光华化工
GUANGHUA CHEMICAL

化学品安全技术说明书（SDS）

产品：高效锌液净化剂（SYC）

编制依据：GB/T 16483- 2008、GB/T 17519- 2013、GB 30000 系列 GHS 分类标准 版本：V2.1 编制日期：2026- 08- 20

第 1 部分 化学品及企业标识

1.1 商品名称：高效锌液净化剂（SYC）

1.2 别名：热镀锌锌液除铁除渣剂、热镀锌固体净化助剂

1.3 推荐用途：本产品为固体无机复配混合物，用于热镀锌高温锌锅锌液处理；促使锌液中铁杂质聚集，吸附悬浮铁颗粒，将游离铁转化稳定锌- 铁渣实现沉降；降低锌液溶铁含量，改善锌液流动性，降低锌耗，提升镀锌工件镀层光亮性。

1.4 限制用途：禁止用于食品、医药、饮用水体系；禁止直接接触人体、直接排入自然水体；仅限热镀锌高温锌锅工艺使用。

1.5 生产企业：昆山光华化工材料有限公司

1.6 企业地址：江苏省昆山市巴城镇湖滨北路 341 号

1.7 联系电话：13584927325

1.8 24h 国内应急咨询电话：13584927325

1.9 编制部门：技术工程部

第 2 部分 危险性概述

2.1 GHS 危险性分类： 无 GHS 物理爆炸 / 易燃危险；皮肤刺激（类别 2）；眼刺激（类别 2A）；对水生生物有害并具有长期持续影响。

重要说明：产品各单一组分不属于《危险化学品目录》列明危化品；固体粉末扬尘可刺激皮肤、眼睛、呼吸道；受潮物料投入高温熔融锌液发生水汽急剧汽化喷溅烫伤，属于工艺操作风险，不属于化学品本身 GHS 固有危险。

2.2 GHS 象形图：⚠ GHS07（感叹号）

2.3 信号词：警告

2.4 危险说明 H315：造成皮肤刺激 H319：造成严重眼刺激 H412：对水生生物有害并具有长期持续影响

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2.5 防范说明 P280：佩戴防护手套、防护眼镜、防尘颗粒物口罩 P264：作业结束后彻底清洗接触皮肤 P302+P352：如皮肤接触，使用大量流动清水冲洗 P305+P351+P338：如进入眼睛，清水持续冲洗数分钟，摘除隐形眼镜继续冲洗；刺激持续则就医 P273：避免释放进入环境水体

2.6 其他危害 固体粉末扬尘刺激呼吸道；产品必须防潮储存，受潮直接投入高温锌锅极易发生喷溅烫伤；不含磷、不含 ODS 消耗臭氧层物质，满足 RoHS、WEEE 指令。

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第 3 部分 成分 / 组成信息

☑混合物 □纯品

组分名称	CAS 号	质量分数区间	备注
助熔剂复配组分	商业保密	30– 45 %	无机盐复配
无机吸附剂	商业保密	25– 40 %	无机矿物盐
铁转化造渣剂	商业保密	20– 35 %	功能性无机盐

备注：所有单一组分均不在《危险化学品目录》清单；配方功能组分作为企业商业机密，仅提供质量分数区间；产品为黄灰色固体粉末混合物；粉尘危害取决于现场作业工况。

第 4 部分 急救措施

4.1 吸入：转移至空气新鲜处，保持休息；吸入粉尘引发持续咳嗽、呼吸道刺激，及时就医。

4.2 皮肤接触：拍除体表附着粉尘，流动清水冲洗皮肤≥10 分钟；皮肤发红、瘙痒刺激持续则就医。

特殊：若发生高温熔融锌液烫伤，立刻大量冷水冷却烫伤创面，禁止撕扯水泡表皮，紧急送医。（工艺场景伤害）

4.3 眼睛接触：立即翻开眼睑，流动清水 / 生理盐水持续冲洗眼睛不少于 15 分钟；不适持续，立即就医。

4.4 食入：饮用足量温水，严禁催吐，立刻就医。

4.5 给医生提示：本物质主要为粉尘机械刺激；重点警惕热镀锌现场熔融金属烫伤风险；无特异性解毒剂，对症治疗。

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第 5 部分 消防措施

5.1 合适灭火剂：干粉、二氧化碳、干砂土。严禁大流量直流水喷射高温锌锅区域，防止熔融锌液喷溅伤人。

5.2 禁止使用灭火剂：大量水直喷高温锌锅作业区。

5.3 燃烧 / 高温分解产物：高温工况释放金属氧化物、氯化物烟尘。

5.4 消防员防护：佩戴自给式呼吸器 SCBA，全套耐高温消防防护服；站在上风向处置；隔离高温锌锅区域，防范熔融物喷溅伤害。

第 6 部分 泄漏应急处理

6.1 人员防护：疏散无关人员；处置人员佩戴防尘口罩、耐化学品手套、护目镜；禁止大力扫刮，避免扬起粉尘。

6.2 环境保护：严禁泄漏物料流入下水道、雨水管网、河道；粉末对水生生物存在长期危害。

6.3 小量泄漏：使用塑料铲、软毛刷轻柔收集粉末，装入密闭干燥容器，可回收利用；残余粉末用惰性沙土覆盖收集，抑制扬尘。

6.4 大量泄漏：构筑围挡收容物料；轻柔收集至干燥密闭容器；受潮物料单独隔离存放；废弃物料交由具备资质危废处置单位处理。

第 7 部分 操作处置与储存

7.1 操作处置注意事项

1）车间加强通风除尘，拆包投料工位控制粉尘；操作人员完成岗位安全培训，熟知高温锌锅喷溅烫伤风险，遵守热镀锌安全作业规程。

2）全程佩戴全套个体防护用品：防尘口罩、防护手套、护目镜；锌锅岗位增加耐高温防烫劳保用品。

3）储存及待投加物料严防沾水受潮；受潮产品必须充分烘干后，才可投入锌液；潮湿物料严禁直接加入高温锌液，会引发剧烈喷溅烫伤。锌锅液面距离锅边≥10cm，防止锌液溢出。

4）禁止与强酸、强碱混存、混接触。

5）优先使用专用带孔净化料框投加药剂；料框入锅前清理干净，不携带水分、外来杂质；轻装轻卸，防止包装破损扬尘；现场配备干粉消防器材。

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6）作业现场禁止饮食、吸烟。

7.2 储存条件

1）储存于阴凉、干燥、通风库房；储存环境温度：5- 35℃；容器必须完全密封，严格防潮，防止吸潮进水。

2）与酸类、氧化剂、食品类化学品严格分开存放，严禁混储。 3）按照普通工业固体化工品仓储管理。

第 8 部分 接触控制 / 个体防护

8.1 职业接触限值：该混合物无国家规定职业接触限值；现场重点管控金属氧化物无机盐粉尘。

8.2 工程控制：拆包、投料岗位设置局部排风除尘装置，降低空气中粉尘浓度。

8.3 呼吸防护：拆包、处理粉末时佩戴颗粒物防尘口罩。

8.4 手部防护：耐化学品耐磨手套；锌锅高温岗位必须配置耐高温防护手套。

8.5 眼睛防护：防冲击粉尘护目镜。

8.6 身体防护：防尘工作服；锌锅操作岗位穿戴耐高温防烫工作服。

第 9 部分 理化特性

外观：黄灰色固体粉末

气味：无特殊气味

熔点：不适用，多组分无机复配混合物，分步熔融

堆积密度：1.2- 1.6 g/cm³

闪点：不适用（非可燃固体）

燃烧特性：不燃固体

溶解性：部分组分微溶于水，极易吸潮

数据来源：本产品第三方 CMACOA 检测报告

第 10 部分 稳定性和反应性

10.1 稳定性：干燥密封储存条件下稳定；暴露空气环境极易吸潮。

10.2 应避免接触物质：水、湿气、强酸、强氧化剂。

10.3 危险反应：受潮物料进入高温熔融锌液，水分瞬间汽化，发生剧烈喷溅，造成严重烫伤事故；与强酸接触可发生放热反应。

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10.4 危险分解产物：高温工艺条件下释放金属氧化物烟尘；常温干燥储存条件无分解。

第 11 部分 毒理学信息

11.1 急性毒性：该固体混合物没有完整急性毒性试验数据。

11.2 皮肤刺激（类别 2）：粉末扬尘产生机械刺激；长期反复接触可造成皮肤发红、瘙痒红斑。

11.3 眼刺激（类别 2A）：粉尘进入眼睛，造成眼部刺激红肿。

11.4 致敏性：无明确致敏记录。

11.5 致突变、致癌、生殖毒性：混合物各组分没有明确致癌、致突变相关证据。

第 12 部分 生态学信息

12.1 水生毒性：对水生生物有害，具备长期持续毒性；固体粉末严禁直接排入水体。

12.2 生物降解性：无机固体组分，不可生物降解。

12.3 生物蓄积潜力：部分无机组分存在生物蓄积风险。

12.4 其他生态效应：废弃物料不得随意丢弃，统一收集合规处置。

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第 13 部分 废弃处置

13.1 化学品残余物：可回收的固体粉末优先回收再利用；废弃粉末收集到干燥密闭容器，委托具备资质的固废 / 危废处置单位处置，禁止随意丢弃，禁止直接排入水体。

13.2 被污染包装容器：清理容器内壁残留粉末，包装容器可回收；附着残留的固体物料按照工业固体废物管理处置。

13.3 处置要求：全部处置流程遵守国家、地方固体废物与环境保护相关法规。

第 14 部分 运输信息

14.1 UN 编号：不属于危险货物，无 UN 编号

14.2 运输危险类别：普通工业固体，非危险化学品

14.3 包装类别：不适用

14.4 包装方式：内衬防潮 PE 塑料袋的编织袋 / 纸板桶包装。

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14.5 运输注意事项：全程防雨防潮，包装保持完好密闭；禁止和酸、氧化剂、食品货物同车混运；避免包装破损，防止粉尘飞扬泄漏。

第 15 部分 法规信息

本 SDS 编制参考法规：GB/T16483- 2008、GB/T17519- 2013、GB30000 系列 GHS 分类；《安全生产法》《危险化学品安全管理条例》；RoHS、WEEE 环保指令，以及地方安全生产、环保法规。

备注：本产品各单一组分不属于《危险化学品目录》列明危险化学品。

第 16 部分 其他信息

16.1 参考文献：本产品 CMACOA 第三方检测报告、企业 TDS 技术数据表、前期版本 MSDS 文档。

16.2 修订说明：V2.1；依据 GB/T16483- 2008 标准更新；整合新旧两份文档，修正旧版表格错乱、理化参数冲突；重点强化受潮物料投加锌锅喷溅安全警示，区分化学品本身危害与热镀锌工艺操作风险；更新 GHS 完整标签要素。

16.3 编制部门：昆山光华化工材料有限公司技术工程部

16.4 免责声明：本 SDS 基于现有测试数据、行业文献编制，仅供安全操作参考。文档描述化学品自身固有危害；高温熔融锌液烫伤属于现场工艺作业风险，企业必须落实岗位热工安全管理制度；使用者结合工厂实际工况自行评估使用安全风险。

Safety Data Sheet (SDS)

Product: High- Efficiency Zinc Bath Purifier (SYC)

Prepared according to GB/T 16483- 2008, GB/T 17519- 2013, GB 30000-series GHS standards

SECTION 1: IDENTIFICATION

1.1 Product identifier: High- Efficiency Zinc Bath Purifier (SYC)

1.2 Synonym: Hot- dip- galvanizing zinc- bath iron- removal & slag-forming agent, solid purifying auxiliary

1.3 Recommended use: Solid inorganic compound for hot- dip galvanizing zinc- bath treatment; agglomerate iron impurities, adsorb suspended iron particles, precipitate zinc- iron slag, reduce dissolved- iron level in zinc bath, lower zinc consumption and improve coating brightness.

1.4 Restriction on use: Not for food, pharmaceutical or potable- water systems. Must not contact human body or discharge to water bodies. Only for hot- dip galvanizing high- temperature zinc- pot process.

1.5 Manufacturer: Kunshan Guanghua Chemical Materials Co.,Ltd

1.6 Address: No.341 Hubin North Road, Bacheng Town, Kunshan City, Jiangsu, P.R.China

1.7 Telephone: +86- 13584927325

1.8 24- h Emergency Tel: +86- 13584927325

SECTION 2: HAZARDS IDENTIFICATION

GHS- Classification: Skin Irritation Category 2; Eye Irritation Category 2A; Hazardous to aquatic life with long- lasting effects. Non-combustible solid, no explosion hazard.

Pictogram: ⚠ GHS07

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Signal word: **Warning**

H- statements:

H315 Causes skin irritation

H319 Causes serious eye irritation

H412 Harmful to aquatic life with long lasting effects

Precautionary statements:

P280 Wear protective gloves, eye- protection and dust respirator.

P264 Wash skin thoroughly after handling.

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

P305+P351+P338 IF IN EYES: rinse with water for several minutes; remove contact- lenses; seek medical help if irritation persists.

P273 Avoid release to environment.

> Additional hazard note: Damp material fed directly into high-temperature molten zinc will cause violent splashing & thermal burns (process operational hazard, not intrinsic chemical hazard). Contains no phosphorus or ODS, compliant with RoHS & WEEE.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

☑Mixture ☐Substance

Chemical name	CAS- No.	Mass- fraction	Note
Flux blended components	Trade- secret	30- 45%	Inorganic salt compound
Inorganic adsorbent	Trade- secret	25- 40%	Mineral- based inorganic salt
Iron- conversion slag- forming agent	Trade- secret	20- 35%	Functional inorganic salt

Remarks: Individual components are not listed in China Hazardous-Chemical Catalogue. Functional formula components are treated as business

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- confidential; only concentration ranges provided. Yellow- grey solid powder.

SECTION 4: FIRST- AID MEASURES

Inhalation: Remove victim to fresh air, rest; seek medical attention for persistent cough / respiratory irritation.

Skin contact: Brush- off dust, rinse skin ≥10 min with running- water; get medical- aid for persistent redness & irritation. **For molten- zinc thermal burns: cool burned area immediately with cold water, DO NOT tear blister skin; send to hospital urgently.**

Eye contact: Hold eyelids apart, flush eyes ≥15 min with running- water / normal saline; consult doctor for persistent discomfort.

Ingestion: Give sufficient warm- water to drink. **DO NOT induce vomiting. Call physician immediately.**

Note to physician: Primarily mechanical dust irritation; pay attention to thermal- burn injury risk from molten zinc; no specific antidote; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media: Dry- powder, CO_2 , dry sand. **Do NOT apply large- volume direct water- jet onto high- temperature zinc- pot zone to avoid molten- zinc splashing.**

Unsuitable media: Heavy water jet to zinc- pot.

Hazardous decomposition products at high- temperature: Metal- oxide & chloride fumes.

Fire- fighter advice: Wear SCBA & full high- temperature resistant protective suit; operate up- wind; isolate zinc- pot area, guard against splashing molten- material injury.

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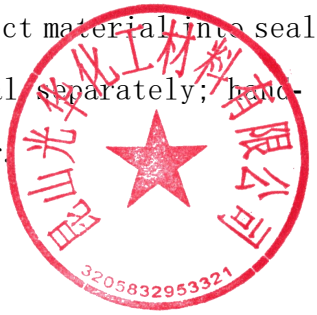
SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate irrelevant personnel; responders wear dust- respirator, chemical- resistant gloves & safety goggles; avoid dust cloud formation, do NOT sweep vigorously.

Environmental precautions: Prevent spilled solids from entering sewer, storm- drain or watercourses, harmful to aquatic organisms with long - term effect.

Small spill: Gently collect powder by plastic shovel / soft- brush into sealed dry containers for recycling; cover residual powder with inert sand.

Large spill: Build containment barriers; collect material into sealed dry containers; store damp- contaminated material separately; hand- over waste to licensed waste- disposal contractor.



SECTION 7: HANDLING AND STORAGE

Handling: Keep workshop well- ventilated; local dust- extraction at unpacking & feeding station. Operators receive safety training, aware of zinc- pot splashing hazard. Wear full PPE. **Damp product must be fully dried before adding to molten zinc; never feed wet material into high - temperature zinc- bath to prevent splashing burns.** Keep zinc- bath liquid- level ≥10 cm below pot rim. Keep apart from strong- acid / strong - oxidant. Use dedicated perforated feeding basket. No eating / drinking / smoking at workplace.

Storage: Store in cool, dry, ventilated warehouse, ambient temp:5- 35℃. Keep containers tightly sealed for moisture- proofing. Segregate strictly from acids, oxidants and food- grade goods. Store as general industrial solid chemical.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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No national occupational exposure limit available for this mixture; control inorganic- salt dust onsite.

Engineering measures: Local exhaust ventilation for unpacking & feeding station.

Respiratory protection: Dust- particulate respirator when handling powder.

Hand protection: Chemical- resistant gloves; high- temperature-resistant gloves for zinc- pot station.

Eye- protection: Dust- proof impact- resistant safety goggles.

Body- protection: Dust- proof work- clothing; high- temperature burn - resistant garment for zinc- pot operators.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow- grey solid powder

Odor: Odor- free

Bulk density:1.2- 1.6 g/cm³

Flash- point: Not- applicable (non- combustible solid)

Flammability: Non- combustible

Solubility: Partial- components slightly- soluble in water, highly-hygroscopic.

Source: CMACOA third- party test- report.

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SECTION 10: STABILITY AND REACTIVITY

Stable under dry sealed- storage; easy to absorb moisture when exposed to air.

Incompatible substances: Water, moisture, strong- acids, strong-oxidants.

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Hazardous- reactions: Damp material entering molten zinc causes violent steam- driven splashing & severe thermal burns; exothermic- reaction upon contact with strong- acid.

Hazardous- decomposition- products: Metal- oxide fumes under high-temperature process; no decomposition under dry ambient- storage.

SECTION 11: TOXICOLOGICAL INFORMATION

No complete acute- toxicity data available for this mixture.

Skin- irritation Cat.2: Dust causes mechanical skin- irritation; repeated exposure may produce erythema, itching.

Eye- irritation Cat.2A: Dust may trigger eye irritation.

No confirmed skin- sensitization records. No clear evidence for germ - cell mutagenicity, carcinogenicity or reproductive toxicity for mixture- components.

SECTION 12: ECOLOGICAL INFORMATION

Harmful to aquatic- life with long- lasting toxic- effects; must not discharge directly to water- bodies.

Inorganic- components are non- biodegradable; partial components present bio- accumulation risk. Collect waste for licensed disposal; do not discard arbitrarily.

SECTION 13: DISPOSAL CONSIDERATIONS

Recover usable solid- powder. Collect waste- powder in dry sealed-containers, consign to licensed waste- handling contractor. Clean residual- powder from contaminated- packaging; treat residual- solids as industrial- solid- waste. Comply with national & local environmental - protection regulations.

SECTION 14: TRANSPORT INFORMATION

UN- Number: Not classified as dangerous- goods, no UN- No.

Transport hazard- class: General industrial solid commodity, non-hazardous- chemical.

Packaging: PE- moisture- proof inner- bag inside woven- bag / fiber-drum.

Transport advice: Keep goods rain- proof & moisture- proof, keep package intact. Do not co- transport with acid, oxidant or food- stuff cargo. Prevent package rupture and dust- leakage.

SECTION 15: REGULATORY INFORMATION

Prepared referencing GB/T16483- 2008, GB/T17519- 2013, GB30000- series GHS, Work- Safety- Production- Law, Regulation on Safety-Administration of Hazardous- Chemicals, RoHS, WEEE and local safety & environmental- protection provisions. Individual components are listed in China Catalogue of Hazardous- Chemicals.

SECTION 16: OTHER INFORMATION

References: CMACOA third- party test- report, enterprise TDS data- sheet, previous SDS revision.

Revision note: V2.1; corrected format conflicts between two original documents; enhanced warning note on splashing risk of damp material into molten- zinc; distinguish intrinsic- chemical- hazards vs process-operational- hazards.

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Disclaimer: This SDS is compiled on basis of available- test- data & literature for safety- reference- only. Thermal- burn risks from high - temperature molten- zinc belong to site- process- hazard; plant shall implement dedicated hot- job safety- rules. End- users shall assess safety- risks in accordance with actual- onsite- working- conditions.