



杭州海关技术中心
国家危险化学品检测重点实验室（浙江）



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正本/ORIGIN

编号: TCH22005830
No: TCH22005830
日期: 2022-05-20
Date: 2022-05-20

ZAIQ-RF(HH)-01-19

Safety Data Sheet



Applicant name: Hangzhou Fuyang Hongyuan Renewable Resources Co., Ltd

Product Name: Cupric oxide

Edit date: 2022-05-20

Edit institution: Technology Center of Hangzhou Customs District

Approver:

万旺军

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声 明

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1. Identification of substance

Product Name	Cupric oxide
Other Name	Copper oxide
Chemical Name	CuO
Recommended Use	Used as colouring agent for glass, enamel and ceramic industry, anti-wrinkle agent for paint and polishing agent for optical glass, organic catalyst carriers and copper compounds.
Manufacturer Name	Hangzhou Fuyang Hongyuan Renewable Resources Co., Ltd.
Address	No.102 Qingquan Road, Xindeng Town, Fuyang District, Hangzhou City, Zhejiang Province, China /311404
Phone Number	+86-0571-63325889
Fax Number	+86-0571-63325889
WEB or E-mail	None
Emergency Phone Number	+86-137 7759 8016 or Call your nearest poison control centre.

2. Hazards identification

GHS classification	Hazardous to the aquatic environment, acute hazard 1 Hazardous to the aquatic environment, long-term hazard 1
GHS Pictograms	
Signal words	Warning
Hazard statements	H400:Very toxic to aquatic life H410:Very toxic to aquatic life with long lasting effects
Precautionary Statement Prevention	P273:Avoid release to the environment.
Precautionary Statement Response	P391:Collect spillage.
Precautionary Statement Storage	None.
Precautionary Statement Disposal	P501:Dispose of contents/container in according with local regulation.
Other hazards which do not result in classification	Not available.

3. Composition/information on ingredients

Component Information			
Component	CAS number	EINECS number	Mass(%)
Cupric oxide	1317-38-0	215-269-1	99%wt
Note: 1. Unless a component presents a severe hazard, it does not need to be considered in the SDS if the concentration is less than 1%.			

4. First-aid measures

NOTE TO PHYSICIAN	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.
After inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get immediate medical attention.
After skin contact	Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. If irritation persists, get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
After eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention immediately.
After ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms/effects, acute and delayed	Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

5. Fire-fighting measures

Suitable extinguishing agents	Use foam, dry chemical or carbon dioxide.
Special hazards caused by the material, its products of combustion or flue gases	Can be released in case of fire: Copper oxides.
Protective equipment	Put out the fire upwind, and move the container from the fire to the open area as far as possible. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental release measures

Person-related safety precautions	Ensure adequate ventilation. Avoid dust formation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Avoid breathing
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Measures for environmental protection	dust. Prevent further leakage or spillage if safe to do so. Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting	Pick up and arrange disposal in suitable container. Clean contaminated surface thoroughly.
Additional information	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

7. Handling and storage

Handling	
Information for safe handling	Avoid contact with skin, eyes, mucous membranes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid formation of dust and aerosols.
Information about protection against explosions and fires	Keep away from heat, sources of ignition, sparks or open flame.
STORAGE	
Requirements to be met by storerooms and containers	Keep in a cool, dry, well-ventilated place. Keep tightly closed until used.
Information about storage in one common storage facility	Store away from incompatible substances such as reducing agents, hydrogen sulfide gas, aluminum, alkali metals, powdered metals.
Further information about storage conditions	No data.

8. Exposure controls/personal protection

Limit Values for Exposure					
Component	CAS number	ACGIH TLV-TWA	ACGIH TLV-STEL	NIOSH PEL-TWA	NIOSH PEL-STEL
Copper oxide	1317-38-0	0.2 mg/m ³	N.E.	0.1 mg/m ³	N.E.
Appropriate engineering controls	Closed operation, local exhaust.				
General protective and hygienic measures	Change work clothes in time and pay attention to personal hygiene.				
Personal protective equipment	Masks, goggles, overalls, gloves.				
Breathing equipment	When workers are facing high concentrations they must use appropriate certified respirators.				
Protection of hands	Wear appropriate chemical resistant gloves.				

Eye/Face protection	Use safety glasses with side shields or safety goggles as mechanical barrier for prolonged exposure.
Body protection	Use clean protective body-covering as needed to minimize contact with clothing and skin.

Note: 1. N.E. means not established.

9. Physical and chemical properties

Physical state	Powder
Colour	Black
Odour	No data available
Melting point/freezing point	1026 °C
Boiling point or initial boiling point and boiling range	No data available
Flammability	Nonflammable
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	Insoluble in water, soluble in dilute acid, incompatible with ethanol
Partition coefficient: n-octanol/water(log value)	No data available
Vapour pressure	No data available
Density and/or relative density	6.32 (powder)
Relative vapour density (air=1)	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Explosion hazard with aluminium. May react violently with sodium and magnesium. Reacts with hydrogen sulfide, fluorine, silanes, hydrides, acid anhydrides and may cause fire or generate flammable gases or vapors.

Conditions to avoid (e.g. static discharge, shock or vibration)	Exposure to sunlight.
Incompatible materials	Avoid contact with reducing agents, hydrogen sulfide gas, aluminum, alkali metals, powdered metals, etc.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions - Copper oxides.

11. Toxicological information

Routes of Entry: Dermal contact, eye contact, inhalation, ingestion.

Acute Toxicity

Cupric oxide (CAS 1317-38-0)	LD50 (Oral, rat): > 2,500 mg/kg LC50 (Inhalation, rat): N/A LD50 (Dermal, rat): > 2,000 mg/kg
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Skin corrosion/Irritation Serious eye Mild eye irritation.

damage/irritation

Respiratory or skin sensitization Not classified

Germ cell mutagenicity Not classified

Carcinogenicity Not classified

Reproductive toxicity Not classified

STOT-single exposure Not classified

STOT-repeated exposure Not classified

Aspiration hazard Not classified

Chronic Effects Not classified

Further Information No data

12. Ecological information

Ecotoxicity

Aquatic Toxicity	Cupric oxide (CAS 1317-38-0) Test & Species 96 Hr LC50 fish: 0.193 mg/l 48 Hr EC50 Daphnia: 0.011 - 0.039 mg/l 72 Hr NOEC Algae: 0.0057 mg/l
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Persistence and degradability Not available

Bioaccumulative potential Not available

Mobility in soil Not available

Additional Information Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

WASTE DISPOSAL INSTRUCTIONS

Contact a qualified professional waste disposal service to dispose of this material.

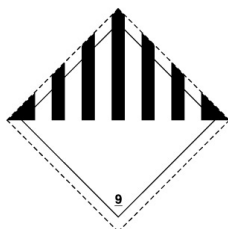
Dispose of in accordance with local environmental regulations or local

authority requirements.

14. Transport information

The Recommendation of Transport of Dangerous Goods(TDG)

UN Number UN 3077
 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 (Cupric oxide)
 Class/Division Class 9 Miscellaneous Dangerous Substances and Articles
 Package Group PG III
 Subsidiary risk —
 labelling pictogram



Maritime transport IMDG/ Being same with TDG / Yes
 Marine pollutant (Yes/No)
 Air transport ICAO-TI and Being same with TDG
 IATA-DGR

15. Regulatory information

European/International Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29CFR 1910.1200).

EINECS Status: Cupric oxide (CAS 1317-38-0) is included in EINECS inventory.

EPA TSCA Status: Cupric oxide (CAS 1317-38-0) is included in TSCA inventory.

Canadian DSL(Domestic Substances List): Cupric oxide (CAS 1317-38-0) is included in DSL.

HMIS(Hazardous Material Identification System Ratings):
 Health: 2
 Flammability: 0
 Physical hazard: 0
 Personal protection: F
 (4. Severe Hazard; 3. Serious Hazard; 2. Moderate Hazard; 1. Slight Hazard; 0. Minimal Hazard)

WHMIS Canadian Workplace Hazardous Material Identification System Ratings): Not listed.

GB 12268-2012 List of dangerous goods This chemical is a dangerous goods on the GB 12268-2012 list of dangerous goods.

16. other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This

information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This Material Safety Data Sheet was based on the "Globally Harmonized System of Classification and Labelling of Chemicals", "Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations", "INTERNATIONAL MARITIME DANGEROUS GOODS CODE", "International Air Transport Association Dangerous Goods Regulations", the National Standards and other related dangerous chemicals management laws, regulations and standards, which are periodically updated and changed. To make dangerous goods / hazardous chemicals comply with the relevant requirements of the latest management, regularly update is recommended.

This Material Safety Data Sheet has been compiled in both English and Chinese. For any discrepancies, the Chinese version shall prevail.

Abbreviations and acronyms	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations Concerning the International Transport of Dangerous Goods by Rail IMDG: International Maritime Code for Dangerous Goods IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent EC50: Effective concentration, 50 percent NOEC: No Observed Effect Concentration
Edit Date	20.05.2022
Update and Revise	Original edition
Edit Standard	<i>Globally Harmonized System of Classification and Labelling of Chemicals</i> Part 1.5
Revised Institution	Technology Center of Hangzhou Customs District



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化学品安全数据表



申请单位: 杭州富阳鸿源再生资源利用有限公司

产品名称: 氧化铜

编制日期: 2022-05-20

编制机构: 杭州海关技术中心

批准人: 万旺军

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1. 标识			
产品名称	氧化铜		
其他名称	氧化铜		
化学名称	氧化铜		
使用建议	用作制人造丝、陶瓷、釉及搪瓷、电池、石油脱硫、杀虫剂等		
生产商	杭州富阳鸿源再生资源利用有限公司		
地址	浙江省杭州市富阳区新登新镇清泉路 102 号/311404		
固定电话	+86-0571-63325889		
传真	+86-0571-63325889		
网址或电子邮件地址	无		
应急电话	+86-137 7759 8016 或向离你最近的解毒中心求助		
2. 危险标识			
GHS 危险性分类	危害水生环境-急性危险 1 类 危害水生环境-长期危险 1 类		
GHS 危险标签			
信号词	警告		
危险说明	H400:对水生生物毒性极大 H410:对水生生物毒性极大且具长期持续影响		
防范说明	P273:避免释放到环境中		
预防			
防范说明	P391:收集溢出物		
反应			
防范说明	无		
贮存			
防范说明	P501:依据地方法规处置内装物/容器		
处置			
不导致分类的其他危险	未知。		
3. 成分构成/成分信息			
成分信息			
成分	CAS 号	EINECS 号	含量(%)
氧化铜	1317-38-0	215-269-1	99%wt
注: 1.在化学品安全数据表中无需考虑百分含量小于 1%的成分, 除非该成分呈现出严重的危害性。			
4. 急救措施			
对医师的建议	在呼吸急促的情况下, 需给受害人输氧。保持受害人温暖。让受害人处于观察监护下。		
吸入后	转移到有新鲜空气的地方。如需要, 须输氧或进行人工呼吸。马上就医。		

皮肤接触后	立即用大量的水冲洗皮肤。脱掉被污染的衣服和鞋子。如皮肤刺激仍继续：须求医。如原是小面积的皮肤接触，防止接触面积的扩大。污染的衣服在使用前，须单独清洗。
眼睛接触后	立即用大量的水冲洗眼睛至少 15 分钟。用手指分开眼睑以保证充分冲洗眼睛。马上就医。
摄入后	切勿给失去知觉者喂食任何东西。用水漱口。请教医生。
主要的症状和影响，包括急性和迟发效应	<p>系统性铜中毒症状：毛细血管损伤、头痛、冷汗、脉搏微弱、肝肾损伤、中枢神经系统兴奋继而抑制、黄疸、抽搐、麻痹和昏迷。休克和肾衰会导致死亡。</p> <p>慢性铜中毒包括肝硬化、脑损伤和脱髓鞘、肾损害；铜沉积在角膜引起人威尔逊病。还有报道铜毒性导致血红蛋白贫血和加剧动脉硬化。据我们所知，此化学，物理和毒性性质尚未经完整的研究。</p>

5. 消防措施

合适的灭火剂	使用泡沫，干粉或二氧化碳灭火器。
由物质本身或其燃烧产物、烟气产生的特殊危险	在发生火灾时可能释放：铜的氧化物。
防护设备	<p>在上风灭火，灭火时尽可能将容器从火场移至空旷处。</p> <p>穿全套防护衣物，包括头盔，呼吸器，防护服和面罩。</p>

6. 泄露应急处理

与人相关的安全防范措施	确保通风充分。避免粉尘生成。在穿上合适的防护服前，请勿触摸损坏的容器或泄漏物。在进入封闭空间前先通风。请不相关人员撤离。避免吸入粉尘。
环境保护措施	如能做到应防止进一步的泄露和溢出。无相关政府许可，不允许把该物质释放到环境中。
清洁/收集措施	收集并把废弃物放置在合适的容器中。彻底清洁被污染物的表面。
附加说明	<p>关于安全操作的信息见第 7 部分</p> <p>关于个人防护设备的信息见第 8 部分</p> <p>关于处置的信息见第 13 部分</p>

7. 操作和存储

操作	
安全操作的信息	<p>避免和皮肤、眼睛、粘膜、衣服接触。</p> <p>在通风不充分的情况下，使用合适的呼吸设备。</p> <p>避免产生粉尘和烟雾。</p>
防止爆炸和火灾的信息	远离热源，火源，火花，或明火。
存储	
对储藏室和容器的要求	<p>存放在阴凉、干燥、通风良好的地方。</p> <p>使用前保持容器密闭。</p>
关于储藏在普通存储设施中的信息	远离不相容的物质如还原剂，硫化氢气体，铝，碱金属，金属粉末。
关于储藏条件进一步的信息	无其他说明。

8. 暴露控制/人身保护

暴露限值	
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成分	CAS 号	ACGIH 阈值-时间加权平均浓度	ACGIH 阈值-短时间接触限值	NIOSH 阈值-时间加权平均浓度	NIOSH 阈值-短时间接触限值
氧化铜	1317-38-0	0.2 mg/m ³	N.E.	0.1 mg/m ³	N.E.
减少接触的工程控制方法	密闭操作，局部排风。				
一般保护和卫生措施	及时换洗工作服，注意个人清洁卫生。				
个人防护用品	口罩、护目眼镜、工作服、手套。				
呼吸设备	当工人在高浓度的环境下工作时，必须使用合适的已认证的呼吸器。				
双手保护	戴合适的耐化学腐蚀的手套。				
眼睛/面部保护	使用带侧罩或安全眼镜的护目镜作为工人长期暴露的机械屏蔽。				
身体保护	使用干净的防护服以尽量减少该物质与衣物和皮肤的接触。				
注:1. N.E. 就是还没有建立的意思。					

9.物理和化学特性

物理状态	粉状
颜色	黑色
气味	无数据资料
熔点/凝固点	1026 °C
沸点或初始沸点和沸程	无数据资料
易燃性	不易燃
上、下爆炸极限/易燃极限	无数据资料
闪点	无数据资料
自燃温度	无数据资料
分解温度	无数据资料
pH 值	无数据资料
运动粘度	无数据资料
溶解性	不溶于水，溶于稀酸，不容于乙醇
分配系数:正辛醇/水（对数值）	无数据资料
蒸汽压	无数据资料
密度和/或相对密度	6.32（粉末）
相对蒸气密度（空气=1）	无数据资料
颗粒特征	无数据资料

10. 稳定性和反应活性

反应性	无数据资料。
化学稳定性	在推荐的储存条件下稳定。
有害反应的可能性	与铝作用有爆炸危险。可能与钠、镁发生剧烈反应。与硫化氢、氟、硅烷、氢化物、酸酐作用可能有起火或产生易燃气体或蒸气的危险。
需避开的条件（如：静电放电，震动等）	暴露在日光下。
不相容的物质	避免和还原剂，硫化氢气体，铝，碱金属，金属粉末等接触。
有害分解产物	在着火情况下，会分解生成有害物质：铜的氧化物。

11. 毒理学信息

进入人体内的途径：皮肤接触、眼睛接触、吸入和摄入。

急性毒性

氧化铜 (CAS 1317-38-0) LD50 (口服, 大鼠) : > 2,500 mg/kg
LC50 (吸入, 大鼠) : 未知
LD50 (皮肤, 大鼠) : > 2,000 mg/kg

皮肤腐蚀/刺激 未分类

严重眼损伤/刺激 轻度的眼睛刺激。

呼吸或皮肤敏化作用 未分类

生殖细胞致突变性 未分类

致癌性 未分类

生殖毒性 未分类

特定目标器官毒性-单次接触 未分类

特定目标器官毒性-重复接触 未分类

吸入危险 未分类

慢性影响 未分类

其他信息 无

12. 生态学信息

生态毒性

水生毒性 氧化铜 (CAS 1317-38-0)
测试 & 物种
96 Hr LC50 鱼: 0.193 mg/l
72 Hr EC50 藻类: 0.011 - 0.039 mg/l
48 Hr NOEC 溞类: 0.0057 mg/l

持久性和降解性 未知

潜在的生物累积性 未知

土壤中的迁移性 未知

其他信息 对水生生物毒性极大且具长期持续影响。

13. 废弃处置

废物处置说明

联系一家有资质的专业废物处置机构来处置。
按照当地的环境法规或地方当局的要求来进行处置。

14. 运输信息

联合国《关于危险货物运输的建议书 规章范本》(TDG)

UN 编号 UN 3077

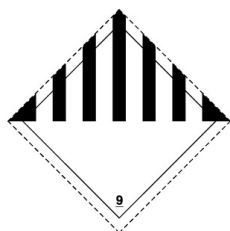
正式运输名称 对环境有害的固态物质, 未另作规定的 (氧化铜)

危险类/项别 第 9 类 杂项危险物质和物品

包装类别 PG III

次要危险性 —

危险性标签



国际海运危规 IMDG/海 与 TDG 的分类相同/是
洋污染物（是/否）
国际空运危规 ICAO-TI 与 TDG 的分类相同
和 IATA-DGR

15. 法规信息

欧洲/国际法规

OSHA (美国职业安全和健康管理法): 危险性根据危害通讯标准来编写 (29CFR 1910.1200).

EINECS (欧洲现有商业化学物质名录): 氧化铜 (CAS 1317-38-0) 已被列入 EINECS 目录中。

EPA TSCA(有毒物质控制法): 氧化铜 (CAS 1317-38-0) 已被列入 TSCA 目录中。

加拿大 DSL(国内物质清单): 氧化铜 (CAS 1317-38-0) 已被列入 DSL 目录中。

HMIS(危险品识别系统): 健康危害: 2
易燃性: 0
物理危害: 0
个人防护: F
(4. 极其严重危害; 3. 严重危害; 2. 中度危害; 1. 轻度危害; 0. 极小危害)

WHMIS(加拿大工作场所所有有害物质识别系统): 未列入。

GB 12268-2012 危险品清单 该化学品作为危险品被列入 GB 12268-2012 危险品清单。

16. 其他信息

雇主只能把本化学品安全数据表的信息当作他们所获其他信息的补充信息，并能独立判断此信息的适用性，以确保正确使用并保护雇员的健康和安全。此化学品安全数据表提供的信息并不具担保作用，任何未按本化学品安全数据表使用产品、或与其他产品和操作过程同时使用本产品时产生的后果由用户自行承担。

本化学品安全数据表是根据《全球化学品统一分类和标签制度》，《联合国关于危险货物运输的建议书》，《国际海运危规》，国际航空运输协会《危险货物规则》和国家标准等相关危险化学品管理法律法规和标准进行编制，而上述法律法规和标准均会定期进行更新和变化。为使危险货物/危险化学品符合相关最新的管理要求，建议定期审核更新化学品安全数据表。

本化学品安全数据表分别以中、英文编制，在对中、英文本的理解上发生歧义时，以中文文本为准。

缩略语

ADR: 《关于危险货物道路国际运输的欧洲协议》

RID: 《关于危险货物铁路国际运输的规则》

IMDG: 国际海运危规
IATA-DGR: 国际航空运输协会《危险货物规则》(IATA)
ICAO-TI: 国际民用航空组织《国际民航公约》(ICAO)
EINECS: 欧洲现有商业化学物质名录
CAS: 化学文摘号
LC50: 半数致死浓度
LD50: 半数致死剂量
EC50: 半数效应浓度
NOEC: 无显见效应浓度

编制日期

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更新和修改

第 1 版

编制标准

全球化学品统一分类和标签制度 第 1.5 部分

编制机构

杭州海关技术中心