Infosafe No™ 1CHHP	Issue Date :June 2021	RE-ISSUED by CHEMSUPP

Product Name **MERCUROUS CHLORIDE**

Classified as hazardous

1. Identification

GHS Product Identifier	MERCUROUS CHLORIDE
Company Name	CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number	Tel: (08) 8440-2000
Emergency phone number	CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)
E-mail Address	www.chemsupply.com.au
Recommended use of the chemical and restrictions on use	Fungicide, electrodes, pharmaceuticals, pyrotechnics, ceramic painting, maggot control in agriculture and laboratory reagent.

Other Names

Name	Product Code
Mercury monochloride, Calomel, Mercury protochloride, Dimercury dichloride	
MERCURY (I) CHLORIDE AR	MA095

Other Information

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture	Acute toxicity - category 4 Eye irritation - category 2 Specific target organ toxicity (single exposure) - category 3 Skin irritation - category 2 Hazardous to the aquatic environment (chronic) - category 1 Hazardous to the aquatic environment (acute) - category 1
Signal Word (s)	WARNING
Hazard Statement (s)	H302 Harmful if swallowed. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H315 Causes skin irritation. H410 Very toxic to aquatic life with long-lasting effects.
Pictogram (s)	Exclamation Mark, Environment

Precautionary statement – Prevention	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face

	protection.
Precautionary statement – Response	P301+P310 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P391 Collect spillage.
Precautionary statement – Storage	P403 + P233 Store in a wellventilated place. Keep container tightly closed. P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Ingredients	Name	CAS	Proportion
	Mercurous chloride	10112-91-1	100 %

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If rapid recovery does not occur, obtain medical attention
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Eye wash fountains and safety showers should be available for emergency use.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Suitable extinguishing media	No limitations to the type of extinguishing media. Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Hazards from Combustion Products	Hydrogen chloride (HCl), chlorine, mercury/mercury oxides, mercuric chloride.
Specific Methods	Small fire: Use dry chemical, CO2, water spray or foam. Large fire: Use water spray, fog or foam. If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.
Specific hazards arising from the chemical	Material does not burn. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.
Hazchem Code	2X
Decomposition Temp.	> 400 °C

Precautions in connection with Fire	Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions	Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.
Environmental Precautions	Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for Safe Handling	Keep containers tightly sealed. Keep locked up. Store in cool, dry place. Ensure good ventilation/exhaustion at the workplace. In case of insufficient ventilation, wear suitable respiratory equipment. Wear suitable protective clothing. Minimize dust generation and accumulation. Do not ingest or inhale. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. If ingested, seek medical advice immediately and show the container or the label. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.
Conditions for safe storage, including any incompatibilities	Keep with other poisons in a cool, dry, well-ventilated, and locked location, away from incompatible substances. Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers. Keep protected from light and moisture. Keep away from sources of ignition. Store away from oxidizing agents. Do not store together with acids. Store away from reducing agents. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.
Storage Regulations	Refer Australian Standard AS/NZS 4452:1997 'The storage and handling of toxic substances'.
Storage Temperatures	Store at room temperature (15 to 25°C recommended).

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Mercurous chloride			0.025	0.003	Mercury, inorganic divalent compounds (as Hg)

Other Exposure Information	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for Mercury, inorganic divalent compounds (as Hg) (Safe Work Australia) of 0.025 mg/m³, (0.003 ppm) and for Mercury, elemental vapour (as Hg) (Safe Work Australia) of 0.025 mg/m³, (0.003 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
Appropriate engineering controls	Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance

	with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Solid
Appearance	white to grey crystalline solid.
Odour	Odourless.
Decomposition Temperature	> 400 °C
Melting Point	400-500 °C (sublimes without melting).
Solubility in Water	Insoluble (0.2 mg/100 ml (25°C)).
Solubility in Organic Solvents	Insoluble in ether, alcohol and cold dilute acids.
Specific Gravity	7.15
pH	May contain entrained moisture at pH 1.0.
Vapour Pressure	0.0089 mm Hg at 100 °C
Evaporation Rate	Negligible at 20 °C.
Flammability	Non combustible material.
Molecular Weight	472.09

10. Stability and reactivity

Chemical Stability	Mercurous chloride is considered stable under normal temperatures and pressures. Sunlight causes slow decomposition into mercuric chloride and metallic mercury.
Conditions to Avoid	High temperatures, incompatible materials, light, moisture.
Incompatible Materials	Bromides, iodides, alkali chlorides, sulfates, sulfites, sulfides, carbonates, hydroxides or alkalis, ammonia, cyanides, silver, lead and copper salts, lime water, iodine and hydrogen peroxide. On contact with solutions of iodides,

	bromides, cyanides, or alkali chlorides it decomposes to metallic mercury.
Hazardous Decomposition Products	Hydrogen chloride, mercury/mercury oxides. Excessive heat produces toxic fumes of chlorine and mercury. Sunlight causes slow decomposition into mercuric chloride and metallic mercury.
Hazardous Polymerization	Has not been reported.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 210 mg/kg.
Acute Toxicity - Dermal	LD50 (rat): 1500 mg/kg.
Ingestion	Harmful if swallowed. May cause burning of the mouth, nausea, vomiting, abdominal pain and bloody diarrhea. Renal effects in humans have been observed following acute exposure to inorganic mercury and mercury compounds. Mercury can also affect the nervous system, resulting in tremors and irritability.
Inhalation	Exposure to dust or fume is irritating to the nose, throat and respiratory tract with dryness and irritation of the nose and throat, tightness of the chest, sore throat, coughing, and difficult breathing. Gastrointestinal effects have also been noted, which include loss of appetite, nausea, and vomiting. Effects on the nervous system can result in tremors, irritability, and headaches. Severe, acute exposures may produce pneumonitis.
Skin	Exposure causes skin irritation with redness and pain. Severe exposure may produce burns. Allergic reactions have also been reported as a possible side effect. Mercurous chloride can be absorbed through the skin with symptoms mimicking those from inhalation or ingestion. Risk of skin sensitisation.
Eye	Exposure causes serious eye irritation with redness and pain. Severe exposure may produce burns and possible eye tissue damage.
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	Not classified based on available information.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Mercury [7439-97-6] and inorganic mercury compounds are evaluated in the IARC Monographs (Vol. 58;1993) as Group 3: Not classifiable as to carcinogenicity to humans. Not classified based on available information.
Reproductive Toxicity	Not classified based on available information.
STOT-single exposure	Specific target organ toxicity (single exposure) – category 3 H335 May cause respiratory irritation.
STOT-repeated exposure	Not classified based on available information.
Chronic Effects	Prolonged or repeated exposure to mercurous chloride can cause kidney damage, including proteinuria and glomerular dysfunction. Chronic exposure may lead to renal failure and effects on the central nervous system, which include tremors, irritability, personality and behavioural changes, memory loss and decreased nerve conduction.
Serious eye damage/irritation	Moderate irritant.
Mutagenicity	Not classified based on available information.
Human Effects	Inorganic mercury(I) compounds are - due to their poor solubility - less toxic after oral uptake than are the more soluble mercury(II) compounds. A relatively long residence time in the gastrointestinal tract may lead to oxidation to the bivalent form. Hg compounds take their effect in cases of intoxication as cellular and protoplasma toxins.

12. Ecological information

Ecotoxicity	Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. Toxic effect on fish and plankton. Very toxic for

	fish. Danger to drinking water if even extremely small quantities leak into soil.
Persistence and degradability	Methods for the determination of biodegradability are not applicable to inorganic substances. Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. Toxicity of the Products of Biodegradation: The products of degradation are more toxic.
Environmental Fate	Mercurous chloride has a very low solubility in water but chemical and biological processes in both aquatic and terrestrial environments can greatly increase the bioavailability of contained mercury. This compound can pose significant ecological risks since mercury readily bioaccumulates in both aquatic and terrestrial food chains. In turn, this can lead to human health risks where the foods involved are a significant component of diets. Organo-mercury compounds (e.g., methyl mercury) can be formed in the environment from inorganic compounds such as mercurous chloride. This occurs by a bacteria-mediated process known as biomethylation. Methyl mercury is a particularly toxic compound of the metal and is the dominant compound implicated in environmental bioaccumulation of mercury.
Environmental Protection	Do not allow to enter waters, waste water, or soil! Severe marine pollutant. Contain spillage.

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous Goods of Class 6 Toxic and Infectious Substances are incompatible in a placard load with any of the following: - Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, and are incompatible with food packaging in any quantity.
U.N. Number	2025
UN proper shipping name	MERCURY COMPOUND, SOLID, N.O.S. - (Mercurous chloride)
Transport hazard class(es)	6.1
Hazchem Code	2X
Packing Group	III
EPG Number	6A5
IERG Number	34
Environmental Hazards	Highly toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

15. Regulatory information

Regulatory Information	All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	S7

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'.

	Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand. Safe Work Australia, 'Hazardous Chemical Information System'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	Hg_2Cl_2

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