE: bitter taste  
MOLECULAR WEIGHT: 166.00  
MOLECULAR FORMULA: K-I  
BOILING POINT: 2426 F (1330 C)  
MELTING POINT: 1258 F (681 C)  
VAPOR PRESSURE: 1 mmHg @ 745 C  
VAPOR DENSITY: Not applicable  
SPECIFIC GRAVITY (water=1): 3.1 @ 15 C  
WATER SOLUBILITY: 127.5%  
PH: 6-9.2 (5% solution)  
VOLATILITY: Not applicable  
ODOR THRESHOLD: Not available  
EVAPORATION RATE: Not applicable  
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available  
SOLVENT SOLUBILITY:  
Soluble: glycerol, glycols, methanol, alcohol, absolute alcohol, acetone,  
ether, ammonia

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SECTION 10           STABILITY AND REACTIVITY

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REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: metals, combustible materials, halogens, peroxides,  
oxidizing materials, metal salts

POTASSIUM IODIDE:

ALKALI METALS: Violent reaction.

ALKALOIDAL SALTS: Incompatible.

BROMINE PENTAFLUORIDE: Violent reaction.

BROMINE PENTATRIFLUORIDE: Violent reaction, often with ignition at ambient  
or

slightly elevated temperatures.

BROMINE TRICHLORIDE: Violent reaction.  
BROMINE TRIFLUORIDE: Violent reaction.  
CALOMEL: Incompatible.  
CHARCOAL + OZONE: Possible explosion reaction.  
CHLORAL HYDRATE: Incompatible.  
CHLORINE TRIFLUORIDE: Violent reaction, often with ignition at ambient or slightly elevated temperatures.  
DIAZONIUM SALTS: Formation of an unstable and explosive product.  
2-DIIOSOPROPYL PEROXYDICARBONATE: Instant decomposition. Violent reaction.  
FLUORINE PERCHLORATE: Explosion on contact with potassium iodide.  
METALLIC SALTS: Incompatible.  
METALS: Corrosive in all concentrations to most metals, except stainless steel, titanium, and tantalum.  
OXIDANTS (STRONG): Violent reaction.  
PERCHLORIC ACID: Violent reaction.  
POTASSIUM CHLORATE: Incompatible.  
TARTARIC + OTHER ACIDS: Incompatible.  
TRIFLUOROACETYL HYPOFLUORITE: May react explosively on contact with aqueous potassium iodide unless greatly diluted with nitrogen.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of potassium, acid halides

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

POTASSIUM IODIDE:

TOXICITY DATA:

167 mg/kg intravenous-rat LDLo; 1862 mg/kg oral-mouse LDLo; 1117 mg/kg intraperitoneal-mouse LDLo; 916 mg/kg oral-rabbit LDLo; 4313 mg/kg/21 week(s) continuous oral-chicken TDLo

LOCAL EFFECTS:

Irritant: eye

ACUTE TOXICITY LEVEL: Insufficient Data.

MUTAGENIC DATA:

cytogenetic analysis - rat Ascites tumor 500 mg/kg

REPRODUCTIVE EFFECTS DATA:

2700 mg/kg oral-woman TDLo 1-39 week(s) pregnant female continuous; 3240 mg/kg oral-woman TDLo 1-39 week(s) pregnant female continuous; 10530 mg/kg oral-rat TDLo 1-9 day(s) pregnant female continuous; 822 mg/kg oral-rat TDLo 2 week(s) male week(s) pre pregnancy/2 week(s) post pregnancy/13 day(s) continuous; 922 mg/kg oral-rat TDLo 2 week(s) male week(s) pre pregnancy/2 week(s) post pregnancy/21 day(s) continuous; 300 mg/kg oral-rat TDLo 9 day(s) pregnant female continuous; 3600 mg/kg oral-hamster TDLo 5-16 day(s) pregnant female continuous; 294 mg/kg oral-mammal TDLo 30 day(s) pre

pregnancy continuous; 1177 mg/kg oral-mammal TDLo 30 day(s) pre pregnancy continuous

ADDITIONAL DATA: May cross the placenta. May be excreted in breast milk.  
Interactions with drugs may occur.  
May react synergistically with mercury.

#### HEALTH EFFECTS:

##### INHALATION:

###### ACUTE EXPOSURE:

POTASSIUM IODIDE: May cause irritation to the upper respiratory tract, causing coughing and chest discomfort.

###### CHRONIC EXPOSURE:

POTASSIUM IODIDE: Repeated or prolonged exposure may result in "iodism" as detailed in chronic ingestion.

##### SKIN CONTACT:

###### ACUTE EXPOSURE:

POTASSIUM IODIDE: Contact with the dust may be irritating while solutions may be corrosive. Iodides may cause sensitization in persons previously exposed.

###### CHRONIC EXPOSURE:

POTASSIUM IODIDE: Repeated or prolonged exposure to irritants may cause dermatitis. Hypersensitivity to iodides may develop characterized by skin rashes, rhinitis, laryngeal edema, serum sickness with fever, joint pain, and swelling and lymph node enlargement.

##### EYE CONTACT:

###### ACUTE EXPOSURE:

POTASSIUM IODIDE: May cause irritation, redness, and pain while solutions may be corrosive. Injection of a 3% solution into the cornea of rabbit eyes caused only a slight reaction.

###### CHRONIC EXPOSURE:

POTASSIUM IODIDE: Repeated or prolonged exposure may cause conjunctivitis.

##### INGESTION:

###### ACUTE EXPOSURE:

POTASSIUM IODIDE: Iodide salts act principally as expectorants or diuretics and may cause mild hyperhidrosis, gastrointestinal upset, nausea, vomiting and epigastric pain. Hypersensitivity to iodides may be manifested by angioneurotic edema, cutaneous and mucosal hemorrhages, laryngeal edema, and symptoms resembling serum sickness, such as fever, arthralgia, lymph node enlargement and eosinophilia.

###### CHRONIC EXPOSURE:

POTASSIUM IODIDE: Ingestion of .15 mg for 10 days produced enlarged

parotid glands, swelling of the face and difficulty swallowing. Repeated ingestion of iodides may cause iodism characterized by brassy taste in the mouth, salivation, lacrimation, soreness of the teeth and gums, ulceration of the mucous membranes, coryza, sneezing, productive cough, severe headache, fever, nausea, vomiting, gastric disturbance, epigastric pain, and diarrhea. Other effects may include pulmonary and glottal edema, laryngitis, bronchitis, edema of the eyelids, salivary glands and lymph glands, conjunctivitis, and parotitis. Various skin reactions, including erythema, acne, urticaria, eczematous contact-type dermatitis, pustular psoriasis, and granulomatous reactions may occur. Some skin reactions may be fatal. Thyroid adenoma, goiter, hypothyroidism, thrombocytopenia, anorexia, weight loss, sleeplessness, and nervous symptoms may also occur. Iodides may cross the placenta. The use of iodides for asthma in pregnancy has resulted in severe goiter with the possibility of fetal goiter, fetal death, cretinoid appearance of the newborn and abnormal thyroid function. Potassium iodide is excreted in breast milk possibly causing skin rash and thyroid suppression in the infant. Reproductive effects have also been reported in animals.

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## SECTION 12 ECOLOGICAL INFORMATION

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### ECOTOXICITY DATA:

FISH TOXICITY: 896000 ug/L 96 hour(s) LC50 (Mortality) Rainbow trout, donaldson trout (*Oncorhynchus mykiss*)

INVERTEBRATE TOXICITY: 226000 ug/L 24 hour(s) LC50 (Mortality) Zebra mussel (*Dreissena polymorpha*)

### FATE AND TRANSPORT:

BIOCONCENTRATION: 267 ug/L 20 hour(s) BCF (Residue) Gobi (*Chasmichthys gulosus*) 60 ug/L

ENVIRONMENTAL SUMMARY: Harmful to aquatic life.

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## SECTION 13 DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations.

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## SECTION 14 TRANSPORT INFORMATION

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U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR/RID: No classification assigned.

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

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SECTION 15 REGULATORY INFORMATION  
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U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):  
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):  
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):  
ACUTE: Yes  
CHRONIC: No  
FIRE: No  
REACTIVE: No  
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED):  
Xi Irritant

DANGER/HAZARD SYMBOL:

Xi Irritant

EC RISK AND SAFETY PHRASES:

R 36 Irritating to eyes.  
R 64 May cause harm to breastfed babies.

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S 2 Keep out of reach of children.  
S 24 Avoid contact with skin.  
S 25 Avoid contact with eyes.  
S 26 In case of contact with eyes, rinse immediately with plenty  
of water and seek medical advice.  
S 46 If swallowed, seek medical advice immediately and show this  
container or label.

## GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK):

STATE OF CLASSIFICATION: Annex 3

CLASSIFICATION UNDER HAZARD TO WATER: 1

## NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

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SECTION 16 OTHER INFORMATION

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## MSDS SUMMARY OF CHANGES

SECTION 3 HAZARDS IDENTIFICATION

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