



# MATERIAL SAFETY DATA SHEET

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MSDS No. GG 220  
Effective Date October 15, 1998

## SECTION V HEALTH HAZARD DATA

GG 220

**Threshold Limited Value** None established for this mixture. (ACGIH 1992-93) Toxicity: Oral human TWA: As Iodine (Ceiling limit) 0.1 ppm; 1 mg/m<sup>3</sup> (Air) LDLO: 2000 mg/kg.

**Effects of Overexposure** Contact as fumes, solid or solution is intensely irritating to eyes, skin and mucous membranes. **INGESTION:** Of large quantities causes abdominal pain, vomiting and diarrhea. In severe cases purging, excessive thirst and circulatory failure may develop. Exercise appropriate procedures to minimize potential hazards.

**Emergency and First Aid Procedures** **INGESTION:** If swallowed, if conscious, give one or two glasses of milk, follow by a starch, flour, or egg whites as a water solution. Get immediate medical attention. Never give anything by mouth to an unconscious person. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **INHALATION:** If inhaled, remove to fresh air. If breathing has stopped, give artificial respiration. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water.

## SECTION VI REACTIVITY DATA

<b>Stability</b>	<b>Unstable</b>		<b>Conditions to Avoid</b>	Sublimation will occur with excessive temperature and heat.
	<b>Stable</b>	X		

**Incompatibility (Materials to Avoid)** Contact of gaseous ammonia or its solution with free iodine should be avoided to prevent the formation of the explosive "nitrogen iodide". Acetaldehyde, Sodium Azide, Sodium hydride.

<b>Hazardous Decomposition Products</b>	Free Iodine as fume.
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<b>Hazardous Polymerization</b>	<b>Conditions to Avoid</b>	Not applicable.
<b>May Occur</b>	<b>Will Not Occur</b>	
	X	

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled** For liquid: Absorb spill in vermiculite, sand, earth, paper towel and place in a suitable container for disposal. Wash spill area with 5-10% sodium thiosulfate solution. For solid: Sweep up and place in suitable container for proper disposal.

**Waste Disposal Method** Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Work in a ventilation hood and wearing proper safety equipment, collect waste iodine in a large beaker. Cover with a large volume of water. Slowly add, while stirring soda ash or sodium thiosulfate till all of the iodine has been dissolved and solution is colorless. Flush to sewer with copious amounts of water.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)** None should be needed in normal laboratory handling at room temperature. If needed, work in fume hood or wear a NIOSH/MSHA-approved respirator.

<b>Ventilation</b>	<b>Local Exhaust</b>	Recommended.	<b>Special</b>	No.
	<b>Mechanical (General)</b>	Recommended.	<b>Other</b>	No.

<b>Protective Gloves</b>	Rubber.	<b>Eye Protection</b>	Chemical safety glasses.
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<b>Other Protective Equipment</b>	Smock, apron, eye wash station, goggles, ventilation hood, proper gloves.
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## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing** Store in a cool, dry, well-ventilated area. Remove all contaminated clothing and shoes. Wash before reuse. Wash thoroughly after handling. Keep container tightly closed when not in use.

**Other Precautions** Read label on container before using. Do not wear contact lenses when working with chemicals.

Avoid contact with skin, eyes and mucous membranes. Use with adequate ventilation. Causes yellow to brown stains on contact with skin.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

<b>Revision</b> No. 5	<b>Date</b> 10/15/98	<b>Approved</b> Michael Raszeja	<b>Chemical Safety Coordinator</b> MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. \* Hazardous Materials Industrial Standards. Printed on recycled paper.

## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

<b>Product</b>	GRAM'S IODINE STAIN (Dry *)	<p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4</p> <p>HMIS * HIGH EXTREME 3 2</p>
<b>Chemical Synonyms</b>	Gram's Iodine Staining Solution	
<b>Formula</b>	Mixture. See Section II.	
<b>Unit Size</b>	5 grams as solid. 100 mL. as solution.	
<b>C.A.S. No.</b>	Mixture. See Section II.	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Sodium Bicarbonate: (CAS No. 144-55-8)	0.10%	None listed.
Iodine Crystals: (CAS No. 7553-56-2)	0.33%	See Section V.
Potassium Iodide: (CAS No. 7681-11-0)	0.66%	None listed.

**DANGER! CORROSIVE! HARMFUL IF INHALED OR SWALLOWED. CAUSES IRRITATION.**

## SECTION III PHYSICAL DATA

<b>Melting Point (°F)</b>	May freeze at 0°C (32°F) diluted	<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	1.0
<b>Boiling Point (°F)</b>	Approx. 100°C (212°F) diluted	<b>Percent Volatile by Volume (%)</b>	96-99% diluted; 0.33% dry
<b>Vapor Pressure (mm Hg)</b>	14 (water) diluted	<b>Evaporation Rate (Ether = 1)</b>	Greater than 1.
<b>Vapor Density (Air=1)</b>	0.7 (water) diluted		
<b>Solubility in Water</b>	Complete.		
<b>Appearance &amp; Odor</b>	Deep-amber color liquid; iodine odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point (Method Used)</b>	Non-flammable (NA).	<b>Flammable Limits in Air % by Volume</b>	NA	<b>Lower</b>	<b>Upper</b>
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**Extinguisher Media** Use any media suitable for extinguishing supporting fire.

### SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing.

\* This material is supplied dry to be diluted to 100 mL. with water prior to use.

### UNUSUAL FIRE AND EXPLOSION HAZARDS

When heated, emits toxic and corrosive, violet in color, fumes of iodine. Iodine is corrosive to metals and to all body tissues

- \* Melting Point (°F): 113.5°C (235°F) dry
- \* Boiling Point (°F): 184°C (363°F) dry
- \* Vapor Pressure (mm Hg): 0.2 mm @ 20°C (dry)
- \* Vapor Density (Air=1): 4.4 (dry)

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20