

## Material Safety Data Sheet (MSDS)

### 一、 物品与厂商资料 Items and Manufacturer's data

物品名称 Product name	厚膜钨导体浆料 Tungsten Conductor Paste for Thick-Film	物品编号 Product No.	CTX9605	供应商 Supplier	西安腾星电子科技有限公司 Xi'an Tengxing Electronic Technology Co.,Ltd.
供应商地址 Supplier address	西安市高新区锦业一路81号 No.81, Jinye 1 Rd, High-tech Zone, Xi'an City	供应商电话 Supplier Tel.	029-89526682	供应商紧急电话 Supplier Emergency Tel.	029-89526682

### 二、 成份辨识资料 Component Identify Information

中文名称 Chinese Name	片式电阻器用面电极银钯浆	英文名称 English Name	Silver/Palladium Conductor Paste for chip resistor
同义名称 Alias	钯银电极浆料 Palladium silver electrode slurry		
外观与特性 Appearance & Features	银灰色膏状流体物 Silvery Grey Liquid Pastes		
主要成份 Main ingredients	质量百分含量 Range (%)	CAS NO.	
钨 Tungsten	70~85	7440-33-7	
氧化铝 Al <sub>2</sub> O <sub>3</sub>	2~6	1344-28-1	
硝化纤维素 Nitrocellulose	1~6	9004-70-0	
柠檬酸三丁酯 Citroflex-4	20~30	77-94-1	

### 三、 危害辨识的资料 Hazard Identification Information

最重要的危害效应 The worst important hazard affect	健康危害 Health hazard	导致眼睛、皮肤和呼吸道的不适。 Cause eye, skin and respiratory discomfort.
	环境影响 Environment effects	会释放轻微的气味。 Release the slight scent
	物理及化学性危害 Physical and chemical Damage	无害 Harmless

主要症状 Cardinal symptom	眼、鼻、喉黏膜刺激症状和皮肤过敏、发红。 Stimulate the Eyes, Nose, Laryngeal mucosa and cause allergic skin reactions		
物品危险性类别 Danger Degree	无害品 Harmless	所需图示种类 The required schema types	

#### 四、急救措施 Fit Aid Measures

不同接触途径的急救办法 First aid measures for different contact channels	皮肤接触 Skin contact	立即脱去被污染的衣物，用肥皂水或清水彻底清洗。 Remove contaminated clothing and shoes. Wash thoroughly with soap or clean water.
	眼睛接触 Eye contact	立即提起眼睑，用大量流动清水或生理盐水彻底冲洗眼睛至少 15 分钟，就医。 Filed eyelid immediately, wash eye thoroughly with flush water or physiological saline for at least fifteen minutes and seek medical assistance.
	吸入 Inhalation	迅速脱离现场至空气新鲜处，保持呼吸道畅通。如果呼吸困难，立即输氧。如果无呼吸，立即实施人工呼吸，就医。 Remove to fresh air, keep respiratory tract smooth. If breathing is difficult, Input oxygen at once. If no breathing, give artificial respiration immediately and seek medical assistance.
	食入 Ingestion	饮足量温水，催吐，就医。 Drink enough Warm water to vomiting, seek medical assistance immediately.
	给医生的建议 Advise for doctor	提示吸入或误食含银导体浆料。 Point out if somebody breath or eat Silver Pastes

#### 五、灭火措施 Fire Fighting Measures

适用灭火剂 Suitable Extinguishing Media	二氧化碳、化学干粉、砂石 Carbon dioxide, dry chemical powder, gravel.
灭火时可能遇到的特殊危害 Special hazards may be encountered during fire extinguishing	烧伤与有机气体对呼吸系统造成损害 Burns and Organic gas hurt respiratory system .
灭火方法 Fire fighting methods	佩带呼吸面具，按石油类灭火要求穿着。 Wear a breathing mask, wearing according to requirements petroleum fire fighting required.

## 六、 泄漏处理方法 Accidental release measures

个人注意事项 Personal precautions	穿着适当的防护服，戴口罩、手套、工作帽 处理现场，切断火源。 Wear proper protective clothing, mask, gloves and working cap to do the job, cut off the fires.
环境注意事项 Environmental Precautions	防止进入下水道、排洪沟等限制空间。 Prevent it from entering the Limited space, such as sewer, canal, etc.
处理办法 Treatment methods	收集，并用乙醇将污染物清洗干净。 Collection and clean the pollutants with alcohol.

## 七、 储运资料 Storage and transportation data

储存要求 Storage requirement	<p>储存于阴凉、通风的库房。远离火种、热源。库房不宜超过 40℃。应与氧化剂、卤素分开存放，切忌混储。采用防爆型照明、通风设施。禁止使用易产生火花的机械设备和工具。储区 应备有泄露应急处理设备。</p> <p>Store it in cool and well-ventilated warehouse which under 40℃.</p> <p>Keep away from source of ignition.</p> <p>Keep it separate from the oxidant, halogen, No mix with each other.</p> <p>Using the explosion-proof lighting and ventilation facility.</p> <p>No use the mechanical equipment and tools that easy to produce the spark.</p> <p>The storage area should be equipped with emergency equipment for leakage.</p>
运输要求 Transportation requirement	<p>运输时运输车辆应配备相应品种和数量的消防器材。装运该物品的车辆排气管必须配备阻火装置，禁止使用易产生火花的机械设备和工具装卸。严禁与氧化剂、卤素等混装混运。中途停留时应远离火种、热源。All the transport vehicles should be equipped with appropriate varieties and quantity fire equipment, and the exhaust pipe must be with fire resistance device.</p> <p>Prohibit to use the mechanical equipment and tools which is easy to produce sparks to load and unload it.</p> <p>Prohibit to mix with oxidant, halogen.</p> <p>Keep away from fire and heat sources when stopover.</p>

## 八、 暴露预防措施 Exposure controls measures

车间浓度控制标准（参考） Workshop concentration control standard (reference)	暂无 No data available
工程控制 Engineering control	注意通风换气 Ventilation
个人防护措施 Personal protective measures	<p>呼吸系统防护 Respiratory system protection</p> <p>口罩 Mask</p>
	<p>手防护 Hand protection</p> <p>手套 Gloves</p>

	眼睛防护 Eyes protection	化学防护镜 Chemical goggles
	皮肤及身体防护 Skin and body protection	正规工作服装 Regular work clothing
	其它 Others	工作现场严禁吸烟 No smoking in workshop
卫生措施 Health measures		操作完毕立即洗手 Washing hands immediately after the work finished.

### 九、 物理及化学特性 Physics and chemistry properties

熔点(℃) Melting point	600-800	沸点 Boiling point	210~240	折射率 Refractive index	/	溶解性 Solubility	难溶于水，易溶于松油醇等有机溶剂 Insoluble in water, soluble in organic solvents such as terpineol and so on.
饱和蒸气压 (Kpa) Saturated vapor pressure	无数据 No data	PH 值	/	闪点(℃) Flash point	>93 ℃	相对密度 (水=1) Relative density	1.8~2.3
相对密度(空气=1)Relative densities (air=1)		/					

### 十、 稳定性及反应性 Stability and reactivity

稳定性 Stability	稳定 Stabilization	聚合危害 Aggregate harm	无 No
特殊状况下可能产生的危害反应 The possibility harmful reaction caused in special situations	在开封状态下，当温度大于 100℃，溶剂开始挥发，对人员的眼睛、呼吸道有刺激并对本品的品质有危害。 When open the package and the temperature exceed the 100℃,the solvent will evaporate that will stimulate the Eyes 、Laryngeal mucosa and also debase the quality .		
应避免之物质 Avoid the substances	避免粉尘或其他液体混入。 Avoid the dust or other liquids mixed.		

危害之分解产物 Damage of the decomposition products	无 No
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### 十一、 毒性资料 Toxicity data

急性中毒 Acute poisoning	<p>摄入：如果吞咽，毒性很低，然而大量吞咽可能引起损伤</p> <p>吸入危害：基于此类物质的物理特性，没有吸入危害</p> <p>接触：长时间皮肤接触不大可能造成吸收达到有害量</p> <p>Ingestion: Toxicity is low, but high intakes will hurt our body.</p> <p>Inhalation: No harm.</p> <p>contact: It's impossible to reach the potentially harmful quantity if prolonged skin contact</p>
致敏作用 Sensitization	<p>皮肤：豚鼠试验中未引起过敏性皮肤反应</p> <p>呼吸：无相关数据</p> <p>Skin: It isn't cause the allergic reactions tested in guinea pigs.</p> <p>Breath: No date</p>
重复性毒性 Repetitive toxicity	<p>活体动物中可引起下列反应：血液、肾脏、肝脏</p> <p>It will harm the blood, kidney and liver in live animals.</p>
慢性毒性和致癌性	无特性、相关数据做评估 No date available
发育毒性 Developmental toxicity	<p>对母体有毒效应的剂量下也不会引起出生缺陷或对胎儿有其他影响</p> <p>It will not transmit to future generations even there is numerous doses in the maternal.</p>
生殖毒性 Reproductive toxicity	对生殖功能无影响 No effect
遗传毒理学 Genetic toxicology	无资料 No date available

### 十二、 Ecological Information

可能的环境影响 The possibility impacts on the environmental	<p>本品与水及空气均不会反应,其废渣不会影响植物的正常生长。</p> <p>The goods doesn't produce chemical reaction with water and air, and the waste residue also doesn't affect the normal growth of plants.</p>
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### 十三、 废弃处理办法 Method about waste

废弃物处置方法 Method about waste	<p>放置于专业处置废弃物的可密封的容器内。</p> <p>Collected in a special and sealable container.</p>
	<p>本品及容器的处置应由有资质的废弃处置机构回收处理。</p> <p>The goods and container should be Recovery Processing by qualified authority agency.</p>

#### 十四、 运送资料 Shipping information

包装分类 Packaging Groups	按不含铅类产品包装 Packaging according to the no-lead	包装标志 Packing mark	产品专用标签 Special label、 RoHS
包装方法 Packing method	聚乙烯塑料瓶、外纸箱 Polyethylene plastic bottles, Outside carton.		

#### 十五、 法规资料 Regulations Information

适用法规 Applicable regulations	<p>化学危险物品安全管理条例， 化学危险物品安全管理条例实施细则， 工作场所安全使用化学品规定等法规，针对化学危险品的安全使用、生产、储存、运输、装卸等方面均作了相应规定； 常用危险化学品的分类及标志（GB13690-92）将该物质划分第九类其它危险品。</p> <p>The safety management regulations and rules of the hazard chemicals. The regulations of safety using chemicals in workplace, include the use, production, storage, transportation, loading and unloading.</p> <p>Classification and labels of dangerous chemical substances commonly used（GB13690-92）: Divide it to the Class 9 other dangerous goods.</p>
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#### 十六、 其它资料 Other Information

参考文献 References		Factory Prepare Date	2014.11.20
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