



深圳市凌创微电子有限公司

SHENZHEN LC ELECTRONIC CO., LTD

MSDS

一、product and factory data:

物料名称 product name: CRYSTAL
物料编码 Product number:
Manufacturer or vendor name: Shenzhen LC Electronic Co. Ltd
Manufacturer or vendor address: 501, A1 Building, Huafengzhigu, Hangcheng Road , Baoan District, Shenzhen City., P.R.China.
contact tell/fax : 0755-27786259

二、component data

1、simple matter:

Chinese name 中文名称	材料名称 (Materials Name)	原材料名称 (Rohstoff)	材质 (Texture)	化学名称 Chemical Substance Name	化学物质 登录号 CAS No.	成分组成 ingredients (%)
Crystal 晶体	Crystal blank	Quartz Blank	Quartz	SiO2	14808-60-7	100
		Electrode	Silver	Ag	7440-22-4	100
	Silver Epoxy	Silver Epoxy	Silver	Ag	7440-22-4	70
			Epoxy Resin	-	-	30
	Ceramic Base	Alumina Ceramic	Aluminium Oxide	Al2O3	1344-28-1	92.5
			Silicon Dioxide	SiO2	7631-86-9	5
			Calcium Oxide	CaO	1305-78-8	0.5
			Magnesium Oxide	MgO	1309-48-4	0.5
			Chromium(III) Oxide	Cr2O3	1308-38-9	0.5
			Molybdenum	Mo	7439-98-7	1
		Tungsten Alloy	Tungsten	W	7440-33-7	97
			Molybdenum	Mo	7439-98-7	3
		Nickel Alloy Plating	Nickel	Ni	7440-02-0	80
			Cobalt	Co	7440-48-4	20
		Gold Plating	Gold	Au	7440-57-5	80
			Thallium	Tl	7440-28-0	20
		Kovar Alloy	Iron	Fe	7439-89-6	53.2
			Nickel	Ni	7440-02-0	29.2
	Cobalt		Co	7440-48-4	17.1	
	Manganese		Mn	7439-96-5	0.3	
Silicon	Si		7440-21-3	0.1		
Carbon	C		7440-44-0	0.1		



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		Ag-Cu Solder	Silver	Ag	7440-22-4	85
			Copper	Cu	7440-50-8	15
SMD Lid		Kovar Alloy	Iron	Fe	7439-89-6	53.2
			Nickel	Ni	7440-02-0	29.2
			Cobalt	Co	7440-48-4	17.1
			Manganese	Mn	7439-96-5	0.3
			Silicon	Si	7440-21-3	0.1
			Carbon	C	7440-44-0	0.1

危险等级 (Hazard Rating Systems)

HMIS : 健康/Health : 2

; 可燃性/Flammability : 0

活跃性/Reactivity : 0

; 自身保护/Personal protection : C

第一段 物理化学特性/SECTION III PHYSICAL AND CHEMICAL CHARACTERISTICS.

物理状态：固态 Appearance : white metal wire	沸点：不适用 Boiling Point : Not applicable
气味：无气味 Odor : Odorless	合金熔点： 227°C Alloy Melting Point :
pH 值：不适用 / Not applicable.	合金比重： 8.4(H ₂ O=1) Alloy Specific Gravity :
蒸汽压(21.1°C)：不适用 Vapor Pressure : Not applicable	蒸汽密度：不适用 Vapor Density : Not applicable(air=1)
挥发速率：不适用 Evaporation Rate : Not applicable [Butyl Acetate=1]	水中溶解度：不溶于水 Solubility in Water : Insoluble

第二段 灾害处理资料/SECTION IV FIRE AND EXPLOSION HAZARD DATA

闪点：不适用 Flash Point : Not applicable	自燃点：不适用 Auto-ignition Temperature : Not applicable
空气中爆炸极限：不适用 Flammable Limits : Not applicable	
适用灭火器：二氧化碳、干粉或泡沫灭火器 Extinguishing Media : Carbon Dioxide, Dry Chemical or Foam	
特种火情灭火程序：建议灭火人员穿着防火衣和配戴自带呼吸器的全面保护面罩 Special Fire Fighting Procedures : Firefighters should wear full protective clothing and self- contained breathing apparatus operated in positive pressure mode.	

第三段 化学反应特性/SECTION V REACTIVITY DATA

稳定性：稳定 Stability : Stable
应避免条件：受潮 Conditions to Avoid : <u>become damp</u>
不相容性 (须避免原材料)：避免接触强酸、强氧化物 Incompatibility(Materials to Avoid) : Avoid contact with strong Acids, strong Oxidizers



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产品分解物之危害性：受热时可能会释放出有毒蒸汽或气体，如：一氧化碳，二氧化碳
Hazardous Decomposition / Byproducts : May release toxic vapor/gases such as Carbon Monoxide, Carbon Dioxide when heated.

有害之聚合物：不会有
Hazardous Polymerization : Will not occur

第四段 健康危害资料/SECTION VI HEALTH HAZARDS DATA

进入人体之方法与途径：1.呼吸进入 2.皮肤接触 3.吞食
Routes of Entry : 1.Inhalation 2.Skin 3.Ingestion

可能产生的健康危害：
急性健康危害：吸入或摄入烟气，可以引起头痛，恶心，肌肉痛等，接触烟气会导致流鼻涕和流眼泪。
慢性健康危害：长期摄入并积累后，可以导致贫血、失眠、便秘及腹部疼痛。皮肤暴露吸入会导致皮疹，损害皮肤粘膜。

Potential Health Effects :
Acute Health Hazards : Inhalation of fumes or ingestion may cause headache, nausea and muscular pain.
Irritation of eye and nose may result from contact with soldering fumes.
Chronic Health Hazards : Anemia, insomnia, constipation and abdominal pain due to ingestion. Skin rash, damage of mucous membrane due to skin exposure and inhalation.

致癌化学品清单：按 NTP, IARC 及 OSHA 标准，无
Carcinogenicity : Not listed by carcinogen by NTP, IARC, OSHA .

出现症状：表现为呼吸性过效，引发咳嗽或皮疹。
Sign and Symptoms of Exposure : Respiratory irritation and symptoms of asthma, Skin irritation and rash.

内科症状：肺部、血液疾病及循环系统问题。
Medical Conditions Generally Aggravated by Exposure : Pre-existing conditions of the lungs, diseases of the blood and blood forming organs.

紧急情况的急救措施：
皮肤接触：用肥皂和水冲洗干净；
眼睛接触：立即用大量清水冲洗 15 分钟以上，并送医治
不慎吸入：将伤员抬至新鲜空气流通的地方休息，若仍呼吸困难，则应立即送医治；
不慎食入：用水漱口，喝大量的水，并送医治。
Emergency and First Aid Procedures:
Skin contact : Wash off with soap and water.
Eye contact : Wash immediately with plenty of water for at least 15 minutes. Seek medical attention.
Inhalation : Move affected person to fresh air and allow to rest. If respiratory distress persists, seek medical Attention.
Ingestion : Wash out mouth with water, Give a lot of water to drink, and seek medical attention immediately.

第四段 预防措施/SECTION VII SPECIAL PROTECTION / CONTROL MEASURES

呼吸道防护措施：通常无要求
Respiratory Protection : Not generally required.

皮肤防护措施：使用橡胶手套
Skin Protection : Use neoprene gloves.

眼睛防护措施：通常无要求
Eye Protection : Wear safety goggles.



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通风设备：于有适当通风的地方使用，设备需配备良好的抽风装置

Ventilation : Use with adequate ventilation and local exhaust

其他防护措施：防护衣

Other Protection : Protective clothing.

工作卫生习惯：作业中不得饮食、抽烟等，作业后要洗手。避免长时间或多次皮肤接触和吸入烟气

Work/Hygienic Practices : Do not eat, drink or smoke in work areas, wash hands thoroughly after use. Avoid prolonged or repeated contact with skin or breathing fumes and vapors.

第五段 泄露及废弃处理 / SECTION VIII SPILL/LEAK AND WASTE DISPOSAL PROCEDURES

泄露情况的处理：不适用

Spilled or Released Procedures : Not applicable

废弃处置方法：依照国际、国家或地方的相关法规处置

dispose in accordance with Federal, State and Local regulations.

第六段 操作与储存方法 / SECTION IX HANDLING AND STORAGE

安全操作：焊接作业场所应有适当的通风设备，避免吸入烟气。用后洗手，在未彻底将手洗干净前不要用手接触或擦眼睛。

Handling Precautions : Provide local ventilator at the work area of soldering, Avoid breathing fumes from the heated product. Always thoroughly wash your hands after handling this product. Do Not touch or rub eyes until hands are washed.

储存：存放于阴凉、干燥、无明火、无强氧化物和强酸的地方，请勿存放于儿童可触及之地点。

Storage Precautions : Store product in a cool, dry area away from flame, strong oxidizing agents and concentrated Acid. Please keep out of reach of children.

第七段 物品与制造商资料/SECTION I PRODUCT AND COMPANY INFORMATION

制造商名称：深圳市凌创微电子有限公司

制造商电话：0755-27786259

制造商地址：深圳市宝安区西乡航城街道航空路高科技产业园华丰智谷A1座501

制造商传真：

物品中（英）文名称：晶体

型号规格：SMD3225, 2016, 2520

部门责任人

姜凡

日期

2023.12.13