


Safety Data Sheet (SDS)

Products

Part Number	Name	Used in	Remarks
202-32007-30	KRS-5 10cm gas cell		

KRS-5 window

1. Identification	<p>Product name:</p> <p>Company:</p> <p>Address:</p> <p>Responsible department:</p> <p>Telephone:</p> <p>Fax:</p>	<p>KRS-5 10cm gas cell</p> <p>Shimadzu Corporation</p> <p>1, Nishinokyo-Kuwabaraco, Nakagyo-ku, Kyoto 604-8511 JAPAN</p> <p>Spectroscopy Business Unit, Analytical & Measuring Instrument Div.</p> <p>+81-75-823-1203</p> <p>+81-75-823-4614</p>
2. Hazards identification	<p>Classification of the substance or mixture</p> <p>Signal Word: Danger</p> <p>H300</p> <p>H330</p> <p>H373</p> <p>Signal Word: Warning</p> <p>H411</p> <p>Precautionary Statements:</p> <p>P260</p> <p>P264</p> <p>P270</p> <p>P273</p> <p>P301+P310</p> <p>P304+P312</p>	<p>Class 6.1 Poison.</p> <p>Very toxic by ingestion with cumulative effects. Harmful in contact with skin. Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment. Particular care must be exercised when machining and creating dust or particles. Dangerous for the environment.</p> <p>Fatal if swallowed</p> <p>Fatal if inhaled</p> <p>May cause damage to organs through prolonged or repeated exposure.</p> <p>Toxic to aquatic life with long lasting effects</p> <p>Do not breathe dust/fume/gas/mist/vapors/spray.</p> <p>Wash thoroughly after handling.</p> <p>Do not eat, drink or smoke when handling this product</p> <p>Avoid release to the environment.</p> <p>IF SWALLOWED: Immediately call a poison center or doctor. Rinse mouth.</p> <p>IF INHALED: Call a poison center or doctor/physician if you feel unwell.</p>

			
3. Composition/ information on ingredients	Substance/mixture: Components: Components: Percent: CAS Number: Chemical Formula: Notice Through Official Gazettes Reference Number · ENCS: · ISHL:	Mixture KRS-5/Thallium Bromide and Thallium Iodide Thallium Iodide 58% 7790-30-9 TII (1)-1169 Not listed	Thallium Bromide 42% 7789-40-4 TIBr (1)-1169 Not listed
4. First-aid measures	Inhalation: Skin: Eyes: Ingestion:	Remove to fresh air. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may administer oxygen. Keep affected person warm and at rest. Obtain medical attention. Wash thoroughly with soap and water. Dry area with clean towel. Remove contaminated clothing and wash clothing before re-use. Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention. Do not induce vomiting. Wash out mouth thoroughly with water and give 2 cups of water to drink. Do not give carbonated drinks. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.	
5. Fire-fighting measures	Extinguishing media: Special hazards arising from the substance or mixture: Advice for firefighters:	This product does not burn. Material may evolve toxic fumes in a fire. Use breathing apparatus if necessary	
6. Accidental release measures	Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and cleaning up: Reference to other sections	Wear suitable protective clothing & equipment as listed under Section 8. Avoid making dust. Prevent further leakage or spillage. Do not let product enter drains. Do not discharge to the environment. Take up and containerize for proper disposal. Containerize any cleaning materials used for proper disposal. Dispose as in Section 13.	

7.	Handling and storage	Precautions for safe handling: Conditions for safe storage, including any incompatibilities: Specific end uses:	Keep away from heat. Avoid contact with skin and eyes. Protect against physical damage. Avoid generating dust. Keep away from foodstuffs. Keep away from acids and strong bases. Optical Material for Manufacture of Optical Components.						
8.	Exposure controls / personal protection	Engineering controls: Control parameters: Occupational exposure limits (oel): Exposure controls:	Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath. <table><tr><td>Thallium Iodide</td><td>Thallium Bromide</td></tr><tr><td>Not set up</td><td>Not set up</td></tr><tr><td>0.1 mg/m3 in 8 hour Time Weighted Average (TWA)</td><td>0.1 mg/m3 in 8 hour Time Weighted Average (TWA)</td></tr></table> Protective gloves made of PVA are required. Use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Respirators must be worn when the threshold limit is exceeded. Provide adequate general mechanical ventilation, and local exhaust ventilation. Wash hands immediately after handling the product.	Thallium Iodide	Thallium Bromide	Not set up	Not set up	0.1 mg/m3 in 8 hour Time Weighted Average (TWA)	0.1 mg/m3 in 8 hour Time Weighted Average (TWA)
Thallium Iodide	Thallium Bromide								
Not set up	Not set up								
0.1 mg/m3 in 8 hour Time Weighted Average (TWA)	0.1 mg/m3 in 8 hour Time Weighted Average (TWA)								
9.	Physical and chemical properties	Appearance: Flash point: Boiling point (760mm hg): Flammability: Melting point: Explosive properties: Specific gravity: Vapor pressure: Solubility in water: pH in aqueous solution:	Red geometric shapes, no odor. Not Applicable Not Applicable Not Applicable 414 deg. C Not Applicable 7.37 g/mL Negligible at 25 deg. C Low Solubility: 50mg/100ml H2O at 20 deg. C Not determined						
10.	Stability and reactivity	Reactivity: Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products:	Reacts with strong oxidizing materials Stable under normal conditions of storage and use None known Can react with oxidizing agents. Avoid strong acids Strong Mineral Acids. Strong oxidizing materials Thallium, Hydrogen Iodide, Hydrogen Bromide.						
11.	Toxicological information	Information on toxicological effects	Extremely toxic by ingestion, with a cumulative effect. Affects nervous system, skin and cardiovascular system. Symptoms include vomiting, muscle pains and swelling, mental confusion and insomnia, hair loss. Also harmful in contact with skin.						

	<p>Toxic dose - Id50:</p> <p>Carcinogenicity:</p> <p>Mutagenicity/teratogenicity:</p>	<p>Particular care must be exercised when machining and creating dust or particles. Inhalation of dust may irritate respiratory system.</p> <p>24 mg/kg oral</p> <p>No evidence of carcinogenic properties.</p> <p>Evidence of reproductive effects.</p>
12. Ecological information	<p>Toxicity:</p> <p>Persistence and degradability:</p> <p>Bioaccumulative potential:</p> <p>Mobility in soil:</p> <p>Results of pbt and vpvb assessment:</p> <p>Other adverse affects:</p>	<p>Danger to drinking water. Poisonous to Fish</p> <p>No Data</p> <p>No Data</p> <p>No Data</p> <p>Not required or conducted</p> <p>Do not allow product to reach ground water, water course or sewage system. Only release to environment with proper government permit.</p>
13. Disposal considerations	Waste treatment methods	<p>Chemical residues are generally classified as special waste, and are covered by regulations which vary according to location.</p> <p>Contact your local waste disposal authority for advice, or pass to a chemical disposal company.</p>
14. Transport information	<p>IMDG</p> <p>Un number:.</p> <p>Un proper shipping name:</p> <p>Transport hazard class:.</p> <p>Packing group:</p> <p>Marine Pollutant:</p> <p>Harmful Liquid</p> <p>Substances:</p> <p>IATA</p> <p>Un number:.</p> <p>Un proper shipping name:</p> <p>Transport hazard class:.</p> <p>Packing group:</p>	<p>Comply with IMO</p> <p>1707</p> <p>Thallium Compounds, N.O.S. (Thallium Bromide-Iodide).</p> <p>6.1</p> <p>II</p> <p>P</p> <p>Not Applicable</p> <p>Comply with ICAO/IATA</p> <p>1707</p> <p>Thallium Compounds, N.O.S. (Thallium Bromide-Iodide).</p> <p>6.1</p> <p>II</p>
15. Regulatory information	Safety, health and environmental regulations / legislation specific for the substance or mixture	<p>TSCA: Listed in the TSCA inventory</p> <p>SARA: Listed. This product is subject to SARA section 313 reporting requirement – thallium compounds.</p> <p>WHMIS: This is a controlled product under the Canadian Workplace Hazardous Materials Information System</p>
16. Other information		

- This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards

and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.

- Some new information or amendments may be added later. If you have any questions, please feel free to contact us.
- The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.