

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

1.1 Product identifier

Monogermene (GeH4)

Chemical formula	GeH4
CAS number	7782-65-2
Transport identifier	UN 2192

1.2 Relevant identified uses

Industrial and professional use in semiconductor, photovoltaic, infrared and related materials processes. Use only with process-specific engineering controls and a documented risk assessment.

Uses advised against	Intentional inhalation and any use not supported by a task-specific risk assessment.
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1.3 Supplier

SG TRADING L.L.C-FZ

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Telephone	+971 4 422 4811
Email	info@sgtrading.biz
Website	https://www.sgtrading.biz

1.4 Emergency and safety contact (WhatsApp)

+1 832 525 5066, available 07:00–22:00 (UTC+3).

SECTION 2: Hazards identification

Emergency overview

Extremely flammable gas with explosion hazard. Gas under pressure; may explode if heated. Causes skin irritation and serious eye irritation. Fatal if inhaled. May cause respiratory irritation, drowsiness or dizziness and damage to organs following a single exposure. GHS classifications stated by the source: Flammable gas, Category 1; gas under pressure; acute toxicity by inhalation, Category 1; skin corrosion/irritation, Category 2; serious eye damage/eye irritation, Category 2; specific target organ toxicity, single exposure, Category 1; and specific target organ toxicity, single exposure, Category 3 for respiratory irritation and narcotic effects. Signal word: Danger. Prevention: keep away from heat, sparks, open flames and hot surfaces; no smoking; do not breathe gas; wash thoroughly after handling; do not eat, drink or smoke when using; use only outdoors or in a well-ventilated area; wear protective gloves, protective clothing, eye/face protection and respiratory protection. Response: for a leaking gas fire, do not extinguish unless the leak can be stopped safely; remove ignition sources if safe. If inhaled, move the person to fresh air, keep comfortable for breathing and immediately call a poison centre or doctor. Wash contaminated skin with soap and water; remove and wash contaminated clothing. Rinse eyes cautiously for several minutes, remove contact lenses if easy to do and continue rinsing; seek medical attention if irritation persists. Store locked, protected from sun and rain, in a well-ventilated place with the container tightly closed. Dispose according to applicable regulations.



Flame



Gas cylinder



Skull and crossbones



Health hazard

SECTION 3: Composition/information on ingredients

Substance	Germane (GeH4). Concentration stated by the source: at least 99.999%. CAS number: 7782-65-2.
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SECTION 4: First-aid measures

Skin contact

remove contaminated clothing and flush the affected area with plenty of water for at least 15 minutes; cover the injured area with clean material and obtain immediate medical attention. Eye contact: rinse slowly with lukewarm water for at least 15 minutes while holding eyelids open; remove contact lenses if possible, continue rinsing, cover with clean gauze and obtain immediate medical attention. Inhalation: move the person to fresh air and call for emergency medical help immediately. If unconscious, place in the recovery position, do not give anything by mouth, maintain an open airway and have trained personnel provide artificial respiration or cardiopulmonary resuscitation as required. Oxygen may be administered by trained personnel. Keep the person warm and inform medical personnel of the exposure. Ingestion: do not induce vomiting and give nothing by mouth to an unconscious person; call a physician or poison centre immediately. Rescuers must understand the hazards, remove ignition sources, improve ventilation, avoid skin and eye contact and inhalation, and use suitable protective equipment including respiratory protection.

SECTION 5: Firefighting measures

Special hazards

readily ignited by heat, sparks or flame and may form explosive mixtures with air. Containers exposed to fire may vent through pressure-relief devices, increasing fire intensity or vapour concentration. Vapour may travel to an ignition source and flash back. Heated containers may explode; exposure to heat or flame may cause expansion or explosive decomposition. Extinguishing media: for a small fire, dry chemical or carbon dioxide; for a large fire, water spray, water fog or regular foam. Avoid straight water streams. Firefighters must wear self-contained breathing apparatus and full protective clothing and fight from upwind. Move containers from the fire area if this can be done safely. Withdraw immediately if containers discolor or a pressure-relief device sounds. Isolate the area, keep unauthorized persons away and contain contaminated firefighting water.

SECTION 6: Accidental release measures

Emergency personnel should wear self-contained breathing apparatus, antistatic protective clothing and suitable chemical-resistant gloves. Do not touch or cross the release. Ground all equipment, stop the leak if safe and remove ignition sources. Establish an exclusion zone according to gas dispersion and evacuate people crosswind and upwind. Prevent entry into drains, surface water and groundwater. For a small release, collect material in a sealable container where practicable and use sand, activated carbon or another inert absorbent; transfer to a safe place and do not flush to drains. For a large release, contain by diking or excavation, close drainage routes, suppress vapours with foam and transfer using explosion-protected equipment to a suitable recovery or waste container.

SECTION 7: Handling and storage

Handling

trained personnel must follow operating procedures. Use local exhaust or effective general ventilation. Avoid contact with skin and eyes and avoid inhalation. Keep away from ignition and heat sources; no smoking. Use explosion-protected ventilation and equipment. Control filling rate and ground equipment to prevent static accumulation. Avoid incompatible materials, especially oxidizers. Handle containers carefully; empty containers may retain hazardous residue. Wash after use and do not eat or drink in the work area. Provide appropriate firefighting and spill-response equipment. Storage: keep in a cool, well-ventilated warehouse at not more than 37 °C with lightning protection. Segregate from oxidizers and food chemicals. Keep containers closed and away from ignition and heat sources. Use non-sparking tools, grounded antistatic exhaust, explosion-protected lighting and ventilation, and maintain suitable leak-response and containment equipment.

SECTION 8: Exposure controls/personal protection

Control parameters

the source states PC-TWA 0.6 mg/m³ and cites GBZ/T 160.1 to GBZ/T 160.81-2004 and EN 14042 for workplace-air assessment. Engineering controls: provide adequate ventilation, especially in enclosed areas; install nearby eyewash and safety-shower facilities; use explosion-protected electrical, ventilation and lighting equipment; provide emergency evacuation routes and controlled danger areas. Respiratory protection: when airborne concentration exceeds the applicable limit, use suitable respiratory protection; for emergency response or evacuation use self-contained breathing apparatus. Hand protection: chemical-resistant gloves. Eye protection: chemical safety goggles. Skin/body protection: protective clothing resistant to permeation by toxic substances.

SECTION 9: Physical and chemical properties

Appearance

colourless gas with an irritating odour. pH: no data. Melting point: -164.8 °C. Boiling point: -88.5 °C. Flash point: no data. Upper and lower explosive limits: no data. Heat of combustion: no data. Relative vapour density, air = 1: 2.65. Auto-ignition temperature: 87.8 °C. Vapour pressure: 9.4 kPa at -125 °C. Relative density, water = 1: 1.52. Solubility: insoluble. n-octanol/water partition coefficient: no data. Decomposition temperature: 327 °C. Critical temperature and pressure: no data.

SECTION 10: Stability and reactivity

Stability

stable under the stated storage conditions. Incompatible materials: strong oxidizers, strong acids and strong bases. Conditions to avoid: static discharge, heat and moisture. Hazardous reactions and hazardous decomposition products: no data in the source SDS.

SECTION 11: Toxicological information

The source SDS reports acute toxicity and states mouse oral LD₅₀ 1250 mg/kg. It classifies skin corrosion/irritation, serious eye damage/irritation and acute toxicity by inhalation. Germ-cell mutagenicity, carcinogenicity and reproductive toxicity: no data. Specific target organ toxicity following single exposure may include respiratory irritation, drowsiness or dizziness. The source also states serious eye irritation and fatality by inhalation under repeated-exposure wording. Inhalation hazard: poisoning. Because the source wording contains internal inconsistencies, occupational health interpretation requires qualified technical review before release.

SECTION 12: Ecological information

Ecotoxicity, persistence and degradability, bioaccumulative potential and mobility: no data in the source SDS.

SECTION 13: Disposal considerations

Recover and reuse material where practicable. If recovery is not possible, dispose through an authorized hazardous-waste route; do not discharge to drains. Return contaminated containers to the producer or dispose according to national and local regulations. Review applicable regulations before disposal and apply the personal-protection measures described in Section 8.

SECTION 14: Transport information

UN number

UN 2192. Proper shipping name: Germane. Transport hazard classes stated by the source: 2.3 and 2.1. Packing group: not applicable. Labels: toxic gas and flammable gas. Packaging: steel cylinder. Marine pollutant: no. Personnel must be trained for dangerous-goods transport. Vehicles must carry suitable firefighting and leak-response equipment. Do not transport with oxidizers or food chemicals. Use appropriate grounding and flame-arresting provisions, non-sparking handling equipment and applicable hazard labels. Protect from sun, rain and high temperature; keep away from ignition and heat sources during stops and follow prescribed routes, avoiding densely populated areas where required. Transport classification and route requirements must be confirmed for the actual jurisdiction and mode.

SECTION 15: Regulatory information

The source SDS references Chinese occupational-disease legislation, hazardous-chemical management rules and national chemical inventories. It states inclusion in the 2015 Catalogue of Hazardous Chemicals and the 2013 Inventory of Existing Chemical Substances in China, and states that the substance is not included in the cited 2017 list of explosives precursors, the cited lists of key regulated hazardous chemicals, the cited priority environmental-management list, or the cited narcotic and psychotropic substance lists. Regulatory status must be independently confirmed for the destination jurisdiction and current effective law.

SECTION 16: Other information**Source revision history**

first prepared 2017-02-27; revised to applicable standard requirements on 2022-12-18; second revision dated 2025-10-15. This English SG Trading document is based on the visible Chinese source SDS, version 2.1. The information applies to the identified product and is intended for trained professional users. Users must determine suitability for their specific conditions of use. This SDS communicates safety information and does not replace the agreed product specification, Certificate of Analysis, transport documents or destination-specific legal requirements. Technical approval of this translation is required before public release.