

mercuric chloride solution, saturated

Chemwatch Material Safety Data Sheet (REVIEW)  
Issue Date: 15-Oct-2010  
XC9477SC

Hazard Alert Code: EXTREME

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Version No:2.0  
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

mercuric chloride solution, saturated

STATEMENT OF HAZARDOUS NATURE

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

OTHER NAMES

"mercury chloride solution", "laboratory reagent"

PROPER SHIPPING NAME

TOXIC LIQUID, INORGANIC, N.O.S.(contains mercury salts)

PRODUCT NUMBERS

TGPBB1.37\_1\_1  
TGPBB1.37\_1\_2  
TGPBB1.37\_1\_3  
TGPBB1.37\_1\_4  
TGPCORR 27  
TGPAS\_OA

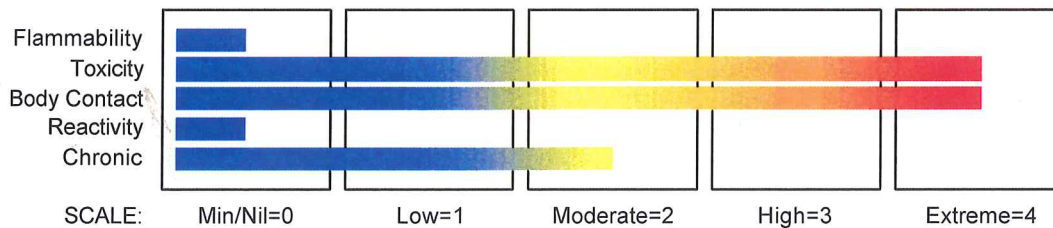
PRODUCT USE

Laboratory reagent.

■ Operators should be trained in procedures for safe use of this material.

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS



GHS Classification

Acute Aquatic Hazard Category 1  
Acute Toxicity (Oral) Category 2  
Serious Eye Damage Category 1  
Skin Corrosion/Irritation Category 1C  
STOT - SE Category 1



EMERGENCY OVERVIEW

HAZARD  
DANGER

Gazetted by ERMANZ:  
6.1B (oral)

Fatal if swallowed

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Section 2 - HAZARDS IDENTIFICATION

6.9A (oral)	Causes damage to organs if swallowed.
6.9A (dermal)	Causes damage to organs by skin contact.
8.2C	Causes severe skin burns and eye damage
8.3A	Causes serious eye damage
9.1A (fish)	Very toxic to aquatic life
9.1A (crustacean)	Very toxic to aquatic life
9.1A (algal)	Very toxic to aquatic life
9.3A	Very toxic to terrestrial vertebrates

**PRECAUTIONARY STATEMENTS****Prevention**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove to fresh air and keep at rest in a position 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.
P307+P311	IF exposed: Call a POISON CENTER or doctor/physician.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
<b>Storage</b>	
P405	Store locked up.
<b>Disposal</b>	
P501	Dispose of contents/container to ...

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

NAME	CAS RN	%
mercuric chloride	7487-94-7	7
water	7732-18-5	93

**Section 4 - FIRST AID MEASURES**

NEW ZEALAND POISONS INFORMATION CENTRE 0800 POISON (0800 764 766)  
NZ EMERGENCY SERVICES: 111

**SWALLOWED**

- For advice, contact a Poisons Information Centre or a doctor.
- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.

Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

- Induce vomiting with fingers down the back of the of the throat, ONLY IF CONSCIOUS.
- Lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.

**EYE**

- If this product comes in contact with the eyes:
  - Wash out immediately with fresh running water.
  - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  - Seek medical attention without delay; if pain persists or recurs seek medical attention.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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Section 4 - FIRST AID MEASURES

**SKIN**

- If skin contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

**INHALED**

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

**NOTES TO PHYSICIAN**

- Moderate adsorption of inorganic mercury compounds through the gastro-intestinal tract (7-15%) is the principal cause of poisoning. These compounds are highly concentrated (as the mercuric (Hg (2+) form) in the kidney; acute ingestion may lead to oliguric renal failure. Severe mucosal necrosis may also result from ingestion.
- Chronic effects range from proteinuria to nephrotic syndrome. Chronic presentation also involves dermatitis, gingivitis, stomatitis, tremor and neuropsychiatric symptoms of erethism.
- Absorbed inorganic mercury does not significantly cross the blood-brain barrier.
- Emesis and lavage should be initiated following acute ingestion.
- \* Preplacement and periodic medical examinations of workers exposed to mercury are recommended. Preplacement examination should evaluate any history of skin allergies or asthma, other exposures to nickel, smoking history, condition of nasal cavity and lungs. Periodic examinations should include chest X-rays. (Source: Occupational Diseases.)

**Section 5 - FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA**

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

**FIRE FIGHTING**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

**FIRE/EXPLOSION HAZARD**

- Non combustible.
  - Not considered to be a significant fire risk.
  - Expansion or decomposition on heating may lead to violent rupture of containers.
  - Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). May emit poisonous fumes.
- Decomposition products include hydrogen chloride and mercury oxides.

**FIRE INCOMPATIBILITY**

- Avoid reaction with alkalies and strong acids.

**Personal Protective Equipment**

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

### SUITABLE CONTAINER

- Packaging as recommended by manufacturer.
  - Check that containers are clearly labelled.
  - Glass container is suitable for laboratory quantities.
- Plastic drum.  
Polyethylene or polypropylene container.

### STORAGE INCOMPATIBILITY

- Segregate from alkalis.

### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>	TWA F/CC	Notes
New Zealand Workplace Exposure Standards (WES)	mercuric chloride (Inorganic compounds (as Hg))		0.025						

The following materials had no OELs on our records  
• water:

CAS:7732- 18- 5

### PERSONAL PROTECTION

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**RESPIRATOR**

- particulate.

**EYE**

- Safety glasses.
- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

**HANDS/FEET**

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear.

**OTHER**

- Overalls.
- Barrier cream
- Eyewash unit.

**ENGINEERING CONTROLS**

- General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**

Coloured solution with no discernable odour; can be further mixed with water.

**PHYSICAL PROPERTIES**

Liquid.  
Mixes with water.  
Toxic or noxious vapours/gas.

State	Liquid	Molecular Weight	Not applicable
Melting Range (°C)	Not available	Boiling Range (°C)	>100
Solubility in water (g/L)	Miscible	Flash Point (°C)	Not applicable
pH (1% solution)	Not available	Decomposition Temp (°C)	Not available
pH (as supplied)	Not available	Autoignition Temp (°C)	Not available.
Vapour Pressure (kPa)	as water	Upper Explosive Limit (%)	Not applicable
Specific Gravity (water=1)	Not available	Lower Explosive Limit (%)	Not applicable
Relative Vapour Density (air=1)	as water	Volatile Component (%vol)	93
Evaporation Rate	as water		

## Section 10 - CHEMICAL STABILITY

**CONDITIONS CONTRIBUTING TO INSTABILITY**

- Presence of incompatible materials.

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 Section 10 - CHEMICAL STABILITY

- Product is considered stable.
  - Hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.

**Section 11 - TOXICOLOGICAL INFORMATION**

**POTENTIAL HEALTH EFFECTS**

**GHS Hazard Phrases**

- Fatal if swallowed
- Causes damage to organs if swallowed.
- Causes damage to organs by skin contact.
- Causes severe skin burns and eye damage
- Causes serious eye damage
- Very toxic to aquatic life
- Very toxic to aquatic life
- Very toxic to aquatic life
- Very toxic to terrestrial vertebrates

**TOXICITY AND IRRITATION**

- Not available. Refer to individual constituents.

**CARCINOGEN**

Mercury and inorganic mercury compounds	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3
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**Section 12 - ECOLOGICAL INFORMATION**

mercuric chloride 48 hr EC50 (0.0056) mg/L American or virginia oyster Crustacea Source: Experimental

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 This material and its container must be disposed of as hazardous waste.  
 Avoid release to the environment.  
 Refer to special instructions/ safety data sheets.

**Ecotoxicity**

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
mercuric chloride solution, saturated	No Data Available	No Data Available		
mercuric chloride	HIGH	No Data Available	MED	HIGH

**Section 13 - DISPOSAL CONSIDERATIONS**

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise at an effluent treatment plant.
- Recycle containers if possible, or dispose of in an authorised landfill.

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## Section 14 - TRANSPORTATION INFORMATION



Labels Required: TOXIC

**HAZCHEM:**  
2X

**Land Transport UNDG:**

Class or division:	6.1	Subsidiary risk:	None
UN No.:	3287	UN packing group:	III
Shipping Name: TOXIC LIQUID, INORGANIC, N.O.S. (contains mercury salts)			

**Air Transport IATA:**

UN/ID Number:	3287	Packing Group:	III
Special provisions:	A3		
Cargo Only			
Packing Instructions:	220 L	Maximum Qty/Pack:	663
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	60 L	Maximum Qty/Pack:	655
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	
Packing Instructions:	2 L	Maximum Qty/Pack:	Y642

Shipping Name: TOXIC LIQUID, INORGANIC, N.O.S. \*(CONTAINS MERCURY SALTS)

**Maritime Transport IMDG:**

IMDG Class:	6.1	IMDG Subrisk:	None
UN Number:	3287	Packing Group:	III
EMS Number:	F-A, S-A	Special provisions:	223 274
Limited Quantities:	5 L	Marine Pollutant:	Yes
Shipping Name: TOXIC LIQUID, INORGANIC, N.O.S.(contains mercury salts)			

## Section 15 - REGULATORY INFORMATION

**ERMA Approval number**

*This substance is to be managed in accordance with the classification and controls specified in the Hazardous Substances Transfer Notice, 2004, (see table below). This substance may alternatively be managed under the conditions imposed by an applicable Group Standard.*

Substance	Approval number
mercuric chloride	HSR004545

Fatal if swallowed

Causes damage to organs if swallowed.

Causes damage to organs by skin contact.

Causes severe skin burns and eye damage

Causes serious eye damage

Very toxic to aquatic life

Very toxic to aquatic life

Very toxic to aquatic life

Very toxic to terrestrial vertebrates

**REGULATIONS**

**Regulations for ingredients**

mercuric chloride (CAS: 7487-94-7) is found on the following regulatory lists;

"New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "New Zealand Hazardous Substances

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Section 15 - REGULATORY INFORMATION

and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Inventory of Chemicals (NZIoC)"

**water (CAS: 7732-18-5) is found on the following regulatory lists;**

"IMO IBC Code Chapter 18: List of products to which the Code does not apply", "International Fragrance Association (IFRA) Survey: Transparency List", "New Zealand Inventory of Chemicals (NZIoC)", "OECD Representative List of High Production Volume (HPV) Chemicals"

**No data for mercuric chloride solution, saturated (CW: 5054-36)**

Specific advice on controls required for materials used in New Zealand can be found at  
<http://www.ermanz.govt.nz/search/registers.html>

## Section 16 - OTHER INFORMATION

NEW ZEALAND POISONS INFORMATION CENTRE

0800 POISON (0800 764 766)

NZ EMERGENCY SERVICES: 111

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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Issue Date: 15-Oct-2010

Print Date: 3-Jun-2011