



化学品安全技术说明书 (Safety Data Sheet, SDS)

产品名称：七水硫酸镁 (Magnesium Sulfate Heptahydrate)

CAS 号: 10034-99-8 | EINECS 号: 242-691-3 | 版本号: 1.0 | 编制日期: 2026 年 1 月 27 日 | 修订日期: 无

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第 1 部分：化学品及企业标识 (Section 1: Chemical Product and Company Identification)

化学品中文名: 七水硫酸镁 | 化学品英文名: Magnesium Sulfate Heptahydrate

其他名称: 硫苦、苦盐、泻利盐、 $MgSO_4 \cdot 7H_2O$ | 产品用途: 工业级, 用于肥料、印染、制革、医药、食品添加剂、催化剂等领域 (Industrial grade, used in fertilizers, printing and dyeing, tanning, pharmaceuticals, food additives, catalysts, etc.)

企业名称: 莱州市百业鑫化工有限公司 | **Company Name:** Laizhou Baiyexin Chemical Co., Ltd.

企业地址: 山东省烟台市莱州市土山镇银海工业园 | **Company Address:** Yin Hai Industrial Park, Tushan Town, Laizhou City, Yantai City, Shandong Province, China

联系电话: +86 19653602589 | **Contact Phone:** +86 19653602589

应急电话: +86 19653602589 (24 小时) | **Emergency Phone:** +86 19653602589 (24 hours)

第 2 部分：危险性概述 (Section 2: Hazards Identification)

GHS 危险性分类: 急性毒性-口服 (类别 4)、急性毒性-经皮 (类别 4)、急性毒性-吸入 (类别 4) (依据 GHS 第 9 版标准) | **Acute toxicity - Oral (Category 4), Acute toxicity - Dermal (Category 4), Acute toxicity - Inhalation (Category 4) (According to GHS Rev. 9)**

危险象形图: (警告类象形图) | **Signal Word:** 警告 (Warning)



危险说明 (Hazard Statements) :

- H302: 吞咽有害 (Harmful if swallowed)
- H312: 皮肤接触有害 (Harmful in contact with skin)
- H332: 吸入有害 (Harmful if inhaled)

防范说明 (Precautionary Statements) :

- 预防 (Prevention) : 密闭操作、加强通风; 佩戴防尘口罩、防护眼镜及橡胶手套; 避免皮肤接触、吸入粉尘及食入; 操作后彻底清洗双手 (Operate in closed system with enhanced ventilation; Wear dust mask, safety goggles and rubber gloves; Avoid skin contact, dust inhalation and ingestion; Wash hands thoroughly after handling)
- 响应 (Response) : 皮肤接触立即用大量流动清水冲洗至少 15 分钟; 眼睛接触提起眼睑用流动清水或生理盐水冲洗后就医; 吸入转移至空气新鲜处, 呼吸困难时给输氧并就医; 食入饮足量温水催吐, 立即就医 (In case of skin contact, rinse thoroughly with plenty of running water for at least 15 minutes; For eye contact, lift eyelids and rinse with running water or normal saline, then seek medical attention; For inhalation, remove to fresh air, give oxygen if breathing is difficult and seek medical attention; For ingestion, drink plenty of warm water to induce vomiting and seek medical attention immediately)
- 储存 (Storage) : 密封保存于阴凉干燥通风处, 远离热源、水源及食用化学品 (Store sealed in a cool, dry and well-ventilated place, away from heat sources, water sources and food chemicals)
- 处置 (Disposal) : 按当地环保法规处置废弃物及污染包装 (Dispose of waste and contaminated packaging in accordance with local environmental regulations)

其他危害: 长期接触可引起呼吸道炎症; 肾功能障碍者误服可能导致镁中毒, 出现胃痛、呕吐、虚脱等症状; 对水体有轻微危害 (Prolonged contact may cause respiratory inflammation; Ingestion by people with renal impairment may cause magnesium poisoning, accompanied by stomachache, vomiting, collapse, etc.; Slightly harmful to water bodies)

第 3 部分: 成分/组成信息 (Section 3: Composition/Information on Ingredients)

物质类型: 纯品 (Pure Substance)

组分 (Component)	CAS 号	EC 号	质量分数 (Mass Fraction)
七水硫酸镁	10034-99-8	242-691-3	≥99.5%



(Magnesium Sulfate Heptahydrate)			
杂质 (Impurities)	无特定主要杂质	无	≤0.5% (含 Fe≤0.0015%、 Pb≤0.0006%、 As≤0.0002%)

第 4 部分：急救措施 (Section 4: First-Aid Measures)

吸入 (Inhalation) : 迅速脱离现场至空气新鲜处，保持呼吸道通畅。如出现咳嗽、胸闷等不适，立即就医 (Quickly remove to fresh air and keep respiratory tract unobstructed. Seek medical attention immediately if cough, chest tightness or other discomfort occurs)

皮肤接触 (Skin Contact) : 立即脱去污染的衣着，用大量流动清水冲洗接触部位至少 15 分钟，必要时涂抹舒缓药膏；若出现红肿、瘙痒等症状，就医 (Immediately remove contaminated clothing, rinse the contact area with plenty of running water for at least 15 minutes, apply soothing ointment if necessary; Seek medical attention if redness, itching and other symptoms occur)

眼睛接触 (Eye Contact) : 立即提起眼睑，用大量流动清水或生理盐水持续冲洗 15-20 分钟，期间转动眼球；冲洗后若仍有异物感、刺痛等，立即就医 (Immediately lift eyelids, continuously rinse with plenty of running water or normal saline for 15-20 minutes while rotating the eyeballs; Seek medical attention immediately if foreign body sensation, stinging and other symptoms remain after rinsing)

食入 (Ingestion) : 饮足量温水，刺激咽喉部催吐，尽快就医。告知医生“七水硫酸镁中毒”，肾功能障碍者需重点告知，无特定解毒剂，对症治疗 (Drink plenty of warm water, stimulate the pharynx to induce vomiting, and seek medical attention as soon as possible. Inform the doctor of "magnesium sulfate heptahydrate poisoning", especially for people with renal impairment; No specific antidote, treat symptomatically)

医疗提示: 镁中毒可出现低血压、呼吸抑制、心脏传导异常等，严重时需血液透析 (Magnesium poisoning may cause hypotension, respiratory depression, cardiac conduction abnormalities, etc., and hemodialysis is required in severe cases)

第 5 部分：消防措施 (Section 5: Fire-Fighting Measures)

燃烧性: 本品不燃 (Non-combustible)



合适灭火剂：周围起火时，使用干粉、二氧化碳、干砂、黄土等灭火剂，避免用水直接冲击堆放物 (In case of fire nearby, use dry powder, carbon dioxide, dry sand, loess and other extinguishing media; Avoid direct water impact on piles)

危险燃烧产物：高温下分解产生有毒、腐蚀性硫氧化物（二氧化硫、三氧化硫）及氧化镁烟雾 (Decomposes at high temperature to produce toxic and corrosive sulfur oxides (sulfur dioxide, sulfur trioxide) and magnesium oxide fumes)

消防人员防护：佩戴全面罩防毒面具、穿防化消防防护服，在上风向灭火；灭火后及时清洗防护装备 (Wear full-face gas mask and chemical-resistant fire protective clothing, fight fire from upwind direction; Clean protective equipment in time after fire fighting)

第 6 部分：泄漏应急处理 (Section 6: Accidental Release Measures)

个人防护：立即隔离泄漏污染区，限制出入；应急处理人员佩戴全面罩防尘面具、穿防毒服及防化手套，避免扬尘 (Immediately isolate the contaminated area and restrict access; Emergency personnel shall wear full-face dust mask, chemical protective clothing and chemical-resistant gloves to avoid dust raising)

小量泄漏：用干净的干铲子收集于干燥、洁净、密封的容器中，标识后待后续处理或回收；残留区域用清水擦拭干净，废水按危废处置 (For small spills, collect with a clean dry shovel into a dry, clean and sealed container, mark for subsequent disposal or recycling; Wipe the residual area with clean water, and dispose of wastewater as hazardous waste)

大量泄漏：用防水布、帆布覆盖防止扩散，构筑围堤收容，避免泄漏物流入地下水、水道或污水系统；联系专业机构按当地法规处置 (For large spills, cover with waterproof cloth and canvas to prevent dispersion, build dikes for containment, and avoid spillage into groundwater, waterways or sewage systems; Contact professional organizations for disposal in accordance with local regulations)

环境保护：若泄漏物污染水体，立即报告当地环保部门，采取吸附、中和等应急措施 (If the spillage contaminates water bodies, immediately report to the local environmental protection department and take emergency measures such as adsorption and neutralization)

第 7 部分：操作处置与储存 (Section 7: Handling and Storage)

操作处置 (Handling)：

- 密闭操作，配备通风系统及粉尘收集装置，控制作业环境粉尘浓度 (Operate in closed system, equipped with ventilation system and dust collection device to control dust concentration in the working environment)
- 避免与酸类、食用化学品接触，严禁混放混运；搬运时轻装轻卸，防止包装破损、吸潮 (Avoid contact with acids, food chemicals, strictly prohibit mixed storage and transport; Handle with care during transport to prevent damage to packaging and moisture absorption)



with acids and food chemicals, and strictly prohibit mixed storage and transportation; Handle with care during transportation to prevent packaging damage and moisture absorption)

- 作业完毕后，彻底清洗双手、面部及接触部位，严禁在作业区域进食、饮水、吸烟 (After operation, thoroughly clean hands, face and contact parts; It is strictly prohibited to eat, drink or smoke in the operation area)

储存 (Storage) :

- 储存于阴凉、干燥、通风的库房，温度控制在 48.1°C 以下（低于该温度在潮湿空气中更稳定），相对湿度 $\leq 75\%$ (Store in a cool, dry and well-ventilated warehouse, temperature controlled below 48.1°C (more stable in humid air below this temperature), relative humidity $\leq 75\%$)
- 密封包装 (如编织袋内衬聚乙烯薄膜)，防止风化、吸潮结块及污染 (Sealed packaging (such as woven bag lined with polyethylene film) to prevent weathering, moisture absorption, caking and contamination)
- 与酸类、有毒化学品、食用化学品分开存放，垛距 ≥ 0.5 米，顶距 ≥ 1 米，便于通风和应急处理 (Store separately from acids, toxic chemicals and food chemicals, stack spacing ≥ 0.5 meters, top spacing ≥ 1 meter for ventilation and emergency treatment)

第 8 部分：接触控制和个体防护 (Section 8: Exposure Controls/Personal Protection)

职业接触限值：无国际统一明确限值，建议作业环境粉尘浓度 $\leq 10 \text{ mg/m}^3$ (No unified international limit, it is recommended that the dust concentration in the working environment $\leq 10 \text{ mg/m}^3$)

工程控制：采用密闭式生产设备，配套机械通风及粉尘净化装置；定期检测作业环境粉尘浓度 (Adopt closed production equipment, matched with mechanical ventilation and dust purification devices; Regularly detect dust concentration in the working environment)

个体防护 (Personal Protection) :

- 呼吸系统防护：粉尘环境佩戴 KN95 及以上级防尘口罩，粉尘浓度超标时佩戴全面罩防尘面具 (Respiratory protection: Wear KN95 or higher grade dust mask in dusty environment; Wear full-face dust mask when dust concentration exceeds the standard)
- 眼睛防护：佩戴防冲击化学安全防护眼镜，防止粉尘入眼及飞溅物伤害 (Eye protection: Wear impact-resistant chemical safety goggles to prevent dust from entering eyes and injury from splashes)
- 手防护：佩戴丁腈橡胶或氯丁橡胶手套，避免皮肤直接接触；手套破损立即更换 (Hand protection: Wear nitrile rubber or neoprene gloves to avoid direct skin contact; Replace gloves immediately if damaged)
- 皮肤防护：穿着防毒物渗透工作服，袖口、裤脚收紧；作业后及时清洗工作服 (Skin protection: Wear



poison-proof permeable work clothes with tight cuffs and trouser legs; Clean work clothes in time after operation)

第 9 部分：理化特性 (Section 9: Physical and Chemical Properties)

项目 (Item)	中文描述	English Description
外观与性状	无色针状或斜柱状结晶，无臭，味凉且微苦，集合体呈白色玻璃光泽	Colorless acicular or rhombic crystals, odorless, cool and slightly bitter taste, aggregates with white glass luster
密度 (25°C)	1.68 g/mL	1.68 g/mL (25°C)
熔点	67.5°C (溶于自身结晶水)，受热逐步脱水，200°C时变为无水物	67.5°C (dissolves in its own crystal water), gradually dehydrates when heated, and becomes anhydrous at 200°C
蒸气压 (20°C)	<0.1 mmHg	<0.1 mmHg (20°C)
溶解性	易溶于水 (20°C溶解度约 35 g/100 mL)，微溶于乙醇、甘油，不溶于丙酮	Soluble in water (solubility about 35 g/100 mL at 20°C), slightly soluble in ethanol and glycerol, insoluble in acetone
闪点	无 (不燃)	None (non-combustible)
分子量	246.48	246.48
pH 值 (5%水溶液)	5.0-9.2 (中性至弱酸性)	5.0-9.2 (neutral to weakly



acidic)

第 10 部分：稳定性和反应性 (Section 10: Stability and Reactivity)

稳定性: 常温常压、48.1°C 以下潮湿空气中稳定；干燥空气中易风化，受热易脱水分解 (Stable under normal temperature and pressure, and in humid air below 48.1°C; Easily weathers in dry air and decomposes by dehydration when heated)

避免条件: 高温 (超过 48.1°C)、潮湿环境、与酸类接触 (Avoid conditions: High temperature (above 48.1°C), humid environment, contact with acids)

不相容物质: 强酸、乙氧基乙炔醇 (与后者加热可能发生爆炸反应) (Incompatible substances: Strong acids, ethoxyethynyl alcohol (explosive reaction may occur when heated with the latter))

危险反应: 与乙氧基乙炔醇混合加热可能引发爆炸；高温下与焦炭反应生成有毒二氧化硫气体 (Hazardous reactions: Mixed heating with ethoxyethynyl alcohol may cause explosion; Reacts with coke at high temperature to produce toxic sulfur dioxide gas)

分解产物: 受热分解依次产生六水、一水硫酸镁，最终生成无水硫酸镁、氧化镁及硫氧化物 (Decomposition products: Sequentially produce magnesium sulfate hexahydrate and monohydrate when heated, and finally generate anhydrous magnesium sulfate, magnesium oxide and sulfur oxides)

第 11 部分：毒理学信息 (Section 11: Toxicological Information)

急性毒性 (Acute Toxicity) :

- 大鼠经口 LD₅₀ : 约 645 mg/kg (皮下注射, 小鼠) ; 人经口 TDLo: 183 g/kg (轻泻作用, 大剂量致中毒) (Oral LD₅₀ , rat: About 645 mg/kg (subcutaneous injection, mouse); Oral TDLo, human: 183 g/kg (laxative effect, poisoning at high dose))
- 经皮毒性: 皮肤接触有害, 长期接触可引发皮肤炎症 (Dermal toxicity: Harmful in contact with skin, prolonged contact may cause skin inflammation)
- 吸入毒性: 粉尘吸入可刺激呼吸道, 引发咳嗽、胸闷, 长期接触致呼吸道炎症 (Inhalation toxicity: Dust inhalation can irritate the respiratory tract, causing cough and chest tightness; prolonged contact causes respiratory inflammation)

皮肤刺激: 轻微刺激性 (家兔试验), 长期接触可出现红肿、瘙痒 (Mild irritation (rabbit test), redness and itching may occur after prolonged contact)

眼睛刺激: 轻微刺激性, 粉尘入眼可引发异物感、刺痛 (Mild irritation, dust entering eyes can cause foreign body sensation and stinging)



过敏反应：无已知皮肤或呼吸过敏反应 (No known skin or respiratory allergic reactions)

毒代动力学：镁离子主要经肾脏排泄，肾功能正常时排泄较快；肾功能障碍者易导致镁离子蓄积中毒
(Toxicokinetics: Magnesium ions are mainly excreted by the kidneys, and excreted quickly when renal function is normal; People with renal impairment are prone to magnesium ion accumulation poisoning)

第 12 部分：生态学信息 (Section 12: Ecological Information)

生态毒性 (Ecotoxicity)：对水体轻微有害，水蚤 LC₅₀ (48 小时) 约 720 mg/L，藻类 EC₅₀ (72 小时) 约 2700 mg/L (Slightly harmful to water bodies, Daphnia magna LC₅₀ (48h) about 720 mg/L, algae EC₅₀ (72h) about 2700 mg/L)

持久性和降解性：不易生物降解，在环境中可稳定存在 (Not easily biodegradable, stable in the environment)

生物累积性：无生物累积潜力，不会在生物体内富集 (No bioaccumulation potential, will not accumulate in organisms)

环境影响：禁止未经处理直接排入水体、土壤及大气；污染水体后需及时采取吸附、中和措施，降低对水生生物的影响 (It is prohibited to discharge directly into water bodies, soil and atmosphere without treatment; After polluting water bodies, take adsorption and neutralization measures in time to reduce the impact on aquatic organisms)

第 13 部分：废弃处置 (Section 13: Disposal Considerations)

废弃物性质：非危险废弃物（但需按含轻微毒性化学品废弃物处置） (Non-hazardous waste (but shall be disposed as waste containing slightly toxic chemicals))

处置方法：

- 可回收利用的废弃物：经提纯、重结晶后回收作为工业原料使用 (Recyclable waste: Recycled as industrial raw material after purification and recrystallization)
- 不可回收部分：交由具备资质的危废处理机构，采用安全填埋或高温焚烧处置；焚烧需配套尾气处理装置，去除硫氧化物 (Non-recyclable parts: Handed over to qualified hazardous waste treatment institutions for safe landfill or high-temperature incineration; Incineration shall be equipped with tail gas treatment device to remove sulfur oxides)

包装处置：污染的包装需彻底清洗干净后回收利用；无法清洗的包装按危废处置，严禁混入生活垃圾
(Packaging disposal: Contaminated packaging shall be thoroughly cleaned for recycling; Uncleanable packaging shall be disposed as hazardous waste, and it is strictly prohibited to mix with domestic waste)

第 14 部分：运输信息 (Section 14: Transport Information)



联合国危险货物编号 (UN 号) : 无 (非危险货物, 按普通化学品运输) (None, transported as ordinary chemicals)

联合国运输名称: 七水硫酸镁 (Magnesium Sulfate Heptahydrate)

运输危险性分类: 非危险货物 (Non-hazardous for transport)

包装组: 无 (No packaging group)

海洋污染物: 否 (No)

运输注意事项:

- 运输车辆需干燥、清洁, 配备防雨、防潮、防晒设施, 避免车厢内潮湿 (Transport vehicles shall be dry and clean, equipped with rainproof, moisture-proof and sun-proof facilities to avoid humidity in the carriage)
- 包装采用牢固的编织袋内衬聚乙烯薄膜, 封口严密, 防止破损、泄漏、吸潮及风化 (Packaging adopts strong woven bag lined with polyethylene film, sealed tightly to prevent damage, leakage, moisture absorption and weathering)
- 严禁与强酸、有毒化学品、食用化学品混装混运, 装卸时轻装轻卸, 防止包装挤压破损 (Strictly prohibit mixed loading and transportation with strong acids, toxic chemicals and food chemicals; Handle with care during loading and unloading to prevent packaging from being squeezed and damaged)
- 运输过程中远离热源、火源, 中途停留时选择阴凉干燥通风场所, 专人看管 (Keep away from heat sources and fire sources during transportation; Choose a cool, dry and well-ventilated place for stay on the way, with special personnel on duty)

第 15 部分: 法规信息 (Section 15: Regulatory Information)

欧盟法规: 符合 REACH 法规 (EC No. 1907/2006), 已列入 EINECS 目录; 满足 CLP 法规 (EC No. 1272/2008) GHS 分类及标签要求 (Complies with REACH Regulation (EC No. 1907/2006), listed in EINECS directory; Meets the GHS classification and labeling requirements of CLP Regulation (EC No. 1272/2008))

美国法规: 符合 OSHA HazCom 2012 标准, 已列入 TSCA 目录; 遵循 ANSI Z400.1 标准进行分类和标签 (Complies with OSHA HazCom 2012 standard, listed in TSCA directory; Classified and labeled in accordance with ANSI Z400.1 standard)

中国法规: 符合《危险化学品安全管理条例》, 本品非危险化学品; 符合 GB/T 16483-2008、GB/T 17519-2013 标准; 工业级产品符合 HG2933-2000 技术指标 (Complies with "Regulations on the Safety Administration of Hazardous Chemicals", this product is non-hazardous chemical; Complies with GB/T 16483-2008 and GB/T 17519-2013 standards; Industrial grade products meet HG2933-2000 technical indicators)



其他： 遵循进口国当地化学品管理法规及标准，如日韩 K-REACH、KOSHA 标准，确保进出口通关合规
(Comply with local chemical management regulations and standards of the importing country, such as South Korea's K-REACH, KOSHA standards, to ensure compliance with import and export customs clearance)

第 16 部分：其他信息 (Section 16: Other Information)

编制说明： 本 SDS 基于联合国 GHS 第 9 版及国际法规要求编制，数据来源于权威化学品数据库、行业标准及试验报告，精准对应七水硫酸镁特性，专供莱州市百业鑫化工有限公司外贸客户使用及进出口通关参考 (This SDS is compiled in accordance with GHS Rev. 9 and international regulatory requirements. The data is from authoritative chemical databases, industry standards and test reports, accurately corresponding to the characteristics of magnesium sulfate heptahydrate, for the exclusive use of Laizhou Baiyexin Chemical Co., Ltd.'s foreign trade customers and import-export customs clearance reference)

免责声明： 使用本品前需确认符合当地法规及使用场景要求，严格遵循本 SDS 操作规范；本公司对因不当使用、储存、运输本品造成的人身伤害、财产损失及环境影响不承担责任 (Confirm compliance with local regulations and application scenarios before use, and strictly follow the operating specifications of this SDS; Our company is not liable for personal injury, property loss and environmental impact caused by improper use, storage and transportation of this product)

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