

物质安全数据表 (Material Safety Data Sheet)

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1. 化学品及企业标识 Chemical Product And Company Identification

① 产品名称 Product Name

环氧树脂 ZR500F

② 公司名称 Company Name:

苏州中瑞智创三维科技股份有限公司

ZRapid Technologies Co., Ltd.

③ 公司地址 Company Address:

江苏省苏州市吴江区同安西路 13 号 NO.13,TONGAN ROAD WEST,SUZHOU,JIANGSU

PROVINCE, P.R.C

④ 负责部门 Responsible department:

研究开发部 Research & Development,R.& D.

⑤ 联系电话 Telephone:

+86-512-63398248

⑥ 化学事故应急电话:

+86-512-63398248

⑦ 推荐用途和使用限制 Recommended purpose and use restrictions:

SLA 光固化快速成型

2. 成分组成信息 Composition/Information On Ingredients

成分名称 Ingredient name,	材料成分 (wt, %)	CAS number
环氧树脂 epoxy resins, property	30-65	61788-97-4
丙烯酸酯 acrylates, property	15-36	60506-81-2
光引发剂 photoinitiator, property	3-8	108-32-7

3. 危险性概述

① 化学品全球调和制度 Globally Harmonized System(GHS)

①物理化学的危害性 Physical and chemical hazards

非易燃液体 Non-flammable liquids

分类外 The Classification

②对环境的危害性 Harm to the environment

对于上述没有记载的有害性为分类外或者不能分类 No records for the classification of hazardous classification or not

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② 注意事项 Announcements

①防范说明 Precautionary Statements

佩戴适当的防护手套，防护眼镜 Wear appropriate protective gloves, safety glasses

必要时佩戴个人防护用具，使用通风换气设备，避免接触。When it is necessary to wear personal protective equipment, the use of ventilation equipment, avoid contact with.

避免释放到环境中。 Avoid release to the environment

②应急措施 Emergency Measure

如感身体不适，请转移至空气新鲜处，以容易呼吸的姿势让其休息。 If feeling unwell, please transfer to fresh air place, let it rest in easy breathing posture

如接触皮肤，使用大量清水和肥皂清洗。脱掉污染的衣物。 If contact with skin, use soap and plenty of water to clean. Take off contaminated clothing

如出现皮肤刺激或皮疹，立即前往医院就诊。 In the event of skin irritation or rash, immediately went to the hospital.

③保管 Custody

保持容器密闭，避免日光直射，在适当的温度下保管。 Keep container closed, avoid direct sunlight, under proper temperature

④废弃 Abandon

废弃时，按工业废弃物处理该产品，并委托有相关资质的废物处理公司进行处理。 Waste, according to industrial waste processing the product, and entrust a qualified waste disposal company for processing.

4.急救措施 First Aid Measures

① 吸入 Inhalation

移到空气新鲜的地方，如果没有呼吸，进行人工呼吸。如呼吸困难，给氧。如果症状持续，需住院观察。 Remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, need to be hospitalized.

② 皮肤接触 Skin Contact

脱去被污染的衣服和鞋，立即用大量清水冲洗皮肤（使用肥皂，如果可用）。如果症状持续，需住院观察。衣服和鞋子在重新使用之前需清洗干净。 Remove contaminated clothing and shoes, immediately flush skin with plenty of water (using soap, if available). If symptoms persist, need to be hospitalized. Clothes and shoes should be cleaned before reuse.

③ 眼睛接触 Eye Contact

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检查并移开接触污染的镜片，立即用大量的水冲洗眼睛至少 15 分钟直到得到医疗救护。Check and remove contact lenses in pollution, immediately rinse eyes with large amounts of water for at least 15 minutes until get medical aid.

④ 食入 Ingestion

不要催吐，除非是专业的医疗人员，有意识的人可以喝几杯水。出现昏迷或如果症状持续，需住院观察。Don't puke, unless it is a professional medical personnel, conscious people can drink a few cups of water. Coma or if symptoms continue, need to be hospitalized

⑤ 对急救人员之防护 Protection of emergency personnel

当全面通风并不足以控制空气污染时，推荐局部排气通风直到浓度低于暴露极限。When full ventilation is not enough to control air pollution, local exhaust ventilation is recommended until the concentration is lower than the exposure limit

5. 消防措施 Fire Fighting Measures

① 灭火剂 extinguishant

干粉灭火剂，耐酒精性泡沫灭火剂，二氧化碳，干沙，喷雾水。Dry powder fire extinguishing agent, alcohol resistant foam extinguishing agent, carbon dioxide, dry sand, spray water.

② 特别危险性 Special risk

火灾可能会产生刺激性和有害性的气体。Fires may produce irritation and harmful gas

③ 消防人员之防护措施 The firemen of protective measures

灭火人员应当佩戴保护用具（保护眼睛，防护服，邮寄气体用防毒面具等），在上风处进行灭火。Fireman should wear protective appliances (eye protection, protective clothing, mailing gas with gas mask, etc.), put out the fire in the windward.

6. 泄露应急处理 Accidental Release Measures

① 作业人员防护措施装备 Homework personnel protective equipment

确保有足够的通风，穿戴适当的防护服，做好手和眼睛/面部保护。Ensure adequate ventilation, wear suitable protective clothing, make a good job in hand and eye/face protection.

② 环境保护措施 Environmental protection measures

防止产品进入排水沟或开放水域。Prevent products from entering the drain or open water

③ 清理方法 Cleaning method

对于少量泄露，可使用干砂、土和抹布等吸收残液，回收至密闭的容器中。For a small amount of leakage, use dry sand, soil and towels absorb the residual liquid, recycling and airtight container.

对于大量泄露，可将泄露液体前方筑堤，引入至安全地方进行回收。For a large number of leakage,

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leakage of liquid can be in front of the embankment, the introduction of recycle to safe place.

④ 次生危害的防范措施 Secondary hazard prevention measures

快速清除所有火源（禁止在附近吸烟，产生火花以及点火）。Quickly remove all fire spark (ban on smoking in nearby, and the ignition).

7. 操作处置与储存 Handling And Storage

① 操作处置技术措施 Operation treatment technical measures

避免接触眼睛，皮肤和衣服。不要吸入雾或蒸气，不要不小心吞咽下去，彻底清洗后保持容器紧闭。Avoid contact with eyes, skin and clothing. Don't inhaling mist or steam, don't accidentally swallow, keep container tightly closed after the thorough cleaning.

② 局部或全面通风 Partial or full ventilation

保持足够的通风。Maintain adequate ventilation

③ 安全处理注意事项 Safe handling matters needing attention

严禁烟火 No smoke, no fire

④ 安全储存的条件 Safe storage conditions

保存在阴凉，通风良好的地方，远离热源，火花和火焰。保持容器紧闭，直到投入使用。Stored in a cool, well ventilated place, away from heat, sparks and flames. Keep container tightly closed until it is put into use.

⑤ 容器包装材料 packaging container and material

在保管过程中，请不要转移到其他容器中去。也不要将使用过的产品倒回原容器之中。In the process of custody, please do not transfer to other containers. Don't fall back to the original containers of products that will be used.

8. 接触控制与个体防护 Exposure Controls / Personal Protection

	管理浓度 Management concentration	允许浓度 allowable concentration
ZR500F	未设定Not set	未设定Not set

① 保护设备 Protection equipment

在室内作业时，采用密闭有害物质发生源头或采用局部排期装置。In the operating room, the closed source of harmful substances or by local scheduling device.

作业场所附近应设置安全淋浴，洗手洗脸池，并明确表示。Set the safety showers should be near the workplace, wash the pool that wash a face, and make clear that.

② 个人防护设备 Personal Protective Equipment

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①呼吸系统防护 Respiratory protection

必要时佩戴有机毒气防护面具。When it is necessary to wear organic gas masks

②手防护 Hand protection

佩戴适当手套（聚乙烯制，橡胶制等非渗透性材质）。Wear suitable gloves (impermeable material, such as polyethylene, rubber system).

③眼睛防护 Eye Protection

防护眼镜（护目镜型）。Safety glasses (goggles).

④皮肤和身体防护 Skin And Body Protection

必要时穿戴防护围裙，保护靴等。Wear protective apron when necessary, protect the boots, etc.

避免穿戴半袖工作服。Avoid wearing short sleeves overalls

③ 卫生对策 Health countermeasures

使用后请彻底清洗双手。Please wash your hands thoroughly after use

使用本产品时请勿饮食及抽烟。Please do not diet and smoking when using this product

9. 物理化学特性 Physical And Chemical Properties

① 颜色 Color:	白色 White
② 物理状态 Physical State:	液体 Liquid
③ 水溶性 Water Solubility:	微溶 Slight Soluble
④ 粘度 Viscosity:	280~420 cps (25℃)
⑤ 蒸汽压 Vapor Pressure:	无信息 No information
⑥ 比重 Specific Gravity:	1.11~1.15 g/ml (25℃)
⑦ 闪点 Flash Point	150 °C下焦化，无法测量
⑧ 脱水率 The dehydration rate:	无信息 No information
⑨ 挥发性有机化合物 (Volatile Organic Compounds) :	<1 %

10. 稳定性和反应性 Stability And Reactivity

① 稳定性 Stability

高温下会有反应。High temperature reaction

② 危险有害反应的可能性 The possibility of dangerous and harmful response

与强氧化剂、强碱有剧烈反应。Violent reaction with strong oxidizer, strong alkali.

大量硬化后，随着剧烈发热而发生反应。After a lot of hardening, react with severe fever.

急剧硬化时会产生有害气体，会使反应物炭化、分解。Rapid hardening will produce harmful gases,

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can make the carbonized, decomposition of reactants.

③ 应避免的条件 Conditions should be avoided

高温保存 Heat preservation

④ 混触危险物质 Mixing hazardous substances

氧化剂、碱 Oxidant, alkali

⑤ 危险的分解产物 Dangerous breakdown products

燃烧条件下不同可能会导致生成有害气体（一氧化碳、碳氢化合物） Combustion conditions may lead to different produce harmful gases, carbon monoxide, hydrocarbons)

11. 毒性资料 Toxicological Information

① 急性毒性 Acute toxicity: 无可资料 No information available.

② 皮肤过敏 Skin irritation: 无可资料 No information available.

③ 眼睛刺激性 Eye irritation: 无可资料 No information available.

④ 吸入 Inhalation: 无可资料 No information available.

⑤ 致癌性 Carcinogenicity: 无可资料 No information available.

⑥ 流行病学 Epidemiology: 无可资料 No information available.

⑦ 致畸性 Teratogenicity: 无可资料 No information available.

⑧ 生殖效应 Reproductive Effects: 无可资料 No information available.

⑨ 神经毒性 Neurotoxicity: 无可资料 No information available.

⑩ 致突变性 Mutagenicity: 负 Negative

⑪ 其他的研究 Other Studies: 无可资料 No information available.

12. 生态学信息对环境的危害 The harm to the environment ecological information

(1) 急性水生环境有害性 Acute aquatic environment harmful

无可资料 No information available.

② 生态毒性 Eco toxicity

无数据 No data

③ 对环境的危害 The harm to the environment

水生环境急性有害性 Acute harmful aquatic environment: 无数据 No data

水生环境慢性有害性 Chronic harmful aquatic environment: 无数据 No data

13. 废弃物处置方法 Waste disposal method

① 残余废弃物 The residual waste

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废弃物处理，应遵守关联法规及地方自治体标准。Waste disposal, shall comply with the related laws and regulations and local commune standards.

含有本产品的废液及污水不要直接排入河流，也不能埋弃，应按工业废弃物处理该产品，并委托有相关资质的废物处理公司进行处理。Contains this product waste and sewage directly discharged into rivers, also cannot abandon, should according to industrial waste processing the product, and entrust a qualified waste disposal company for processing.

② 污染容器及包装 Contaminated containers and packaging

使用完毕的容器，抹布，剩余残液处理方式同上。Completed with containers, cloth, the remaining residual liquid handling the same as above

14. 运输信息 Transportation Information

① 国际规制 International regulation

①海上规制 Maritime regulation 根据 IMO 的规定 According to the regulation of IMO

No special provisions 无特殊规定

②航空规则 Rules of the air 根据 ICAO/IATA 的规定 According to the regulation of ICAO/IATA

No special provisions 无特殊规定

② 中国国内规制 China domestic regulation

①海上规制 Maritime regulation 根据 IMO 的规定 According to the regulation of IMO

No special provisions 无特殊规定

②航空规则 Rules of the air 根据 ICAO/IATA 的规定 According to the regulation of ICAO/IATA

No special provisions 无特殊规定

15. 法规资料 Regulatory Information

① 劳动安全卫生法 Labor safety and health law

认为有突变性的既有的化学物质（法 第 57 条 5、劳动基准局局长通知）须通知相关危险物及有害物质的名称（法 第 57 条 2、施行令第 18 条 2 别表第 9）Think of paroxysmal existing chemicals (The law, Fifty-seventh 5, the labor standards bureau notice)shall notify the relevant hazards and the name of the harmful substances (The law, Fifty-seventh 2, The implementation of decree eighteenth of 2 table ninth)

② 消防法 hereby

非危险物 The danger

③ 化学物质排出把握管理促进法 Pollutant Release and Transfer Register

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第一种指定化学物质 (法第2条第2项、施行令第1条别表第1) The first kind of specified chemical substances (The law, Article 2 item 2, The implementation of decree first table first)

④ 劳动基准法 The labor standards law

有致敏性的物质 (法第75条第2项、施行规则第35条别表第1-2第4号、平8劳动基准局局长通知、组第182号) Sensitization material (the law, Article 2 item 2, The implementation of thirty-fifth rules don't watch the 1-2 fourth, Director of flat 8 Labour Standards Bureau notice, group 182nd)

⑤ 中国国内 China's Domestic

危险化学物品安全管理条例 (2011年3月2日国务院发布第591号令), 工作场所安全使用化学品规定 ([1996]劳动部发423号) 等法规, 针对危险化学品的安全使用, 生产, 存储, 运输, 装卸等方面均作了相应规定。 Regulations on the safety administration of dangerous chemicals (In March 2, 2011 the State Council issued 591st orders), The safe use of chemicals regulation workplace ([1996] labor department No. 423) Regulations, For the safety of hazardous chemicals production, use, storage, transport, handling and other aspects have made the corresponding stipulation.

16. 其他信息 Additional Information

① 参考文献 Reference:

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② 制表单位 Tabulation Unit:

苏州中瑞智创三维科技股份有限公司 (3) 制表日期 Tabulating Date:

2022/10/20

上述对危险性及有害性的陈述尚有不足之处, 使用时还望给予足够关注。 The above for hazardous and harmful statements are still inadequate, when using, also hope to give enough attention.

上述记载是基于现有资料汇编而成,

上述数据仅基于常规工作状态, 如有特殊操作, 请根据实际情况进行相应的安全措施。 The above data is only based on the conventional working state, if there are special operation, please make the appropriate security measures according to the actual situation.

本报告内存可能根据最新评估和测试进行修改。 This report memory may be modified according to the latest assessment and testing