SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

Product Identifier

Product Description:	**Mercury(I) chloride**
Cat No. :	**87240**
Synonyms	Mercurous chloride
CAS No	10112-91-1
Molecular Formula	Cl2 Hg2

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Details of the supplier of the safety data sheet

Importer
Fisher Scientific Korea
D5,D6, Incheon Airport Logistics Complex
150, Gonghangdong-Ro 296 Beon-Gil
Jung-Gu, Incheon
Tel: +82-1661-9555
Fax: +82-2-2023-0603

Supplier
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099

E-mail address Chem.KR@thermofisher.com

Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards
Based on available data, the classification criteria are not met

Health hazards

Acute Oral Toxicity	Category 2
Acute Dermal Toxicity	Category 1
Acute Inhalation Toxicity - Dusts and Mists	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2

Environmental hazards

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label Elements

Signal Word **Danger**

Hazard Statements
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects
H400 - Very toxic to aquatic life
H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled
Precautionary Statements
Prevention
P264 - Wash hands and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P262 - Do not get in eyes, on skin, or on clothing
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P271 - Use only outdoors or in a well-ventilated area
P284 - Wear respiratory protection
P273 - Avoid release to the environment
Response
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P330 - Rinse mouth
P321 - Specific treatment (see supplemental first aid instructions on this label)
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P310 - Immediately call a POISON CENTER or doctor
P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P320 - Specific treatment is urgent (see supplemental first aid instructions on this label)
P314 - Get medical advice/attention if you feel unwell
P391 - Collect spillage
Storage
P405 - Store locked up
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
Mercury chloride	Mercurous chloride	10112-91-1	KE-11021	99 - 100

Note
Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture
Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products
Hydrogen chloride gas.

Advice for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and Material for Containment and Cleaning Up
Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Reference to Other Sections
Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Conditions for Safe Storage, Including any Incompatibilities
Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight.

Specific End Uses
Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Mercury chloride	10112-91-1	Not listed	TWA: 0.025 mg/m³ Skin	(Vacated) Ceiling: 0.1 mg/m³

Component	CAS No	European Union	The United Kingdom	Germany
Mercury chloride	10112-91-1	Not listed	STEL: 0.06 mg/m³ 15 min TWA: 0.02 mg/m³ 8 hr	TWA: 0.02 mg/m³ (8 Stunden). AGW - exposure factor 8 TWA: 0.02 mg/m³ (8 Stunden). MAK Höhepunkt: 0.16 mg/m³ Haut

ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
Mercury chloride	10112-91-1	Not listed

Exposure Controls
Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection	Wear safety glasses with side shields (or goggles) Goggles
Hand Protection	Protective gloves
Skin and body protection	Long sleeved clothing

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Personal protective equipment	Use only those certified by the Korea Occupational Safety and Health Administration.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Recommended Filter type:	Particulates filter conforming to EN 143 To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls Prevent product from entering drains Do not allow material to contaminate ground water system Local authorities should be advised if significant spillages cannot be contained

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.)	Off-white Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	400 °C / 752 °F	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flash Point	No information available	**Method -** No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid

Specific Gravity / Density	No data available
Bulk Density	No data available
Water Solubility	Insoluble
Solubility in other solvents	No information available

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Mercury chloride	10112-91-1	No data available

Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Molecular Formula	Cl2 Hg2
Molecular Weight	472.08

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available

Chemical Stability

Sensitivity to light.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

Conditions to Avoid

Incompatible products. Excess heat. Avoid dust formation. Exposure to light.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Hydrogen chloride gas.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Information on expected route of exposure

Inhalation	Irritating to respiratory system. May be harmful if inhaled.
Ingestion	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Eyes	Irritating to eyes.

Skin Irritating to skin. May be harmful in contact with skin.

Information on Health Hazards .

(a) acute toxicity;

Oral Category 2
Dermal Category 1
Inhalation Category 2

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Mercury chloride	10112-91-1	LD50 = 210 mg/kg (Rat)	LD50 = 1500 mg/kg (rat)	No data available

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	CAS No	Test method	Test species	Study result
Mercury chloride	10112-91-1	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
Mercury chloride	10112-91-1	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Mercury chloride	10112-91-1	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Mercury chloride	10112-91-1	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Mercury chloride	10112-91-1	No data available	No data available	No data available

(h) STOT-single exposure; No data available
Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Category 2

Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects
No information available.

Component	CAS No	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Mercury chloride	10112-91-1	Leuciscus idus: 0.5 mg/L 48h	0.002 mg/L 48h	No data available	No data available

Persistence and degradability

Persistence Insoluble in water.

Degradability Not relevant for inorganic substances.

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative potential

May have some potential to bioaccumulate

Mobility in soil

Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
Mercury chloride	10112-91-1	Not listed

Other adverse effects

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN2025

Proper Shipping Name Mercury compound, solid, n.o.s.

Technical Shipping Name Mercury (I) chloride

Hazard Class 6.1

Packing Group III

IATA

UN-No UN2025

Proper Shipping Name	Mercury compound, solid, n.o.s.
Technical Shipping Name	Mercury (I) chloride
Hazard Class	6.1
Packing Group	III

IMDG/IMO

UN-No	UN2025
Proper Shipping Name	Mercury compound, solid, n.o.s.
Technical Shipping Name	Mercury (I) chloride
Hazard Class	6.1
Packing Group	III
Marine Pollutant	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Mercury chloride	10112-91-1	KE-11021	X	233-307-5	X	X	-	X	X	X	X

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Mercury chloride	10112-91-1	Not applicable	Not applicable	X	Annex I - Y29

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Mercury chloride	10112-91-1	Annex 1 - KE-11021	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Acute Hazard to Human Health	Chemical Control Act - Chronic Hazard to Human Health	Chemical Control Act - Ecological Hazard
Mercury chloride	10112-91-1	97-1-140 (>=1%)	Not applicable	97-1-140 (>=25%)

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals	Chemical Control Act - Authorised Chemicals

Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law
Mercury chloride	10112-91-1	>0.005 mg/L (WCL) > 1% (CCA)

CCA = Chemical Control Act
WCL = Waste Control Law

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Mercury chloride	10112-91-1	Not applicable	Listed	0.025 mg/m³ TWA

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Mercury chloride	10112-91-1	Not applicable	Not applicable	Formulations containing 0.3% or more

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
Mercury chloride	10112-91-1	Not listed	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Mercury chloride	10112-91-1	Not applicable	Not applicable

CERCLA Not applicable

Component	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Mercury chloride	10112-91-1	Not applicable	Not applicable	Not applicable

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Danger.

H301 - Toxic if swallowed. H312 - Harmful in contact with skin. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation. H410 - Very toxic to aquatic life with long lasting effects.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P337 + P313 - If eye irritation persists: Get medical advice/attention. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P332 + P313 - If skin irritation occurs: Get medical advice/attention.

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Prepared By	Health, Safety and Environmental Department
Creation Date	21-Sep-2010
Revision Date	08-Aug-2025
Revision Number	9
Revision Summary	SDS sections updated.

MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet