

MSDS Number: **I2694** \* \* \* \* \* *Effective Date: 11/10/05* \* \* \* \* \* *Supersedes: 01/03/03*



From: Mallinckrodt Baker, Inc.  
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24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. And Canada  
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# Iodine and Potassium Iodine TS

## 1. Product Identification

**Synonyms:** Iodine and Potassium Iodine test solution

**CAS No.:** Not applicable to mixtures.

**Molecular Weight:** Not applicable to mixtures.

**Chemical Formula:** Not applicable to mixtures.

**Product Codes:** 5923

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Iodine	7553-56-2	1 - 2%
Yes		
Potassium Iodide	7681-11-0	5 - 6%
Yes		
Water	7732-18-5	92 - 94%
No		

## 3. Hazards Identification

Emergency Overview

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**POISON! DANGER! CAUSES SEVERE IRRITATION OR BURNS TO EVERY AREA OF CONTACT. MAY BE FATAL IF SWALLOWED OR INHALED. VAPORS CAUSE SEVERE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE CARDIOVASCULAR AND CENTRAL NERVOUS SYSTEMS. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

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Health Rating: 3 - Severe (Poison)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Blue (Health)

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### **Potential Health Effects**

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The following hazards are for concentrated solutions. Hazards of less concentrated solutions should be reduced.

#### **Inhalation:**

Vapors severely irritate and can burn the mucous membranes and respiratory tract. Excessive tears, rhinitis, tightness in the chest, sore throat, headache and delayed pulmonary edema can result. Inhalation of concentrated vapors may be fatal.

#### **Ingestion:**

Can cause severe burns of the mouth, throat and stomach. Causes abdominal pain, diarrhea, fever, vomiting, stupor and shock. Probable lethal dose is 2 to 4 gm of free iodine.

#### **Skin Contact:**

Contact may cause blistering burns, irritation, and pain. Vapors may be severely irritating to the skin.

#### **Eye Contact:**

Vapors are severely irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

#### **Chronic Exposure:**

Chronic exposure to iodine may cause insomnia, conjunctivitis, inflammation of the nasal mucous, bronchitis, tremor, rapid heart beat, diarrhea and weight loss. Allergic sensitization may occur. Chronic iodine overdoses have produced iodism. Headache, fever, sneezing, salivation, and skin rashes may occur.

#### **Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders, eye problems, impaired respiratory function, or disease of the thyroid, lungs, or kidney may be more susceptible to the effects of the substance.

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## 4. First Aid Measures

### **Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. Observe for the development of pulmonary edema.

### **Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

### **Skin Contact:**

Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse. Iodine stains can be removed by immediately washing skin with 5% sodium thiosulfate solution.

### **Eye Contact:**

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

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## 5. Fire Fighting Measures

### **Fire:**

Not considered to be a fire hazard.

### **Explosion:**

Not considered to be an explosion hazard.

### **Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

### **Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):

0.1 ppm Ceiling for iodine

-ACGIH Threshold Limit Value (TLV):

0.1 ppm Ceiling for iodine

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

Transparent, reddish brown solution.

### **Odor:**

No information found.

### **Solubility:**

No information found.

### **Specific Gravity:**

No information found.

### **pH:**

No information found.

### **% Volatiles by volume @ 21C (70F):**

No information found.

**Boiling Point:**

No information found.

**Melting Point:**

No information found.

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. May discolor on exposure to light.

**Hazardous Decomposition Products:**

Burning may produce toxic iodine vapors.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Ammonia, strong acids, powdered metals, alkali metals, acetaldehyde, acetylene, ammonium hydroxide, and strong reducing agents.

**Conditions to Avoid:**

Heat, incompatibles.

## 11. Toxicological Information

**Toxicological Data:**

For Iodine: Oral rat LD50: 14 gm/kg; Human LDLo: 28 mg/kg; Investigated as a reproductive effector.

Potassium Iodide: Investigated as a mutagen, reproductive effector.

**Reproductive Toxicity:**

Occasional uses of iodides for asthma in pregnancy has resulted in fetal death, severe goiter, and cretinoid appearance of the newborn.

-----\Cancer

Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Iodine (7553-56-2)	No	No	None
Potassium Iodide (7681-11-0)	No	No	None
Water (7732-18-5)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

-----\Chemical Inventory Status - Part			
1\-----	TSCA	EC	Japan
Ingredient			
Australia			
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Iodine (7553-56-2)	Yes	Yes	No
Yes			
Potassium Iodide (7681-11-0)	Yes	Yes	Yes
Yes			
Water (7732-18-5)	Yes	Yes	Yes
Yes			
-----\Chemical Inventory Status - Part			
2\-----	Korea	--Canada--	
Ingredient		DSL	NDSL
Phil.			
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Iodine (7553-56-2)	Yes	Yes	No
Yes			
Potassium Iodide (7681-11-0)	Yes	Yes	No
Yes			
Water (7732-18-5)	Yes	Yes	No
Yes			

-----\Federal, State & International Regulations - Part  
1\-----

Ingredient Chemical Catg.	-SARA 302-	TPQ	List	-----SARA
Iodine (7553-56-2)	No	No	No	No
Potassium Iodide (7681-11-0)	No	No	No	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part  
2\-----

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8 (d)
Iodine (7553-56-2)	No	No	No
Potassium Iodide (7681-11-0)	No	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: Yes      Fire: No      Pressure: No  
Reactivity: No      (Mixture / Liquid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: **2** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

POISON! DANGER! CAUSES SEVERE IRRITATION OR BURNS TO EVERY AREA OF CONTACT. MAY BE FATAL IF SWALLOWED OR INHALED. VAPORS CAUSE SEVERE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE CARDIOVASCULAR AND CENTRAL NERVOUS SYSTEMS. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION.

**Label Precautions:**

- Do not breathe vapor or mist.
- Keep container closed.
- Do not get in eyes, on skin, or on clothing.
- Use only with adequate ventilation.
- Wash thoroughly after handling.

**Label First Aid:**

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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