



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Mercuric-Potassium Iodide TS, Mayer's Reagent

Product Number 4765

Other Identifying Product Numbers 4765-16, 4765-32

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company Ricca Chemical Company

Address 412 West Fork Drive

Arlington, TX 76012 USA

Telephone 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Oral	Category 3	H301	P264,P270,P301+P310,P321,P330,P405,P501
Acute Toxicity - Inhalation (Dusts and Mists)	Category 4	H332	P261,P271,P304+P340,P312
Serious Eye Damage / Eye Irritation	Category 2	H319	P264,P280,P305+P351+P338, P337+P313
Skin Sensitization	Category 1	H317	P261,P272,P280,P302+P352,P333+P313,P321,P362+P364,P501
Germ Cell Mutagenicity	Category 1B	H340	P201,P202,P280,P308+P313,P405, P501
Reproductive Toxicity	Category 2	H361	P201,P202,P280,P308+P313,P405, P501
Specific Target Organ Toxicity - Repeated Exposure	Category 1	H372	P260,P264,P270,P314,P501
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 3	H402	P273,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 3	H412	P273,P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H301	Toxic if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H340	May cause genetic defects
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to central nervous system, kidneys, thyroid through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

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Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

Prevention

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	If exposed or concerned: Get medical advice or attention.
P312	Call a poison center or doctor if you feel unwell.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice or attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Storage

Precautionary Number	Precautionary Statement
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

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2.4. Ingredients of Unknown Acute Toxicity

4.8 percent of this mixture consists of ingredient(s) of unknown acute inhalation toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	93.94
potassium iodide	Potassium Iodide	7681-11-0	4.76
dichloromercury	Mercuric Chloride; Mercury(II) chloride	7487-94-7	1.29

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor. Dilute immediately with water or milk. Induce vomiting. Call a physician.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN: Wash with plenty of water. May irritate damaged skin, absorption can occur with effects similar to those via ingestion.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Toxic if swallowed WARNING! May be fatal if swallowed. May cause irritation to the skin, eyes, gastrointestinal tract, central nervous system and respiratory tract. If ingested, give large quantity of water. Induce vomiting. Call a physician immediately. Wash areas of contact with plenty of water for at least 15 minutes. Mercury compounds affect the kidneys and central nervous system. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May irritate damaged skin, absorption can occur with effects similar to those via ingestion. CHRONIC EFFECTS / CARCINOGENICITY: Chronic exposure can lead to central nervous system damage.

4.3. Immediate Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire. Dry chemical or foam may suffice for small fires. For large fires, try fog or regular foam. Exercise caution if water is used (it may increase contamination of area).

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5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Not considered to be a fire or explosion hazard. Heat of reaction can accelerate the combustion of ordinary combustible materials.

5.3. Special Protective Equipment and Precautions for Firefighters

Use protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Wear gloves to protect from absorption through skin. Absorb with suitable material and containerize for proper disposal. Do not flush to sewer. Sprinkle area with Sulfur to suppress Mercury.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Mercuric Chloride	7487-94-7	"0.025 mg/m ³ TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]
Potassium Iodide	7681-11-0	"0.01 mg/m ³ TWA (inhalable particulate matter, as I)" As Iodides [RR-42509-2]

8.2. Engineering Controls

Use only outdoors or in a well-ventilated area. No specific controls are needed. Normal room ventilation is adequate.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	liquid
Color:	Colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Approximately 0°C
Boiling Point/Range:	Approximately 101°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	Not flammable
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	5 - 7
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.05
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Formates, Sulfites, Phosphates, Albumin, Ammonia, Gelatin, Carbonates, Hypophosphites, Sulfides, Alkalies, Alkaloid salts, Lime water.

10.4. Hazardous Decomposition Products

Will not occur.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 77 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Mercuric Chloride	7487-94-7	Oral LD50 Rat 1 mg/kg (Source: NLM_CIP)
Potassium Iodide	7681-11-0	Oral LD50 Rat 2779 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Dermal Exposure:

Dermal acute toxicity estimate (ATE): 3178 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Mercuric Chloride	7487-94-7	Dermal LD50 Rabbit 41 mg/kg (Source: JAPAN_GHS)
Potassium Iodide	7681-11-0	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, dust or mist): 3.8760 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Mercuric Chloride	7487-94-7	Inhalation LC50 Acute Toxicity Estimate 0.05 mg/L 4 h (Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Mercuric Chloride	7487-94-7	Group 3 (Not Classified) - Monograph 58 [1993] (listed under Mercury and Mercury compounds)

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Mercuric Chloride	7487-94-7	Male Rat - Some Evidence; Female Rat - Equivocal Evidence; Male Mice - Equivocal Evidence; Female Mice - No Evidence (TR-408)

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

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11.3 Additional Toxicology Information:

Toxic if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to central nervous system, kidneys, thyroid through prolonged or repeated exposure.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Mercuric Chloride	7487-94-7	Freshwater Fish	Acute	LC50 96 h <i>Lepomis macrochirus</i> 0.096 - 0.133 mg/L [static] (EPA); LC50 96 h <i>Lepomis macrochirus</i> 0.4 mg/L [semi-static] (EPA); LC50 96 h <i>Cyprinus carpio</i> 4.425 mg/L (EPA); LC50 96 h <i>Cyprinus carpio</i> 0.02 - 0.26 mg/L [static] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.014 - 0.019 mg/L [flow-through] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 0.13 - 0.19 mg/L [static] (EPA); LC50 96 h <i>Pimephales promelas</i> 0.155 mg/L (EPA); LC50 96 h <i>Pimephales promelas</i> 0.1 - 0.182 mg/L [flow-through] (EPA); LC50 96 h <i>Poecilia reticulata</i> 0.041 mg/L (EPA); LC50 96 h <i>Poecilia reticulata</i> 5.933 - 10.34 mg/L [static] (EPA)
Potassium Iodide	7681-11-0	Freshwater Fish	Acute	LC50 96 h <i>Danio rerio</i> >100 mg/L [static] (ECHA)
Mercuric Chloride	7487-94-7	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> >0.012 mg/L [semi-static] (EPA); EC50 48 h <i>Daphnia magna</i> 0.0015 mg/L [Static] (EPA)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.



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SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1 Transportation by Land - Department of Transportation (DOT, United States of America)

Sizes: 1 L, 500 mL

UN Number: UN3287

Proper Shipping Name: Toxic Liquid, Inorganic, n.o.s. (Mercuric Chloride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):



14.2 Transportation by Air - International Air Transport Association (IATA)

Sizes: 1 L, 500 mL

UN Number: UN3287

Proper Shipping Name: Toxic Liquid, Inorganic, n.o.s. (Mercuric Chloride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):





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14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 500 mL

UN Number: UN3287

Proper Shipping Name: TOXIC LIQUID, INORGANIC, N.O.S. (mercuric chloride)

Hazard Class: 6.1

Packing Group: III

Hazard Label(s):



SECTION 15: Regulatory Information

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15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Chemical Name	CAS Number	RQ	TPQ
Mercuric Chloride	7487-94-7	500 lb lower TPQ; 10000 lb upper TPQ	500 lb EPCRA RQ

15.03. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Chemical Name	CAS Number	Regulatory Information
No data found.		

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Mercuric Chloride	7487-94-7	Emission Reporting	"not eligible for the de minimis exemption, listed under Chemical Category N458" As Mercury compounds [RR-00138-7]
Mercuric Chloride	7487-94-7	Chemicals of Special Concern	"10 lb RT" As Mercury compounds [RR-00138-7]

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Mercuric Chloride	7487-94-7	Extraordinarily hazardous

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Mercuric Chloride	7487-94-7	Environmental hazard

15.07. New Jersey Worker and Community Right-to-Know Components

Chemical Name	CAS Number	Regulatory Information
Mercuric Chloride	7487-94-7	sn 1170

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Mercuric Chloride	7487-94-7	"developmental toxicity, 7/1/1990" As Mercury compounds [RR-00138-7]

15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Chemical Name	CAS Number	List	Status
Mercuric Chloride	7487-94-7	DSL	Present
Potassium Iodide	7681-11-0	DSL	Present
Water	7732-18-5	DSL	Present

15.10. United States of America Toxic Substances Control Act (TSCA) List

Chemical Name	CAS Number	Status
Mercuric Chloride	7487-94-7	Present (ACTIVE)
Potassium Iodide	7681-11-0	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Chemical Name	CAS Number	List	Number
Mercuric Chloride	7487-94-7	EINECS	231-299-8
Potassium Iodide	7681-11-0	EINECS	231-659-4
Water	7732-18-5	EINECS	231-791-2

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Mercuric Chloride	7487-94-7	Present [24061]
Potassium Iodide	7681-11-0	Present [05768]
Water	7732-18-5	Present [32224]

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15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Mercuric Chloride	7487-94-7	Annex 1	Present [KE-23121]
Mercuric Chloride	7487-94-7	Annex 3	"Present (97-1-140)" As Mercury compounds [RR-00138-7]
Potassium Iodide	7681-11-0	Annex 1	Present [KE-29149]
Water	7732-18-5	Annex 1	Present [KE-35400]

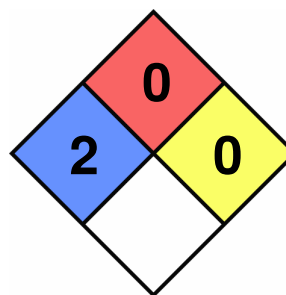
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Mercuric Chloride	7487-94-7	(1)-226
Potassium Iodide	7681-11-0	(1)-439
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 0
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-24

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.