化学品安全技术说明书（SDS）

产品：**灰色哑光无铬钝化液（SYWY- 80H）**

编制依据：**GB/T 16483- 2008、GB/T 17519- 2013、GB 30000 系列 GHS 分类标准**

1 化学品及企业标识

1.1 商品名称：灰色哑光无铬钝化液（SYWY- 80H）

1.2 别名：热镀锌灰色哑光环保无铬钝化处理剂

1.3 产品推荐用途：用于热镀锌、锌铝镁工件表面哑光灰色钝化处理；适用于吹镀、吊镀工艺，电力铁塔、新能源构件、5G 基站构件、热镀灰锌工艺工件，形成哑光灰色转化膜，提升抗盐雾、抗白锈防腐性能。可采用浸泡、喷淋、喷淋 + 浸泡组合工艺。

1.4 禁止用途：不得用于食品、医药、饮用水体系。

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 24 小时国内应急咨询电话：13584927325

1.9 编制部门：技术工程部

1.10 编制日期：2026- 08- 20

1.11 修订版本：V2.0

2 危险性概述

2.1 GHS 危险性分类：皮肤刺激（类别 2）；严重眼损伤（类别 1）；对水生生物有害并具有长期持续影响；不燃液体，无爆炸危险。 说明：本品为弱碱性（pH10.0- 11.0），碱性体系可造成皮肤刺激、严重眼部损伤；配方新增无机哑光灰色功能填料，正常液态工况下无粉尘风险；若干燥钝化膜打磨作业，需要防范固体颗粒吸入。

2.2 GHS 象形图：感叹号 ⚠ GHS07

2.3 信号词：警告

2.4 危险说明： H315：造成皮肤刺激 H318：造成严重眼损伤 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：戴防护手套、防护眼镜、防护面罩； P301+P330+P331：如食入：漱口，禁止催吐； P303+P361+P353：如皮肤（头发）沾染，立即脱去全部污染衣物，大量清水冲洗皮肤； P305+P351+P338：如入眼睛，清水持续冲洗数分钟，取出隐形眼镜继续冲洗，立刻就医； P273：避免释放到环境中。 补充提示：干燥钝化膜打磨作业时，避免吸入粉尘。

2.6 其他危害：弱碱性液体，避免和酸性物料接触；不含铬及重金属，不含 ODS 消耗臭氧层物质，符合 RoHS、Weee、REACH 指令。原液静置会出现少量哑光填料沉降，属于正常物理现象，不改变危险性。

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3 成分 / 组成信息

☑混合物 □纯品

组分名称	CAS 号	质量分数
有机成膜组分	商业保密	10- 20 %
碱性 pH 调节剂	商业保密	5- 10 %
乳液成膜助剂	商业保密	5- 10 %
哑光灰色功能填料（灰色着色填料、二氧化钛纳米颗粒）	商业保密	3- 8 %
去离子水	7732- 18- 5	55- 72 %

备注：功能性组分为商业机密，仅提供浓度区间；无《危险化学品目录》列明高浓度危险组分；最终腐蚀性以第三方危险特性鉴别报告为准。

4 急救措施

4.1 吸入：转移至空气新鲜处；吸入碱性气雾引发呼吸道不适，立刻就医；若吸入干燥打磨产生的粉尘，保持呼吸道通畅，不适及时就医。

4.2 皮肤接触：立刻脱去全部受污染衣物，流动清水冲洗皮肤至少 15 分钟，出现刺激症状立即就医。

4.3 眼睛接触：立即翻开眼睑，流动清水或者生理盐水持续冲洗不少于 15 分钟，必须立刻就医。

4.4 食入：饮用足量温水，严禁催吐，禁止自行酸碱中和，立即就医。

4.5 给医生提示：本品弱碱性，可造成皮肤黏膜刺激及眼部损伤，对症处理，无特异性解毒剂。

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5 消防措施

5.1 合适灭火剂：雾状水、干粉、二氧化碳、砂土。

5.2 禁止灭火剂：无特殊禁忌。

5.3 燃烧有害分解产物：高温分解产生一氧化碳、氨类烟气、有机分解产物；无机填料组分高温不燃。

5.4 消防员防护建议：佩戴自给式呼吸器 SCBA、全套耐碱消防防护服，在上风向灭火；尽可能将容器转移至空旷区域；用水冷却火场容器；容器变色、泄压发声，人员立即撤离。

6 泄漏应急处理

6.1 人员防护：疏散无关人员；处置人员穿戴耐酸碱防护服、耐碱手套、防护面屏，严禁皮肤眼睛直接接触泄漏液体；清理干燥残渣时，避免扬尘吸入。

6.2 环境保护：严禁泄漏物流入下水道、雨水管网、河道；泄漏物必须用弱酸（稀醋酸）中和处理至 pH 6- 9 之后，方可进入废水系统。

6.3 小量泄漏：砂土、石灰石、惰性吸附材料吸附残液；稀醋酸中和至 pH 6- 9，收集进密闭容器，送入厂区废水处理系统。

6.4 大量泄漏：构筑围堤收容；稀醋酸中和；物料泵入专用收集容器，交由具备资质危废处置单位处置。

7 操作处置与储存

7.1 操作注意事项

1）密闭操作，车间加强通风；操作人员经过岗位培训，遵守作业规程。

2）避免皮肤、眼睛直接接触，佩戴全套个人防护用品。操作现场禁止佩戴隐形眼镜。干燥钝化膜打磨岗位，增加防尘防护。

3）远离热源，工作场所禁止吸烟。

4）避免与酸类、强氧化剂混配接触；严防油污杂质混入槽液，会造成哑光填料絮凝失效、产生工件色差斑点。

5）轻装轻卸，防止包装桶破损泄漏；现场配备泄漏应急物资与消防器材。

6）原液使用前务必充分搅拌均匀，消除填料沉降。

7.2 储存条件

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1）储存于阴凉通风库房，环境温度 5- 35℃；保持容器密封完好；**避免长时间强光暴晒，防止哑光填料沉降结块**。

2）与酸类、氧化剂、食品化学品分开存放，严禁混储。

3）按照消防法规、危化品仓储管理要求保管。

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8 接触控制 / 个体防护

8.1 职业接触限值：混合物无国家规定职业接触限值。

8.2 工程控制：生产岗位加强通风，减少气雾产生；打磨干燥钝化膜工位增设除尘设施。

8.3 呼吸防护：正常配液、喷淋 / 浸泡工况不需要；产生大量碱性气雾或打磨粉尘时佩戴合适的防雾滴 / 防尘口罩。

8.4 手部防护：耐化学橡胶防护手套。

8.5 眼睛防护：佩戴护目镜（防冲击化学品防护眼镜），操作禁止佩戴隐形眼镜。

8.6 身体防护：耐化学品工作服。

9 理化特性

外观：暗灰色乳状液体

气味：微弱气味

pH 值：10.0- 11.0（原液）

相对密度（15℃）：1.01±0.05 g/cm³

沸点：100 ℃

闪点：无闪点（不燃液体）

溶解性：可与水任意比例互溶

燃烧性：不燃

沉淀特性：静置储存会出现少量固体填料沉降，充分搅拌后恢复均匀。

使用工艺：常温 10- 35℃使用；喷淋工艺原液：水 = 1:1；

浸泡工艺原液：水 = 1:2；支持浸泡法、喷淋法、喷淋 + 浸泡组合工艺；喷淋钝化时间 3- 5s；浸泡钝化时间 3- 5min。

备注：理化参数来源本产品第三方检测报告。

10 稳定性和反应性

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10.1 稳定性：常温常压储存条件下稳定；原液静置沉降属于物理现象，搅拌后恢复。

10.2 应避免接触物质：强酸、强氧化剂、油污杂质。

10.3 危险反应：和强酸接触发生中和放热反应；可与强氧化剂发生化学反应；油污杂质混入槽液会造成填料絮凝，药剂失效，工件产生色差斑点。

10.4 危险分解产物：高温不完全燃烧产生氨类烟气、一氧化碳、有机分解物；常温储存无分解。

11 毒理学信息

11.1 急性毒性：该混合物无高急性毒性数据。

11.2 皮肤腐蚀 / 刺激：类别 2，反复长期接触可引发皮肤发红、红斑。

11.3 眼损伤 / 眼刺激：类别 1，可造成严重眼部损伤。

11.4 致敏性：无明确致敏记录。

11.5 致突变、致癌、生殖毒性：混合物组分未见明确致癌致突变证据；干燥钝化膜打磨产生粉尘，避免反复吸入。

12 生态学信息

12.1 水生毒性：对水生生物有害，具有长期持续毒性；原液严禁直接排放水体。

12.2 生物降解性：有机组分综合生物降解率＞90%；无机哑光灰色填料生物不可降解。

12.3 生物蓄积潜力：有机组分无显著生物蓄积；无机填料不产生生物蓄积。

12.4 其它生态效应：废水必须中和预处理达标之后排放；槽液过滤废渣按危废管理。

13 废弃处置

13.1 化学品残余物：原液不可直接排放；使用稀醋酸中和 pH 至 6- 9 后，厂区废水站预处理，或者委托具备资质危废处置单位处置；槽液过滤产生含填料废渣按危险废物处置。

13.2 污染包装容器：容器充分中和清洗后回收利用；残留废液以及桶底沉淀残渣按照危险废物管理。

13.3 提示：处置全过程遵守国家、地方环境保护、危废管理法规。

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14 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：非危险化学品。

14.3 包装类别：无。

14.4 包装方式：25kg、50kg 塑料大口桶、吨桶包装。

14.5 运输注意事项：运输前检查包装密封完好；**防止暴晒、冷冻；禁止长时间阳光直晒**；禁止和酸类、强氧化剂、食品类货物混运；防止容器发生泄漏。

15 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、REACH 环保指令、地方环保安全生产相关规定。

说明：本产品不属于《危险化学品目录》列明的危险化学品。

16 其他信息

16.1 参考文献：本产品第三方检测报告，企业 TDS 技术数据表，ASTM B117 防腐性能标准；基础体系来源于 SYWC- 299 吹镀无铬钝化液 SDS V2.0 版本。

16.2 修订说明：V2.0；基于 SYWC- 299 无铬钝化体系，增加灰色哑光填料相关操作、储存、废弃提示；按照 GB/T16483- 2008 现行国标编制；依据 pH 弱碱性做 GHS 危险性分类；完整录入 SYWY- 80H 全套工艺使用参数。

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 依据现有测试、文献资料编制，仅供安全操作参考；使用者结合现场工况，自行评估使用安全风险。

Safety Data Sheet (SDS)

Product: Grey Matte Non- Chromate Passivating Agent（SYWY- 80H）

Prepared in accordance with: GB/T 16483- 2008, GB/T 17519- 2013, GB 30000 series GHS classification standards

SECTION 1: IDENTIFICATION

1.1 Product identifier: Grey Matte Non- Chromate Passivating Agent（SYWY- 80H）

1.2 Synonym: Hot- dip- galvanized grey- matte environmental- friendly non- chromate passivating agent

1.3 Recommended use: Matte- grey conversion coating for hot- dip galvanized, Zn- Al- Mg components, including power- transmission towers, new- energy infrastructure, 5G- base- station parts and hot- dip grey- zinc process workpieces. Improve salt- spray and anti- white- rust performance. Applicable for immersion, spray and combined spray- immersion processes.

1.4 Restrictions on use: Shall not be used for food, pharmaceutical or potable- water systems.

1.5 Manufacturer: Kunshan Guanghua Chemical Materials Co., Ltd.

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

1.7 Telephone: +86- 13584927325

1.8 24- hour domestic emergency telephone (China): +86- 13584927325

1.9 Prepared by: Engineering Department

1.10 Date of preparation: 2026- 08- 20

1.11 Revision: V2.0

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 GHS Hazard Classification: Skin Irritation Category 2; Serious Eye Damage Category 1; Hazardous to aquatic life with long- lasting effects;

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Non- flammable liquid, no explosion hazard. Note: Weakly- alkaline liquid(pH 10.0- 11.0), may cause skin irritation and severe eye injury. Minor sediment of matte- grey filler is normal physical phenomenon for stored liquid. Avoid dust inhalation when grinding dried passivation film.

2.2 GHS Pictogram: Exclamation mark ⚠ GHS07

2.3 Signal word: Warning

2.4 Hazard Statements: H315: Causes skin irritation. H318: Causes serious eye damage. H412: Harmful to aquatic life with long- lasting effects.

2.5 Precautionary Statements: P280: Wear protective gloves, eye- protection and face- shield. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with plenty of water. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. P273: Avoid release to the environment.

2.6 Other hazards: Weak- alkaline liquid. Avoid contact with acids and strong oxidants. Chromium- free & heavy- metal- free; contains no ozone- depleting substances (ODS). Complies with RoHS, Weee and REACH directives. Minor sediment is normal; stir thoroughly before usage.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

☑ Mixture ☐ Substance

Chemical name	CAS- No.	Mass fraction
Organic film- forming components	Trade secret	10- 20%
Alkaline pH- regulating agent	Trade secret	5- 10%
Emulsified film- forming auxiliary	Trade secret	5- 10%

Matte- grey functional fillers(grey colorant, nano- titanium dioxide)	Trade secret	3- 8%
Deionized water	7732- 18- 5	55- 72%

Remarks: Key functional components are treated as trade secrets; only concentration ranges are provided. No high- concentration hazardous ingredients listed in China Catalogue of Hazardous Chemicals. Final corrosive property shall be subject to third- party hazard identification test report.

SECTION 4: FIRST- AID MEASURES

4.1 Inhalation: Remove victim to fresh air. Seek immediate medical attention for respiratory discomfort caused by alkaline mist or grinding dust inhalation.

4.2 Skin contact: Immediately remove all contaminated clothing. Rinse skin thoroughly with running water for at least 15 minutes. Seek medical help if irritation occurs.

4.3 Eye contact: Immediately hold eyelids apart, continuously flush eyes with plenty of running water or normal saline for not less than 15 minutes. Seek medical care without delay.

4.4 Ingestion: Give sufficient warm water to drink. **Do NOT induce vomiting. Do NOT perform acid- base neutralization by yourself.** Call a physician immediately.

4.5 Notes to physician: This product is weakly- alkaline; may cause skin- mucous- membrane irritation and eye injury. Treat symptomatically; no specific antidote is available.

SECTION 5: FIREFIGHTING MEASURES

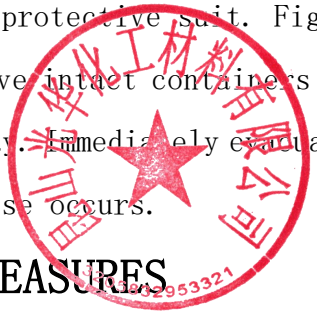
5.1 Suitable extinguishing media: Water spray, dry chemical powder, carbon dioxide, sand.

5.2 Unsuitable extinguishing media: None known.

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5.3 Hazardous decomposition products under fire conditions: Carbon monoxide, ammonia- containing fumes and organic decomposition substances. Inorganic fillers are non- combustible.

5.4 Advice for firefighters: Wear self- contained breathing apparatus (SCBA) and full alkali- resistant firefighting protective suit. Fight fire from upwind direction. If safe to do so, move intact containers to open area. Cool exposed containers with water spray. Immediately evacuate personnel if containers discolor or venting noise occurs.



SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions: Evacuate irrelevant personnel. Responders shall wear alkali- resistant protective clothing, alkali- proof gloves and full- face shield. Avoid direct skin- eye contact with spilled liquid; prevent dust generation when handling dried residues.

6.2 Environmental precautions: Prevent spillage from entering sewers, storm drains and watercourses. Spilled material must be neutralized with weak- acid (dilute acetic acid) to pH 6- 9 before discharging into wastewater system.

6.3 Small spill: Absorb residual liquid with sand, limestone or other inert absorbents. Neutralize with dilute acetic acid to pH 6- 9. Collect waste in sealed containers and deliver to onsite wastewater treatment facility.

6.4 Large spill: Dike for containment; neutralize with dilute acetic acid. Pump liquid into dedicated collecting receptacles and hand over to licensed hazardous- waste disposal contractor.

SECTION 7: HANDLING AND STORAGE

7.1 Handling precautions

1. Operate in closed- system with adequate workshop ventilation. Operators shall receive position- specific training and follow operating procedures.

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2. Avoid direct skin- eye contact. Wear complete set of personal protective equipment. Contact lenses shall NOT be worn during operation. Use dust- proof protection when grinding dried passivation film.
3. Keep away from heat sources. No smoking in working zone.
4. Avoid mixing/contact with acids, strong oxidizing agents and oil contaminants, which may cause filler flocculation and bath failure, resulting in workpiece color spots.
5. Handle drums carefully to prevent rupture/leakage. Keep spill- response kits and firefighting equipment readily available.
6. Stir raw liquid thoroughly before use to eliminate sediment.

7.2 Storage conditions

1. Store in cool and well- ventilated warehouse; ambient storage temperature: 5- 35° C. Keep containers tightly sealed. **Avoid prolonged strong sunlight exposure to prevent filler caking.**
2. Segregate strictly from acids, oxidizing agents and food- grade commodities; no mixed- storage.
3. Store in compliance with fire- protection regulations and hazardous- chemical warehousing requirements.



SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Occupational exposure limits: No national occupational exposure limits established for this mixture.

8.2 Engineering controls: Provide sufficient ventilation at work stations to reduce mist generation; install dust- removal for grinding stations.

8.3 Respiratory protection: Normally not required. Wear suitable mist- filter or dust- proof respirator when large amount of alkaline mist or grinding dust is generated.

8.4 Hand protection: Chemical- resistant rubber protective gloves.

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8.5 Eye protection: Impact- resistant chemical- safety goggles; contact- lenses are prohibited during operation.

8.6 Body protection: Chemical- resistant work clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark- grey milky opaque liquid Odor: Faint odor pH value: 10.0- 11.0 (as- received liquid) Relative density (15° C): 1.01 ± 0.05 g/cm³ Boiling point: 100° C Flash point: Non- flammable, no measurable flash- point Solubility: Fully miscible with water Flammability: Non- combustible Sedimentation: Minor solid sediment may appear after long- term static storage; uniform after full stirring.

Application notes: Operate at ambient temperature (10- 35℃); 1:1 dilution for spray process; 1:2 dilution for immersion process. Applicable for immersion, spray and combined spray- immersion process; spray passivation time:3- 5 s; immersion passivation time:3- 5 min.

Source of physical- chemical data: Third- party test report of this product.

SECTION 10: STABILITY AND REACTIVITY

10.1 Chemical stability: Stable under normal ambient temperature and pressure. Static sedimentation is physical phenomenon only.

10.2 Incompatible materials: Strong acids, strong oxidizing agents, oil contaminants.

10.3 Hazardous reactions: Exothermic neutralization reaction upon contact with strong acids; chemical reaction may occur with strong oxidizing agents. Oil contaminant will trigger filler flocculation and bath failure.

10.4 Hazardous decomposition products: Ammonia- containing fumes, carbon monoxide and organic decomposition products generated under incomplete high- temperature combustion; no decomposition under ambient storage.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity: No high acute- toxicity data available for this mixture.

11.2 Skin corrosion / irritation: Category 2; repeated or prolonged contact may cause skin redness and erythema.

11.3 Serious eye damage / eye irritation: Category 1; may cause severe eye injury.

11.4 Skin sensitization: No confirmed sensitization records.

11.5 Germ- cell mutagenicity, carcinogenicity, reproductive toxicity: No clear evidence of carcinogenic or mutagenic hazards for mixture components. Avoid repeated inhalation of dust from ground dried- film.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Aquatic toxicity: Harmful to aquatic life with long- lasting toxic effects. Raw product must not discharge directly to water bodies.

12.2 Biodegradability: Overall biodegradation rate of organic components ＞90%. Inorganic matte- grey- fillers are non- biodegradable.

12.3 Bioaccumulative potential: No significant bioaccumulation for organic parts; inorganic fillers will not bio- accumulate.

12.4 Other ecological effects: Wastewater must be neutralized and pretreated before discharge. Filtered sludge from bath shall be managed as hazardous waste.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product residues: Do not discharge untreated. Neutralize waste liquid with dilute acetic acid to pH 6- 9, then pretreat via onsite wastewater system or consign to licensed hazardous- waste disposal contractor. Filtered sludge containing inorganic fillers must be treated as hazardous waste.

13.2 Contaminated packaging containers: Thoroughly neutralize and rinse containers for potential recycling. Residual waste liquid together with bottom sediment residues shall be managed as hazardous- waste material.

13.3 Note: All disposal activities shall comply with national and local environmental- protection and hazardous- waste regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number: Not classified as dangerous goods, no UN- number assigned.

14.2 Transport hazard class: Non- hazardous chemical.

14.3 Packing group: Not applicable.

14.4 Packaging: 25 kg, 50 kg plastic drums / IBC totes.

14.5 Transport advice: Inspect container tightness before shipment. Protect from direct sunlight, high temperature and freezing. Do not co- transport with acids, oxidants or foodstuff cargo. Prevent container leakage.

SECTION 15: REGULATORY INFORMATION

References for SDS compilation: GB/T16483- 2008, GB/T17519- 2013, GB 30000 series GHS standards; Work Safety Production Law, Regulations on Safety Management of Hazardous Chemicals, RoHS, Weee, REACH directives, local environmental- protection & work- safety provisions.

Note: This product is not listed in China Catalogue of Hazardous Chemicals.

SECTION 16: OTHER INFORMATION

16.1 References: Third- party test report of this product, enterprise TDS technical data sheet, ASTM B117 anti- corrosion performance standard; derived from SDS- V2.0 of SYWC- 299 Blow- Coating Non- Chromate Passivating Agent.

16.2 Revision note: Version V2.0. Based on SYWC- 299 non- chromate passivation system; added special notes for matte- grey- color fillers

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for operation, storage and waste disposal. Compiled under current GB/T16483- 2008 national standard; GHS classification is based on weakly- alkaline pH property; complete SYWY- 80H process- parameters are documented.

16.3 Prepared by: Engineering Department, Kunshan Guanghua Chemical Materials Co., Ltd.

16.4 Disclaimer: This SDS is compiled on the basis of available test data and literatures for safety- operation reference only. End- users shall independently assess safety risks according to actual onsite working conditions。