

文件名称	无水柠檬酸安全数据表	编制人	王有旭
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Safety Data Sheet
安全数据表

According to Regulation (EC) No 1907/2006
依照 (EC) 标准 No 1907/2006

Citric Acid Anhydrous

无水柠檬酸

1. Identification of the substance/preparation and of the company/undertaking

产品生产公司/企业

Product name 产品名称	Citric Acid Anhydrous 无水柠檬酸
Use 用途	Additive in processed food and beverages. 添加于食品和饮料中。 Ingredient in pharmaceutical preparations, especially in effervescent in tablets. 用于制药，特别是用于泡腾片的抗氧化剂。 Synergist in antioxidant mixtures. 抗氧化剂中的配料。
Company information 公司信息	RZBC (JUXIAN) CO.,LTD 日照金禾博源生化有限公司 No. 209 Laiyang Road, Juxian Economic Development Zone, Rizhao, Shandong, China 山东省日照市莒县经济开发区莱阳路 209 号
Telephone 电话	+86-633-6178888
Telefax 传真	+86-633-6178887
E-mail address 电子邮箱地址	jhby@rzbc.com

2. Hazards identification

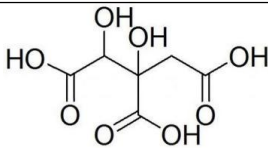
危险性信息

GHS Hazard Categories GHS 危险性类别	Eye irritating: category 2A 眼刺激：类别 2A
Label element 标签要素	Pictogram: 象形图:  Warning: Warning 警示语：警告 CHIP: H319 Causes serious eye irritation. 危害信息：H319 造成严重眼刺激
Safety precautions 安全措施	P280 Wear protective gloves/protective clothing/eye protection/face protection. P280 穿戴防护手套/防护服/眼保护罩/面部保护罩。

	P264 Wash thoroughly after handling. P264 操作后彻底清洁皮肤。
Invasion route 侵入途径	Inhale, eat and percutaneous absorption. 吸入、食入、经皮肤吸收。
Additional hazards 其他危险	Has the effects of stimulation. In industrial use, contacts may cause eczema. Long-term operation in the high concentration of dust may cause acid corrosion, such as teeth. Be able to restore if out of the environment. 具刺激作用。在工业使用中，接触者可能引起湿疹。长期在高浓度粉尘中作业可能会引起牙齿等酸蚀，脱离环境后，能够恢复。

3. Composition/information on ingredients

成份/组成信息

Characterization 特征	Water soluble fruit acid 水溶性果酸
Chemical name 化学名称	2-hydroxy-1,2,3-propanetricarboxylic acid 2-羟基丙烷-1,2,3 三羧酸
Synonyms 同义名	Anhydrous Citric Acid 无水柠檬酸
CAS number CAS 号	77-92-9
Empirical formula 分子式	$C_6H_8O_7$ 
Molecular mass 分子量	192.14 g/mol

4. First-aid measures

急救措施

Eye contact 眼睛接触	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 用水缓慢温和地冲洗几分钟。如戴隐形眼镜并可方便地取出，取出隐形眼镜，然后继续冲洗。 If eye irritation persists: Get medical advice/attention. 如仍觉眼睛刺激：求医/就诊。
Skin contact 皮肤接触	Remove contaminated clothes ,wash affected skin with water and soap - do not use any solvents. 脱去衣服，然后用水清洗，不用任何溶剂。
Inhalation 吸入	Move patient to fresh air and keep him/her calm. 将人员移到新鲜空气的地方，保持镇定。 if symptoms persist consult a doctor. 如有症状请教医生。
Ingestion 食入	Drink plenty of warm water, seek medical attention. 饮足量温水，就医。

5. Fire - fighting measure

消防措施

Suitable extinguishing media 适宜的灭火介质	Water spray jet, dry powder foam, carbon dioxide. 水、干粉泡沫、二氧化碳。
Specific hazards 特别的危害	Powder and air can form explosive mixtures. 粉体与空气可形成爆炸性混合物。
Protection of fire – fighters 消防防护	Fire fighters should wear breathing apparatus and full body suit to extinguish fire upwind. 消防人员须佩戴携气式呼吸器，穿全身消防服，在上风向灭火。

6. Accidental release measures

泄漏应急处理

Methods for cleaning up 清理方法	Accept leakage to avoid environmental pollution. Don't discharge into the drainage system without treatment. 收容泄漏物，避免污染环境。未经处理严禁排入排水系统。 Collect and recycle the spills in a safe way or transport them to a waste disposal site for disposal. Further disposal of contaminated areas. 用安全的方法将泄漏物收集回收或运至废物处理场所处理。进一步处置清理污染区。
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7. Handling and storage

操作与储存

Handling 操作	
Advice on safe handling 安全操作建议	For personal protection see section 8. 个人防护见第 8 节。
Technical measures 技术措施	Transfer and handle only in enclosed systems. 在密闭条件下转移和操作。 Local exhaust ventilation necessary. 必要时局部通风。 Take precautionary measures against electrostatic charging. 采取措施防止静电。 Avoid dust formation, high dust explosion hazard. 避免形成灰尘，高粉尘爆炸危险。
Storage 储存	
Storage conditions 储存条件	Store in dry, ventilated and pollution-free environment, avoid direct sunlight and avoid stacking in the open air. 储存于干燥、通风无污染的环境，避免阳光直射，不宜露天堆放。 It is forbidden to mix with poisonous, peculiar smell and corrosive materials. 禁止与有毒、有异味、有腐蚀性物品混放。 Storage temperature: 10 - 30 °C 储存温度：10 - 30 °C
Suitable materials 合适的材料	stainless steel enamel, glass, polyethylene, polypropylene 不锈钢，玻璃，聚乙烯，聚丙烯
Unsuitable materials 不适合的材料	aluminum, copper, lead, zinc, their alloys, uncoated steel, concrete 铝，铜，铅，锌，及其合金，没有涂层的钢铁，混凝土

8. Exposure controls/Personal protection

接触控制 / 人员防护

Engineering Measures 工程措施	
Technical measures 技术措施	See section 7. 见第 7 节。
Monitoring 监测	
Threshold value (USA) air 空气限值 (USA)	No limits established by ACGIH ACGIH 没有制定限值
Personal protective equipment 人员防护设施	
Respiratory protection 呼吸保护	In case of open handling of larger quantities or accidental release: Particle mask or respirator with independent air supply. 打开大的包装或意外泄露时: 独立供气的粒子口罩或呼吸器。
Hand protection 手的防护	Protective gloves (eg. made of NR Natural Rubber, NBR Acrylnitril-Butadien-Rubber) 防护手套(如, 由天然橡胶、丁腈橡胶等制成)
Eye protection 眼的防护	Safety glasses 安全眼镜

9. Physical and chemical properties

物理和化学特性

Colour 颜色	White 白色
Form 状态	Powder, different granular size 粉末, 不同粒度范围
Odour 气味	Odourless, with a strong acidic taste 无嗅, 强酸味
Density 密度	1.665 g/cm ³ (20°C)
Water solubility 水溶性	(25°C) 61.8%(w/w)
Solubility 溶解性	Soluble in water, ethanol, ethyl ether, insoluble in benzene, slightly soluble in chloroform. 溶于水、乙醇、乙醚, 不溶于苯, 微溶于氯仿。
Partition coefficient 分配系数	log Pow-1.72 (octanol /water) log Pow-1.72 (辛醇 / 水)
Melting temperature 熔点	153°C
Flammability (solid, gas) 可燃性(固体、气体)	not highly flammable 不易燃
Combustibility index for deposited dust 沉积粉尘燃烧指数	1 (ca. 20 °C)
Dust explosion class 粉尘爆炸等级	St(H)1 (Milled sample, Median value of the tested sample 0,027 mm, Loss on drying 0,2 %; The value was determined in the modified Hartmann tube.) St(H)1 (研磨试样, 试样中值 0.027 mm, 干燥时损失 0.2%;数值

	在修正后的哈特曼管中确定。)
Minimum ignition temperature of a dust/air mix 粉尘/空气混合物的最低着火温度	>= 470 °C (Median value of the tested sample 0,027 mm) determined in the BAM oven >= 470°C(测试样品的中值 0,027 mm)在 BAM 烘箱中测定

10. Stability and reactivity

稳定性和反应活性

Conditions to avoid 避免的条件	Humidity、Heat 湿气、热
Material to avoid 避免的材料	Prohibited content, Oxidant, reductant, Base class 氧化剂、还原剂、碱类
Note 注意	Slightly hygroscopic 轻微吸湿 Dust may form explosive mixture in air. 灰尘可在空气中形成爆炸性混合物。 Stable under recommended storage conditions. 在推荐的储存条件下保持稳定。

11. Toxicological information

毒理学资料

Acute toxicity 急性毒性	LD50:7000 mg/kg (oral,rabbit), LD50:6730 mg/kg (oral, rat), LD50:5040 mg/kg (oral,mouse) 经口半数致死量: 兔子 7000 mg/kg, 大鼠 >6730 mg/kg, 小鼠 5400 mg/kg。
Stimulus 刺激性	Rabbit percutaneous: 500 mg/24 hours, mild stimulation. 兔经皮: 500mg/24h, 轻度刺激。 Rabbit after the eye: 750 μ g/24 hours, severs stimulus. 兔经眼: 750 μ g/24h, 重度刺激。
Mutagenicity 诱变性	not mutagenic 无诱变性
Carcinogenicity 致癌性	not carcinogenic (rat) 无致癌性 (老鼠) not carcinogenic (mouse) 无致癌性 (耗子)
Reproduction toxicity 生殖毒性	not teratogeni 不致畸
Note 注意	Intermediate product of human metabolism (citric acid cycle) 人类新陈代谢的中间产物 (柠檬酸循环)

12. Ecological information

生态学资料

Inherent biodegradability 固有的降解	Readily biodegradable. 98 % (2 d) (OECD Test Guideline 302B) 容易生物降解性 98% (2 天) (OECD Test Guideline 302B)
Ecotoxicity 毒性	barely toxic for fish (goldfish) LC ₀ 625mg/l 对鱼 (金鱼) 几乎没有毒性 LC ₀ 625mg/l

	<p>moderately toxic for planktonic crustaceans (<i>Daphnia magna</i>) LC₀ 80mg/l 对甲壳类浮游生物有中等毒性 LC₀ 80mg/l</p> <p>barely toxic for microorganisms (<i>Pseudomonas putida</i>) LC₀>10000mg/l 对微生物几乎没有毒性 LC₀>10000mg/l</p> <p>barely toxic for protozoa (<i>Entosiphon sulcatum</i>) LC₀ 485mg/l 对原生物几乎没有毒性 (沟内管虫) LC₀ 485mg/l</p> <p>barely toxic for algae (<i>Scenedesmus quadricauda</i>) LC₀ 640mg/l 对藻类几乎没有毒性 (四尾栅藻) LC₀ 640mg/l</p> <p>moderately toxic for algae (<i>Microcystis aeruginosa</i>) LC₀ 80mg/l 对藻类几乎没有毒性 (铜绿微囊藻) LC₀ 80mg/l</p>
Air pollution 空气污染	observe local/national regulations 符合当地/国家的规定

13. Disposal considerations

处置措施

Waste disposal method 废弃处置方法	<p>It is recommended that burned with control or safely landfill disposal. Where to use reusable containers or buried within the prescribed places.</p> <p>建议用控制焚烧法或安全掩埋法处置。在能利用的地方重复使用容器或在规定场所掩埋。</p>
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14. Transport information

运输信息

Note 注意	<p>Not regulated by IMO/IMDG</p> <p>不受国际海事组织/国际海运危险货物规管</p>
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15. Regulatory information

法规信息

Labelling according to EC Directives 67/548/EEC 根据欧盟指令 67/548/EEC 进行标签	Xi
R36 S26	<p>Irritating to eyes. 对眼睛强烈刺激。</p> <p>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 与眼睛接触后, 立即用大量水冲洗并就医。</p>
Water hazard class (Germany) 水危害等级 (德国)	<p>1: weakly hazardous for water (according to annex 1 or 2 of directive Vw V w S of 17.05.1999).</p> <p>对水有较弱的危害 (依照附件 1 或 2 Vw V w S of 17.05.1999 的指导)。</p>

16. Other information

其他信息

This information in this data sheet is based on current knowledge. It should not be taken as
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expressing or implying any warranty concerning product characteristics

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