

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name **Mercury(I) nitrate dihydrate**

Stock number: A16268

CAS Number:
14836-60-3

EC number:
677-693-7

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street
Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com


Informing department: Product safety department.

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (800) 579-7421.

2 Hazards identification

Classification of the substance or mixture

 Skull and crossbones

Acute Toxicity (Oral) - Category 2

H300 Fatal if swallowed.

Acute Toxicity (Dermal) - Category 1

H310 Fatal in contact with skin.

Acute Toxicity (Inhalation) - Category 2

H330 Fatal if inhaled.

 Health hazard

Specific Target Organ Toxicity - Repeated Exposure - Category 2 H373 May cause damage to the central nervous system, the kidneys, the reproductive system and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

Other hazards that do not result in classification No information known.

Label elements

GHS label elements The substance is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS06 GHS08

Signal word Danger

Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

H373 May cause damage to the central nervous system, the kidneys, the reproductive system and the brain through prolonged or repeated exposure.

Route of exposure: Oral, Inhalation.

Precautionary statements

P273 Avoid release to the environment.

P280 Wear protective gloves / protective clothing.

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER/doctor.

P302+P352 IF ON SKIN: Wash with plenty of water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterisation: Substances

CAS# Designation:

14836-60-3 Mercury(I) nitrate dihydrate

Concentration: ≤100%

Identification number(s):

EC number: 677-693-7

4 First aid measures

Description of first aid measures

General information

Instantly remove any clothing soiled by the product.

Remove breathing apparatus only after soiled clothing has been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Do not induce vomiting; instantly call for medical help.

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Information for doctor

Most important symptoms and effects, both acute and delayed

Fatal if inhaled.
Fatal in contact with skin.
Fatal if swallowed.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Mercury oxide
Nitrogen oxides (NOx)

Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow product to reach sewage system or water bodies.

Methods and material for containment and cleaning up:

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Precautions for safe handling

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
Only handle and refill product in closed systems.

Information about protection against explosions and fires: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility:

Store in the dark.
Store away from oxidising agents.

Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with critical values that require monitoring at the workplace:

14836-60-3 Mercury(I) nitrate dihydrate (100,0%)

EL	Long-term value: 0,025 mg/m ³ as Hg; Skin, R
EV	Long-term value: 0,025 mg/m ³ as Hg, Skin
PEL (USA)	Long-term value: 0,1 mg/m ³ as Hg; see OSHA standard interpretation memo
REL (USA)	Long-term value: 0,05* mg/m ³ Ceiling limit: 0,1 mg/m ³ as Hg; *Vapor; Skin
TLV (USA)	Long-term value: 0,025 mg/m ³ as Hg; Skin; BEI

Ingredients with biological limit values:

14836-60-3 Mercury(I) nitrate dihydrate (100,0%)

BEI (USA)	35 µg/L Medium: urine Time: prior to shift Parameter: Total inorganic mercury (background)
	15 µg/L Medium: blood Time: end of shift at end of workweek Parameter: Total inorganic mercury (background)

Additional information: No data

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CA

Trade name **Mercury(I) nitrate dihydrate**

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Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use self-contained respiratory protective device in emergency situations.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves Impervious gloves

Eye protection: Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Crystalline

Odour: Odourless

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: 70 °C

Initial boiling point and boiling range: Not determined

Sublimation temperature / start: Not determined

Inflammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Explosive properties: Not determined.

Critical values for explosion:

Lower: Not determined

Upper: Not determined

Steam pressure: Not applicable.

Density at 20 °C 4,79 g/cm³

Relative density Not determined.

Vapour density Not applicable.

Evaporation rate Not applicable.

Solubility in / Miscibility with

Water at 20 °C: 20 g/l

Partition coefficient: n-octanol/water: Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

Other information No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

Possibility of hazardous reactions Reacts with strong oxidising agents

Conditions to avoid No further relevant information available.

Incompatible materials:

Oxidising agents

Light

Hazardous decomposition products:

Mercury oxide

Nitrogen oxides (NOx)

11 Toxicological information

Information on toxicological effects

Acute toxicity

Fatal if inhaled.

Fatal in contact with skin.

Fatal if swallowed.

Danger by skin resorption.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Respiratory or skin sensitisation No sensitizing effect known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure:

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

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Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for fish
Additional ecological information:
General notes:
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number TDG, IMDG, IATA	UN1627
UN proper shipping name DOT TDG IMDG IATA	Mercurous nitrate 1627 MERCUROUS NITRATE MERCUROUS NITRATE, MARINE POLLUTANT MERCUROUS NITRATE
Transport hazard class(es) Class	6.1 Toxic substances.
TDG (Transport dangerous goods): 	
Class Label IMDG	6.1 (T5) Toxic substances. 6.1
 Class Label IATA	6.1 Toxic substances. 6.1
 Class Label	6.1 Toxic substances. 6.1
Packing group TDG, IMDG, IATA	II
Environmental hazards: Marine pollutant:	Environmentally hazardous substance, solid; Marine Pollutant Symbol (fish and tree)
Special precautions for user EMS Number: Segregation groups	Warning: Toxic substances. F-A, S-A Heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds
Stowage Category	A
Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
Transport/Additional information: Limited quantities (LQ) Excepted quantities (EQ)	500 g Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
Transport category Tunnel restriction code	2 D/E
IMDG Limited quantities (LQ)	500 g

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Excepted quantities (EQ)

Code: E4
Maximum net quantity per inner packaging: 1 g
Maximum net quantity per outer packaging: 500 g

UN "Model Regulation":

UN 1627 MERCUROUS NITRATE, 6.1, II

15 Regulatory information

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

Australian Inventory of Chemical Substances Substance is listed.

Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.

GHS label elements The substance is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS06 GHS08

Signal word Danger

Hazard statements

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National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use: For use only by technically qualified individuals.

Water hazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety and Health Administration (USA)

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit