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INDEX: D40161053

ACCT: 085511001  
CAT NO: 23270181

PO NBR: 26102W

\*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

Iodine Concentrate  
90883

\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: Iodine Concentrate

Catalog Numbers:  
23270181, 23291473

Synonyms:

None.

Company Identification: Fisher Diagnostics  
Fisher Scientific Company LLC  
8365 Valley Pike  
Middletown, VA 22645-0307

For information, call: 800-528-0494

Emergency Number: 800-524-0294

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

| CAS#      | Chemical Name    | %       | EINECS#   |
|-----------|------------------|---------|-----------|
| 7553-56-2 | Iodine           | 23.0    | 231-442-4 |
| 7681-11-0 | Potassium iodide | 46.0    | 231-659-4 |
| 7732-18-5 | Water            | Balance | 231-791-2 |

Hazard Symbols: None Listed.  
Risk Phrases: None Listed.

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Appearance: Not available.

Caution! May cause eye irritation. May cause allergic skin reaction.  
May be absorbed through intact skin. May cause adverse reproductive  
effects based upon animal studies. May cause respiratory and  
digestive tract irritation. May cause severe skin irritation.  
Target Organs: Thyroid.

Potential Health Effects

Eye:

May cause eye irritation. Vapors may cause eye irritation.

Skin:

May cause severe skin irritation. May cause skin sensitization, an  
allergic reaction, which becomes evident upon re-exposure to this  
material. May be absorbed through the skin. May be absorbed through  
the skin from vapor applied to the skin.

Ingestion:

May cause irritation of the digestive tract.

Inhalation:

May cause respiratory tract irritation.

Chronic:

Chronic exposure can lead to iodism characterized by salivation,  
nasal discharge, sneezing, conjunctivitis, laryngitis,  
bronchitis, stomatitis, and skin rashes. Prolonged exposure to  
iodides may produce iodism in sensitive individuals. Symptoms could  
include skin rash, running nose and headache.

\*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes,  
occasionally lifting the upper and lower eyelids. Get medical aid  
immediately.

Skin:

Get medical aid immediately. Flush skin with plenty of water for at  
least 15 minutes while removing contaminated clothing and shoes.  
Wash clothing before reuse.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.  
Never give anything by mouth to an unconscious person. Get medical  
aid immediately.

Inhalation:

Remove from exposure and move to fresh air immediately. If not  
breathing, give artificial respiration. If breathing is difficult,  
give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Treat symptomatically and

\*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

General Information:

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As in any fire, wear a self-contained breathing apparatus in  
pressure-demand, MSHA/NIOSH (approved or equivalent), and full  
protective gear.

Extinguishing Media:

Use agent most appropriate to extinguish fire.

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

\*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

General Information: Use proper personal protective equipment as indicated  
in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth),  
then place in suitable container. Clean up spills immediately,  
observing precautions in the Protective Equipment section. Provide  
ventilation.

\*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Avoid  
contact with eyes, skin, and clothing. Keep container tightly closed.  
Avoid contact with clothing and other combustible materials. Avoid  
ingestion and inhalation.

Storage:

Do not store near combustible materials. Store in a tightly closed  
container. Store in a cool, dry, well-ventilated area away from  
incompatible substances. Keep away from strong acids. Keep away from  
metals. Keep away from reducing agents.

\*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne  
concentrations below the permissible exposure limits.

Exposure Limits

| Chemical Name    | ACGIH           | NIOSH       | OSHA - Final PELs                   |
|------------------|-----------------|-------------|-------------------------------------|
| Iodine           | 0.1 ppm Ceiling | 2 ppm IDLH  | 0.1 ppm Ceiling;<br>1 mg/m3 Ceiling |
| Potassium iodide | none listed     | none listed | none listed                         |
| Water            | none listed     | none listed | none listed                         |

OSHA Vacated PELs:

Iodine:  
No OSHA Vacated PELs are listed for this chemical.

Potassium iodide:  
No OSHA Vacated PELs are listed for this chemical.

Water:  
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical  
safety goggles as described by OSHA's eye and face  
protection regulations in 29 CFR 1910.133 or European  
Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin  
exposure.

Clothing:

Wear appropriate protective clothing to prevent skin  
exposure.

Respirators:

Follow the OSHA respirator regulations found in 29  
CFR 1910.134 or European Standard EN 149. Always use  
a NIOSH or European Standard EN 149 approved  
respirator when necessary.

\*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State:

Liquid

Color:

Not available.

Odor:

Not available.

pH:

Not available.

Vapor Pressure:

Not available.

Evaporation Rate:

Not available.

Viscosity:

Not available.

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Boiling Point: Not available.  
Freezing/Melting Point: Not available.  
Decomposition Temperature:  
Solubility in water:  
Specific Gravity/Density:  
Molecular Formula:  
Molecular Weight:

\*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability:

Stable.

Conditions to Avoid:

Incompatible materials.

Incompatibilities with Other Materials:

Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), alcohols and glycols (e.g. butyl alcohol, ethanol, methanol, ethylene glycol), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), amides (e.g. butyramide, diethyltoluamide, dimethyl formamide), amines (aliphatic and aromatic, e.g. dimethyl amine, propylamine, pyridine, triethylamine), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), carbamates (e.g. carbanilate, carbofuran), cyanides (e.g. potassium cyanide, sodium cyanide), dithiocarbamates (e.g. ferbam, maneb, metham, thiram), esters (e.g. butyl acetate, ethyl acetate, propyl formate), ethers (e.g. dioxane, furfuran, tetrahydrofuran (THF)), hydrocarbons (aromatic, e.g. benzene, chrysene, cumene, toluene), halogenated organics (e.g. dibromomethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (e.g. acetone, acetophenone, MEK, MIBK), mercaptans and other organic sulfides (e.g. butyl mercaptan, carbon disulfide, methanethiol), metals (alkali and alkaline, e.g. cesium, potassium, sodium), metals as powders (e.g. hafnium, rheny nickel), metals as non-powders (e.g. brass, bronze, iron), nitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic, e.g. nitrobenzene, nitroglycerine, picric acid, trinitrotoluene), hydrocarbons (aliphatic, unsaturated, e.g. cyclopentene, ethylene, heptene), hydrocarbons (aliphatic, saturated, e.g. butane, heptane, isooctane), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), phenols and cresols (e.g. carboic acid, creosote, cresol, phenol, resorcinol), organophosphates, phosphothioates (e.g. methylparathion, parathion, phorate, thionazin).

Hazardous Decomposition Products:

Hydrogen iodide, iodine.

Hazardous Polymerization: Has not been reported.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#:

CAS# 7553-56-2: NN1575000

CAS# 7681-11-0: TT2975000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 7553-56-2: Oral, mouse: LD50 = 22 gm/kg; Oral, rabbit: LD50 = 10 gm/kg; Oral, rat: LD50 = 14 gm/kg.

CAS# 7681-11-0:

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Iodine - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Potassium iodide - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Water - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No information available.

Teratogenicity:

No information available.

Reproductive Effects:

No information available.

Neurotoxicity:

No information available.

Mutagenicity:

No information available.

Other Studies:

No data available.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity:

Fish, LC50: 28.5 mg/kg

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Chemical waste generators must determine whether a discarded chemical

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is classified as a hazardous waste.

US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT

No information available

Canadian TDG

No information available.

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

US FEDERAL

TSCA

CAS# 7553-56-2 is listed on the TSCA inventory.

CAS# 7681-11-0 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CECLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7553-56-2: acute, chronic, flammable.

CAS # 7681-11-0: acute, chronic.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Iodine can be found on the following state right to know lists:

California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

Potassium iodide is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 7553-56-2: 1

CAS# 7681-11-0: 1

CAS# 7732-18-5: No information available.

United Kingdom Occupational Exposure Limits

CAS# 7553-56-2: OES-United Kingdom, STEL 0.1 ppm STEL; 1.1 mg/m3

STEL

United Kingdom Maximum Exposure Limits

Canada

CAS# 7553-56-2 is listed on Canada's DSL List.

CAS# 7681-11-0 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

WHMIS: Not available.

CAS# 7553-56-2 is listed on Canada's Ingredient Disclosure List.

CAS# 7681-11-0 is listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7553-56-2: OEL-ARAB Republic of Egypt:TWA 0.1 ppm (0.1 mg/m3)

OEL-AUSTRALIA:TWA 0.1 ppm (1 mg/m3)

OEL-BELGIUM:STEL 0.1 ppm (1 mg/m3)

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OEL-DENMARK:STEL 1 ppm (1 mg/m3)  
OEL-FINLAND:STEL 0.1 ppm (1 mg/m3);Skin  
OEL-FRANCE:STEL 0.1 ppm (1 mg/m3)  
OEL-GERMANY:TWA 0.1 ppm (1 mg/m3)  
OEL-HUNGARY:TWA 1 mg/m3;STEL 2 mg/m3  
OEL-JAPAN:TWA 0.1 ppm (1 mg/m3);STEL 1 mg/m3 JAN9  
OEL-THE NETHERLANDS:TWA 0.1 ppm (1 mg/m3)  
OEL-THE PHILIPPINES:TWA 0.1 ppm (1 mg/m3)  
OEL-POLAND:TWA 1 mg/m3  
OEL-RUSSIA:TWA 0.1 ppm;STEL 1 mg/m3;Skin  
OEL-SWEDEN:STEL 0.1 ppm (1 mg/m3)  
OEL-SWITZERLAND:TWA 0.1 ppm (1 mg/m3);STEL 0.2 pp (2 mg/m3)  
OEL-THAILAND:TWA 0.1 ppm (1 mg/m3)  
OEL-TURKEY:TWA 0.1 ppm (1 mg/m3)  
OEL-UNITED KINGDOM:STEL 0.1 ppm (1 mg/m3)  
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV  
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## \*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

MSDS Creation Date: 9/16/1998 Revision #4 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

