SAFETY DATA SHEETS

According to the UN GHS revision 10

1: Identification

1.1 GHS Product identifier

Product name	Holmium perchlorate

1.2 Other means of identification

Product number	14017-54-0
Other names	Holmium perchlorate

1.3 Recommended use of the chemical and restrictions on use

Identified uses	Industrial and scientific research use.
Uses advised against	no data available

1.4 Supplier's details

Company	Zhongshan Greenrock Technology Co., Ltd.
Address	No. 138, Jinsan Avenue, Sanjiao Town, Zhongshan City, Guangdong Province, China
Telephone	+86-2087066781

1.5 Emergency phone number

Emergency phone number	+86-2087066781
Service hours	Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

2: Hazard identification

2.1 Emergency Overview

Strong oxidizing substances can intensify fire or cause explosion. Contact with flammable substances may cause violent reactions and require strict isolation, storage and handling.

2.2 GHS Classification

Oxidizing liquids; Oxidizing solids : Category 2
Oxidizing liquids; Oxidizing solids : Category 3

2.3 GHS label elements, including precautionary statements

Pictogram(s)	
Signal word	Danger
Hazard statement(s)	H272 May intensify fire; oxidizer
Precautionary statement(s)	
Prevention	P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P220 Keep away from clothing and other combustible materials. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response	P370+P378 In case of fire,Use ... to extinguish.
Storage	no data available
Disposal	P501 Dispose of contents/container to ...

2.4 Physical and chemical

While not inherently flammable, it can significantly accelerate the combustion of other materials, causing a fire to spread. Contact with reducing agents, organic matter, or flammable materials can cause a violent exothermic reaction, even explosion. Heat can decompose the material, producing oxygen, further intensifying combustion.

2.5 Health hazards

May be corrosive or irritating, causing burns or inflammation in contact with skin and eyes. Inhalation of dust or vapor may cause respiratory irritation and damage. Reactions with other substances may produce toxic products.

2.6 Environmental hazards

Moderately to highly toxic to aquatic organisms. May affect aquatic ecosystems by altering the redox potential of water. Some substances may persist in the environment, causing long-term pollution.

2.7 Other hazards which do not result in classification

no data available

3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Holmium perchlorate	Holmium perchlorate	14017-54-0	-	99%

4: First-aid measures

4.1 General advice

Stop contact immediately and remove contaminated clothing; if the substance is solid, collect the residue with dry sand and avoid contact with organic matter (such as cotton); bring the substance SDS document and seek medical attention as soon as possible.

4.2 If inhaled

Move to fresh air. If oxidizing gases (such as chlorine) are inhaled, immediately give nebulized inhalation (normal saline + aminophylline). If coughing or chest tightness occurs, seek medical attention for lung function monitoring.

4.3 In case of skin contact

Rinse with plenty of running water for 15-20 minutes (if it is an oxidizing liquid, avoid splashing water); if the skin becomes red, swollen, or stinging, apply a moist compress with vitamin C solution (5%) (to neutralize oxidation), and then cover with sterile gauze

4.4 In case of eye contact

Immediately rinse with saline for 15 minutes, then instill artificial tears (to relieve irritation); wear goggles, avoid strong light, and seek medical attention from an ophthalmologist as soon as possible.

4.5 If swallowed

Do not induce vomiting. If it is an oxidizing solid, you can take milk orally (to protect the gastric mucosa); if it is a liquid, take egg white orally (to neutralize some of the acid). If you carry SDS, seek medical attention immediately for a gastrointestinal examination.

4.6 Most important symptoms and effects, both acute and delayed

Acute symptoms include skin oxidative burns, eye irritation and pain, coughing, and difficulty breathing.

4.7 Protection of first-aiders

Rescuers must wear corrosion-resistant chemical protective clothing, chemical protective gloves (nitrile material), and goggles; avoid mixing oxidizing substances with reducing agents (such as vitamin C tablets) to prevent exothermic reactions

4.8 Notes to physician

Inform the doctor of the type of oxidizing substance and the exposure dose; patients with skin burns need to prevent infection, and patients with inhalation injuries need to receive anti-inflammatory treatment.

5: Fire-fighting measures

5.1 Unsuitable extinguishing media

It is strictly forbidden to use flammable fire extinguishing agents or water (some oxidizing liquids release heat when in contact with water, intensifying combustion); avoid using carbon dioxide (some strong oxidants do not require oxygen to burn, so carbon dioxide is ineffective).

5.2 Specific hazards during fire fighting

It is non-flammable itself but is a strong combustion supporter, which can cause ordinary combustible materials (wood, cotton cloth) to burn violently or even explode; it is easy to produce exothermic reaction when in contact with reducing agents and organic matter, causing spontaneous combustion; the combustion temperature is extremely high and it can easily melt metal containers.

5.3 Hazardous combustion products

Oxygen (intensifies fire), nitrogen oxides (such as nitric acid releases NO?), chlorine oxides (such as chlorates release ClO?), and heavy metal oxides (when containing metals).

5.4 Specific extinguishing methods

Small area: Use dry powder fire extinguishing agent (such as sodium bicarbonate) to extinguish the fire. If it is a solid oxidizing substance, cover it with dry sand (to isolate the combustibles); Large area: Remove the surrounding combustibles first, then use dry powder to extinguish the fire; It is strictly forbidden to directly spray oxidizing liquids with water (to prevent splashing and intensifying the combustion)

5.5 Special protective equipment for fire-fighters

Wear corrosion-resistant chemical protective clothing (acid/alkali resistant), chemical protective gloves (nitrile), and goggles; carry a high-temperature detector (to prevent containers from melting); maintain a safe distance of more than 15 meters from the fire scene during operations, and avoid standing downwind.

6: Accidental release measures

6.1 Protective measures for workers

Wear corrosion-resistant protective clothing (acid/alkali resistant), chemical-resistant gloves (nitrile), and goggles; wear a dust mask for solids and a gas mask (with an acid gas filter cartridge) for liquids/gases; avoid wearing synthetic fiber clothing (anti-static).

6.2 Environmental protection measure

Prevent the leaked material from coming into contact with flammable materials (wood, grease); avoid discharge into water bodies (to prevent oxygen enrichment from harming aquatic life); neutralize contaminated soil with lime (acid oxygen) or dilute hydrochloric acid (alkaline oxygen) to a pH of 6-9.

6.3 Containment methods for leaked chemicals

Liquids should be collected with polyethylene/polytetrafluoroethylene containers (metal containers are prohibited); solids should be collected with corrosion-resistant tools and placed in sealed plastic containers (labeled "oxidizing substances").

6.4 Cleanup methods for chemical spills

Small leakage: absorb with dry inert materials (talcum powder) and dispose of as hazardous waste; Large leakage: transfer to a dedicated storage tank with a corrosion-resistant pump; after cleaning, flush the ground with plenty of water (if compatible), and collect and dispose of the flushing water.

6.5 Measures to prevent the spread of leaks

Designate a 15-meter isolation zone and prohibit flammable items from entering; use corrosion-resistant isolation tape to block contact with organic matter/reducing agents; increase ventilation for volatile oxidants.

6.6 Container leakage treatment

Minor leakage: seal with acid/alkali resistant putty; serious leakage: evacuate the site, close the valve, and have professionals transfer the leak using corrosion-resistant equipment. It is strictly forbidden to mix containers with flammable materials.

6.7 Special considerations

It is strictly forbidden to mix with flammable materials and reducing agents; monitor the temperature of the leakage area (to prevent oxidation exothermic fire); use dedicated protective equipment to avoid cross contamination.

7: Handling and storage

7.1 Safe storage conditions

Store in a well-ventilated ordinary warehouse (air changes ? 6 times/hour) with non-combustible materials (such as cement) on the floor; the container should be made of non-combustible materials (such as ceramics, stainless steel) with a breathable valve (to prevent pressure buildup); the warehouse should be away from open flame operation areas (distance ? 5 meters) and equipped with dry powder fire extinguishers (ABC type, capacity ? 4kg).

7.2 Storage precautions

Store separately from flammable substances, reducing agents, and organic matter (isolation distance ? 2 meters), and mixed storage is strictly prohibited; avoid direct sunlight on containers and store in a cool place; check the containers monthly for expansion and leakage, and prevent oxidizing solids from absorbing moisture and agglomerating; prohibit the use of wooden shelves (which are easily oxidized and burned).

7.3 VCI Storage Grade

Level 2 (medium-high): Metal containers are wrapped in VCI anti-rust packaging (such as rust-proof paper), and the anti-rust effect is checked once every two months; metal equipment in the warehouse (such as shelves and forklifts) is coated with VCI primer to prevent oxidation corrosion.

7.4 Recommended storage temperature

15-30?, avoid exceeding 35?; oxidizing liquids must be kept at a temperature ?30? to prevent accelerated decomposition; in hot seasons (?35?), the warehouse cooling system (such as air conditioning) must be turned on, and the temperature fluctuation must be ?±3? (if the label has a recommended storage temperature, the label shall prevail).

7.5 Handling

For precautions see Safety Data Sheet section 2
Advice on safe handling : Work under hood. Do not inhale substance/mixture.

8: Exposure controls/personal protection

8.1 Respiratory protection

When exposed to oxidizing dust or gas, wear a filtering respirator (APF?20); high concentration environment (such as chlorine >10ppm) requires a positive pressure air respirator.

8.2 Recommended Filter type

For oxidizing gases, choose Type E gas filter cartridge (protective against Cl? and NO?); for dust, choose Type P2 filter cotton; if it contains organic impurities, add Type A gas filter cartridge (protective against organic vapors).

8.3 Eye/face protection

Wear chemical protection goggles with lenses made of polycarbonate (anti-oxidation corrosion). If handling liquid oxidizing substances, wear a protective mask.

8.4 Skin and body protection

Wear corrosion-resistant and anti-static clothing made of polyester fiber + nitrile coating, avoid contact with reducing substances (such as cotton cloth) to prevent exothermic reactions.

8.5 Hand protection

Wear oxidation-resistant and chemical-resistant gloves, preferably nitrile or neoprene, and avoid latex gloves (which are easily damaged by oxidation). Change them every 8 hours.

8.6 Hygiene measures

Wash your hands with soap and running water after work to avoid residual oxidizing substances from irritating the skin; do not rub your eyes with your hands. If you feel stinging after contact, rinse immediately with clean water; tools must be stored separately to avoid mixing with reducing substances.

9: Physical and chemical properties and safety characteristics

Physical state	no data available
Colour	no data available
Odour	no data available
Melting point/freezing point	no data available
Boiling point or initial boiling point and boiling range	no data available
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	no data available
Auto-ignition temperature	no data available

Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	no data available
Partition coefficient n-octanol/water	no data available
Vapour pressure	no data available
Density and/or relative density	1.57g/mLat 25°C
Relative vapour density	no data available
Particle characteristics	no data available

10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

11: Toxicological information

11.1 Acute toxicity

Oral: no data available
Inhalation: no data available
Dermal: no data available

11.2 Skin corrosion/irritation

no data available

11.3 Serious eye damage/irritation

no data available

11.4 Respiratory or skin sensitization

no data available

11.5 Germ cell mutagenicity

no data available

11.6 Carcinogenicity

no data available

11.7 Reproductive toxicity

no data available

11.8 STOT-single exposure

no data available

11.9 STOT-repeated exposure

no data available

11.10 Aspiration hazard

no data available

12: Ecological information

12.1 Toxicity

Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Other adverse effects

no data available

13: Disposal considerations

13.1 Disposal methods for waste chemicals

After reacting with an appropriate amount of reducing agent (such as sodium thiosulfate), it can be disposed of as ordinary waste. High-concentration oxidizing substances need to be diluted before chemical treatment. Solid oxidizing substances can be safely landfilled (separated from other wastes). Containers must be rinsed clean to prevent residual substances from triggering reactions.

13.2 Precautions

The reaction temperature must be strictly controlled during the disposal process to prevent excessive heat release. It is prohibited to mix oxidizing substances with flammable or organic materials. Operators must wear chemical protection equipment. The disposal site must be equipped with fire extinguishing equipment. Waste must be individually packaged during transportation to prevent damage.

14: Transport information

14.1 UN Number

ADR/RID: UN3211	IMDG: UN3211	IATA: UN3211

14.2 UN Proper Shipping Name

ADR/RID: PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	IMDG: PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.	IATA: PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 5.1	IMDG: 5.1	IATA: 5.1

14.4 Packing group, if applicable

ADR/RID: II	IMDG: II	IATA: II

14.5 Environmental hazards

ADR/RID: no	IMDG: no	IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Holmium perchlorate	Holmium perchlorate	14017-54-0	
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Not Listed.
Vietnam National Chemical Inventory			Not Listed.
Australian Inventory of Industrial Chemicals (AIIC)			Not Listed.
Catalogue of Strictly Restricted Toxic Chemicals in China			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
European INventory of Existing Commercial chemical Substances			Not Listed.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			Not Listed.
TSCA Inventory of Chemical Substances			Not Listed.

16: Other information

Information on revision

SDS Creation Date	July 1, 2025
SDS Revision Date	July 1, 2025

Abbreviations and acronyms in SDS

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

SDS References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this Safety Data Sheet, Please send your inquiry to sales@MolBest.com

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