

Safety Data Sheet

Section 1: Identification of the substance or mixture and of the supplier

Product Name:	Elemental and Inorganic Mercury
SDS Number:	815931
Synonyms/Other Means of Identification:	Quicksilver Liquid Silver Hydrargyrum Inorganic Mercury Salts
Intended Use:	Disposal – Waste Product
Manufacturer:	ConocoPhillips 37 Woods Street, Darwin, Northern Territory, AUSTRALIA, 0800
Telephone:	+61 8 8919 1964
Fax:	+61 8 8919 1869
Emergency Health and Safety Number:	+61 8 8919 1379
SDS Information:	Phone: 800-762-0942 Email: MSDS@conocophillips.com http://www.conocophillips.com/EN/products/Pages/msds.aspx

Section 2: Hazard(s) Identification

DANGER

RISK PHRASES

R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed
 R35 Causes severe burns
 R39 Danger of very serious irreversible effects
 R43 May cause sensitization by skin contact
 R48 Danger of serious damage to health by prolonged exposure
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse affects in the aquatic environment
 R60 May impair fertility

SAFETY PHRASES

Precautionary Statement(s):

S1 Keep locked up
 S20/21 When using do not eat, drink or smoke
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
 S45 In case of accident or if you feel unwell seek medical advice immediately
 S53 Avoid exposure – obtain special instructions before use
 S60 This material and its container must be disposed of as hazardous waste
 S61 Avoid release to the environment. Refer to special instructions/safety data sheet

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No. 2025 or 2809
 DG Class 6.1 or 8
 Subsidiary Risk(s) None Allocated
 Packing Group II or III
 Hazchem Code 2Z



Section 3: Composition / Information on Ingredients

Component	CASRN	Concentration ¹
Elemental Mercury	7439-97-6	0-100
Inorganic Mercury Compounds	VARIOUS	0-100

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First Aid Measures

Eye Contact: Immediately move victim away from exposure and into fresh air. For direct contact, remove contact lenses if present and easy to do. Immediately hold eyelids apart and flush the affected eye(s) with clean water for at least 30 minutes. Seek immediate medical attention.

Skin Contact: Immediately flush affected area(s) with large amounts of water while removing contaminated shoes, clothing, and constrictive jewelry. If skin surface is damaged, apply a clean dressing and seek immediate medical attention. If skin surface is not damaged, cleanse the affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek immediate medical attention. Wash contaminated clothing before reuse.

Inhalation (Breathing): Immediately move victim away from exposure and into fresh air in a position comfortable for breathing. If respiratory symptoms or other symptoms of exposure develop, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): If swallowed, seek emergency medical attention. If victim is drowsy or unconscious and vomiting, place on the left side with the head down and do not give anything by mouth. If victim is conscious and alert and ingestion occurred within the last hour, vomiting should be induced with syrup of ipecac, preferably under direction from a physician or poison center. Do not leave victim unattended and observe closely for adequacy of breathing.

Medical Conditions Aggravated by Exposure: Conditions which may be aggravated by exposure include skin disorders, eye disorders, respiratory (asthma-like) disorders, kidney disorders, nervous system disorders, cardiovascular disorders and pregnancy.

Section 5: Fire-Fighting Measures

Unusual Fire & Explosion Hazards: No unusual fire or explosion hazards are expected. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Fire Fighting Instructions: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Contain spill if it can be done safely.

Hazardous Combustion Products: Mercury and mercury compounds may be released in combustion conditions.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

Section 6: Accidental Release Measures

Personal Precautions: Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. If spill/release in excess of EPA reportable quantity (see Section 15) is made into the environment, immediately notify the National Response Center (phone number 800-424-8802). Contain spill if it can be done safely.

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Cleanup under expert supervision is advised. Small spills of liquid mercury can be picked up using a plastic syringe and transferred into a plastic lidded container. Larger spills should be contained using absorbent rolls, vermiculite, or other form of mercury amalgamating material. Carefully shovel or sweep up spilled material and place in a suitable container. Minimize dust generation.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

Section 7: Handling and Storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink, or smoke when using this product. Avoid contact during pregnancy. Do not breathe vapors or mists. Do not breathe dust. Use only outdoors or in well-ventilated area. Do not get in eyes, on skin, or on clothing. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Use personal protective equipment as required.

Do not enter confined spaces such as tanks or pits without following proper entry procedures (Refer to Australian Standard for confined spaces *AS 2865-2009 Confined Spaces* or company specific confined space entry procedures). Do not wear contaminated clothing or shoes.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

Section 8: Exposure Controls / Personal Protection

Component	ACGIH	OSHA	Other
Elemental Mercury	TWA: 0.025 mg/m ³	Ceiling: 0.1 mg/m ³	TWA 0.05 mg/m ³ (Worksafe Australia) TWA: 0.025 mg/m ³ Ceiling: 0.1 mg/m ³ (Conocophillips Guidelines)
Inorganic Mercury Compounds	TWA: 0.025 mg/m ³ Skin (as Hg)	---	TWA 0.1 mg/m ³ Skin (Worksafe Australia) TWA: 0.025 mg/m ³ Ceiling: 0.1 mg/m ³ (Conocophillips Guidelines)

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds AS1336 Recommended practices for eye protection in the industrial environment is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled that meets or exceeds AS1336 Recommended practices for eye protection in the industrial environment is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with ABEK1HgP3 cartridges / canisters may be used unless exposure levels exceed the Maximum Use Concentration of the respirator, then a self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used.

A respiratory protection program that meets or is equivalent to AS 1715 Selection, Use, & Maintenance of Respiratory Protection Devices should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

Section 9: Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Silvery (Elemental); Light to dark (Inorganic)
Physical Form:	Liquid (Elemental); Solid (Inorganic)
Odor:	No distinct odor
Odor Threshold:	No data
pH:	Not applicable
Vapor Density (air=1):	>1
Initial Boiling Point/Range:	No data
Melting/Freezing Point:	No data
Partition Coefficient (n-octanol/water) (Kow):	No data
Flammability (solid, gas):	Will Not Burn
Evaporation Rate (nBuAc=1):	No data
Flash Point:	No data
Lower Explosive Limits (vol % in air):	No data
Upper Explosive Limits (vol % in air):	No data
Auto-ignition Temperature:	No data

Section 10: Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Avoid elevated temperatures. None known.

Materials to Avoid (Incompatible Materials): Avoid contact with acetylenes, ammonia, metals, metal oxides, strong acids and strong oxidizing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

Section 11: Toxicological Information

Information on Toxicological Effects of Substance/Mixture

<u>Acute Toxicity</u>	<u>Hazard</u>	<u>Additional Information</u>	<u>LC50/LD50 Data</u>
Inhalation	Fatal if inhaled		No data
Skin Absorption	Fatal in contact with skin		0.041 g/kg
Ingestion (Swallowing)	Fatal if swallowed		0.026 g/kg

Aspiration Hazard: Not an aspiration hazard.

Skin Corrosion/Irritation: Causes severe skin burns and eye damage. Repeated exposure to this material may cause an allergic skin reaction.

Serious Eye Damage/Irritation: Causes serious eye damage. Vapors may be irritating to eyes.

Signs and Symptoms: Effects of overexposure may include severe irritation and burns of the mouth, nose, throat, respiratory, and digestive tract., headaches, coughing, sore throat, nausea, vomiting, diarrhea, metallic taste, shortness of breath, abdominal pain, swallowing difficulties, breathing difficulties, bronchitis (lung inflammation), chest pain, hypertension (high blood pressure), pneumonitis (inflammation of the lungs) and pulmonary edema (accumulation of fluids in the lungs).

Skin Sensitization: May cause an allergic skin reaction. .

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): Causes damage to organs.

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure. There is sufficient human evidence that exposure to inorganic mercury compounds causes renal damage (acute and chronic exposure), CNS, and cardiovascular effects based on reported human studies.

Carcinogenicity: Inadequate information available.

Germ Cell Mutagenicity: Inadequate information available.

Reproductive Toxicity: May damage the unborn child. Mercuric chloride has been classified (based on reported studies) as a possible human developmental toxicant per EU, WHMIS, and Prop 65.

Other Comments: Short-term exposure (hours) to high levels of metallic mercury vapor in the air can damage the lining of the mouth and irritate the lungs and airways, causing tightness of the chest, a burning sensation in the lungs, and coughing. Other effects from exposure to mercury vapor include nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Damage to the lining of the mouth and lungs can also occur from exposure to lower levels of mercury vapor over longer periods. Erethism, a peculiar form of emotional instability, has long been recognized as a symptom of mercury intoxication. Refer to target organ toxicity category (central nervous system) for symptoms of erethism.

Chronic exposure to mercury vapor may include early signs that are non-specific such as weakness, fatigue, anorexia, loss of weight, and disturbances of gastrointestinal function. This syndrome has been termed asthenic-vegetative syndrome, or micromercurialism. At higher exposure levels, a characteristic mercurial tremor appears, beginning with intentional tremors of fingers, eyelids, and lips, and may progress to generalized trembling of the entire body and violent chronic spasms of the extremities. Another characteristic feature of mercury intoxication is severe salivation and gingivitis.

Exposure to inorganic mercury via breast milk in suckling offspring of maternal guinea pigs exposed to mercury vapor after parturition has been reported (Yoshida et al. 1992).

Metal fume fever is a brief, self-limited illness characterized by fever, chills, aching muscles, sweating, nausea, vomiting, and coughing. Symptoms typically occur several hours after exposure to metal oxide fumes and subside within 24-48 hours.

Section 12: Ecological Information

Environment: Mercury is eliminated from the food chain very slowly, and is concentrated by animals, plants and fish. Pollutant.

Do NOT release to waterways or to general landfill.

Other Adverse Effects: None anticipated.

Section 13: Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

For further information please refer to Conoco Phillips Procedure ABU waste management plan (ALL/HSE/PLN/004)

Dispose of in accordance with relevant local legislation.

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Shipping Description:	Elemental Mercury [UN2809] is not regulated when shipped by land. UN2025, Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides), 6.1, II or UN2809, Mercury, 8, III, RQ
Non-Bulk Package Marking:	UN2025, Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides) or UN2809, Mercury, RQ
Non-Bulk Package Labeling:	Poison or Corrosive
Bulk Package/Placard Marking:	Poison / 2025 or Corrosive / 2809
Packaging - References:	49 CFR 173.153;173.212;173.242 or 49 CFR 173.164; 173.164; 173.240 (Exceptions; Non-bulk; Bulk)
Hazardous Substance:	See Section 15 for RQ`s
Emergency Response Guide:	UN2025 - 151 ; UN2809 - 171 ;

Note: *The following alternate shipping description order may be used until January 1, 2013: Proper Shipping name, Hazard Class or Division, (Subsidiary Hazard if any), UN or NA number, Packing Group
Other shipping description elements may be required for DOT compliance.*

International Maritime Dangerous Goods (IMDG)

Shipping Description:	UN2025, Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides), 6.1, II or UN2809, Mercury, 8, III
Non-Bulk Package Marking:	UN2025, Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides) or UN2809, Mercury
Labels:	For UN2025: Toxic For UN2809: Corrosive
Placards/Marking (Bulk):	For UN2025: Toxic / 2025 For UN2809: Corrosive / 2809
Packaging - Non-Bulk:	For UN2025: P002 For UN2809: P800
EMS:	For UN2025: F-A, S-A For UN2809: F-A, S-B
Note:	U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #:	UN2025 or UN2809
Proper Shipping Name:	For UN 2025; Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides) For UN 2809; Mercury
Hazard Class/Division:	For UN2025: 6.1 For UN2809: 8
Packing Group:	For UN2025: II For UN2809: III
Non-Bulk Package Marking:	For UN2025: UN2809, Mercury For UN2809: UN2025, Mercury compound, solid, n.o.s. (Mercury sulfide, Mercury bromides) , [Environmentally Hazardous Substance Mark] (If > 5L container)

Section 14: Transport Information

Labels: For UN2025: Toxic
For UN2809: Corrosive

ERG Code: For UN2025: 6L
For UN2809: 8L

Note: U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24.

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	UN2025 - Y644 UN2809 - Forbidden	UN2025 - 669 UN2809 - 868	UN2025 - 676 UN2809 - 868
Max. Net Qty. Per Package:	UN2025 - 1 kg UN2809 - Forbidden	UN2025 - 25 kg UN2809 - 35 kg	UN2025 - 100 kg UN2809 - 35 kg

Section 15: Regulatory Information

Poison Schedule: Classified as a Schedule 7 (S7) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS: All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

References used in compiling safety data sheet information:

AS1336 Recommended practices for eye protection in the industrial environment
AS 1715 Selection, Use, & Maintenance of Respiratory Protection Devices
AS 2161 Industrial safety gloves and mittens (excluding electrical and medical gloves)
AS 2865 Safe working in a confined space also known as the NOHSC National Standard for Safe Working in a Confined Space
NOHSC2007 National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC:2007(1994)]

Section 16: Other Information

Date of Issue: 19-May-2011
Status: FINAL
Revised Sections or Basis for Revision: New MSDS
SDS Number: 815931

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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