



Dongguan YiJia Electronics Communication Technology Co.,Ltd.

## SPECIFICATION FOR APPROVAL

日期 2021/10/22  
Date

编号 21102203  
File No

版本 1.0  
Revision

客 户  
CUSTOMER: Shenzhen Fine Offset Electronics Co., Ltd.

客户料号 Home Weather Station

CUSTOMER NO:

品 名 868/915MHz Antenna  
PART NAME:

供方料号 YJW05.003.001.301A  
SUPPLIER NO:

送样日期Date:

送样数量Q “TY:

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
 APPROVAL	CHECK	DESIGN
ChenGuoqiang	WenXue	ChenXingyi

YJ-RD-F04-A

add: YuanfuIndustrialZone, No.59, MuyuRoad, ShatouCommunity, Chang'anTown, DongguanCity  
Tel:0769-82586086 Fax:0769-82586086



# Acknowledgement Item List

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10	N/A	N/A	N/A
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12	-	-	-
13	-	-	-

add: 东莞市长安镇沙头社区木鱼路59号元富工业区 Tel:0769-82586086 Fax:0769-82586086

RoHS  
Compatible

CUSTOMER  
PART NO

REV.

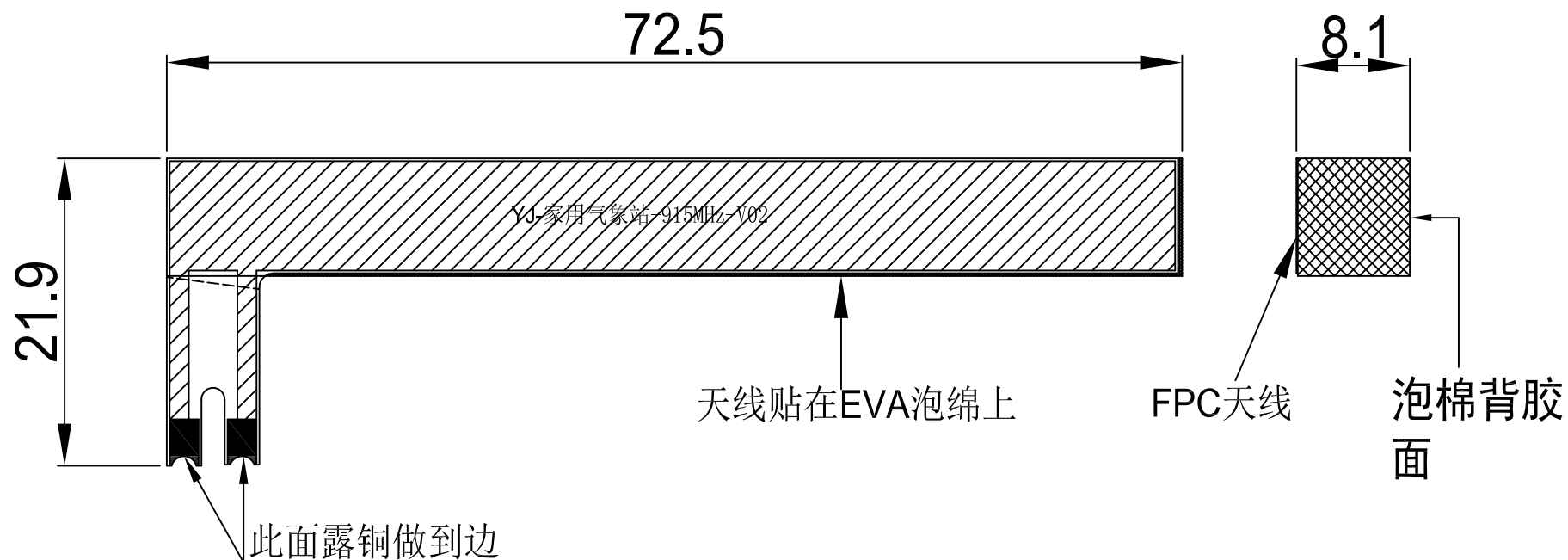


DESCRIPTION

首次发行

DATE

2021-10-21



备注:

1. 材质: 一对半PI基材, 铜箔厚度0.5oz, 成品厚度不含离型纸: 0.1mm。
2. 颜色/表面处理: 单面黑色油墨、白色丝印。  
露铜区镀金处理, 反面3M9471背胶、离型纸带分割线。
3. 尺寸: 带\*为重点尺寸。
4. 公差: 未标注公差参照标准公差。



Dongguan YiJia Electronics Communication Technology Co., Ltd. Tel: 0769-82586086 Fax: 0769-82586086

PART NAME: 915MHz Antenna

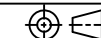
PART NO.: YJW05.003.001.301A

DATE: 2021-10-21

APPROVED BY

CHECKED BY

DESIGNED BY



Tolerance

殷涛

孙宏

吕森桦

UNITS: mm

X.X ±0.50

SCALE: 1/1

X.XX±0.15

REVISION: C

X° ±3°



# 天线规格

## Antenna Specification

### Electrical Properties

Frequency	868/915MHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	0.1dBi
Radiation	Omni-directional
Polarization	Linear

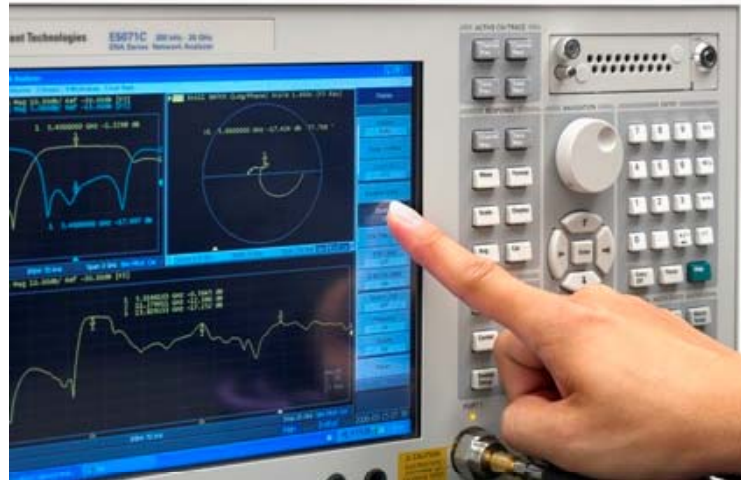
### Physical Properties

Connector	None
Cable Type	None
Cable Length	None
Cable Color	None
Operating Temp.	-40 ~ +85 °C
Storage Temp / Humidity	25±5°C / <70%

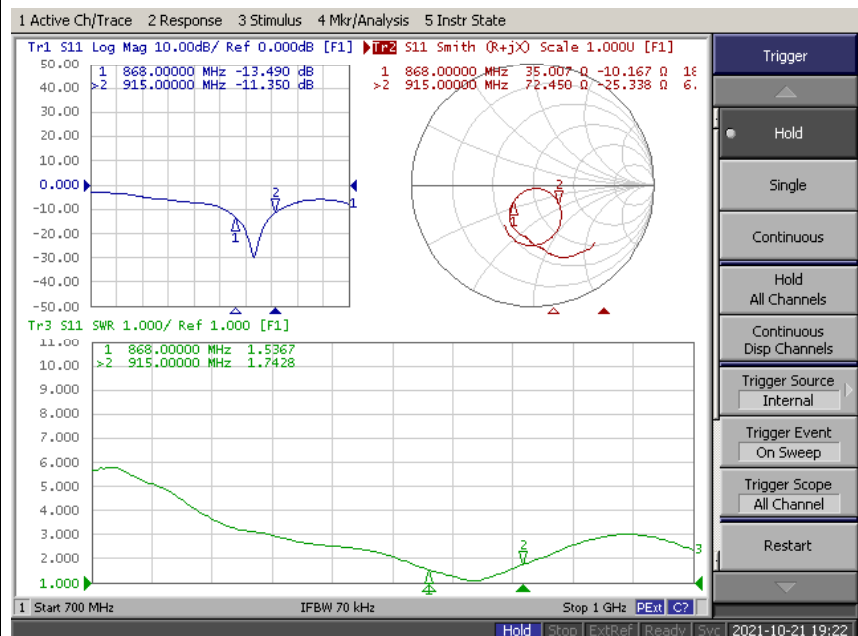


# Antenna Performance Test

**Agilent  
E5071B**



**S  
Parameter  
Test //**  
**868MHZ/  
915MHZ  
Antenna**





## *Antenna Passive Test*



add: YuanfuIndustrialZone, No.59, MuyuRoad, ShatouCommunity, Chang'anTown, DongguanCity  
Tel:0769-82586086 Fax:0769-82586086



### Passive Test For 868MHZ/915MHZ

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
868	39.6	-4.0	-0.1
872	39.7	-4.0	-0.2
876	41.1	-3.9	0.0
880	40.4	-3.9	-0.2
884	37.9	-4.2	-0.4
888	37.2	-4.3	-0.5
892	39.8	-4.0	-0.2
896	42.6	-3.7	0.1
900	42.0	-3.8	0.0
904	37.0	-4.3	-0.5
908	34.5	-4.6	-0.8
912	35.2	-4.5	-0.7
916	35.8	-4.5	-0.6



*Device*







868MHZ  
915MHZ  
*Antenna*



# Material Safety Data Sheet (MSDS)

## 1. Substance name and manufacturer information:

Substance name: Black EVA foam

Manufacturer name: Huizhou Fanzhongbao Rubber & Plastic Foam Factory Co., Ltd.

Manufacturer address: Xintang Industrial Zone, Qiubao Road, Qiuchang Town, Huiyang District, Huizhou City, Guangdong Province

Manufacturer contact information: Tel:

0752-6518111 Fax: 0752-3770000

## 2. Chemical composition and composition of the product:

Ingredients (Chinese name)	Ingredient ratio	Chemical substance identification code CAS#
Ethylene-vinyl acetate copolymer	66 %	24937-78-8
Calcium carbonate	10 %	471-34-1
Stearic acid	1.5 %	57-11-4
Di-tert-butylperoxyisopropylbenzene	0.5 %	25155-25-3
Azodicarbonamide	10 %	123-77-3
Zinc oxide	1 %	1314-13-2
Carbon Black	11 %	1333-86-4

## 3. Physical form and smell: Plate-like solid

## 4. Smell: Slight plastic smell

## 5. Physical properties:

Compression deformation rate: 4.5% or less

Elongation: 280 %

Tensile strength: 5kg~10kg/cm<sup>2</sup>

Water absorption rate: below 0.005 g/cm<sup>2</sup>

Density of each hardness product:

25 度 0.109g/cm<sup>3</sup>

38 度 0.101g/cm<sup>3</sup>

45 度 0.124g/cm<sup>3</sup>

60 度 0.201g/cm<sup>3</sup>

70 度 0.239g/cm<sup>3</sup>

80 度 0.325g/cm<sup>3</sup>

## 6. Chemical properties:

Benzene, acid and alkali resistant.

Temperature resistance: 65° starts to soften, 90° starts to melt and shrink.

Used at natural room temperature, it will start to age in 5 years.

Long-term use at a temperature above 40°C will start to age in 3 years.

Note: Aging means that it will turn into powder after oxidation.

## 7. Overview of health and hazards:

Health hazard: no hazard under normal operation and normal use.

Stability: extremely stable at room temperature.

Possible hazardous reactions under special circumstances: Will not occur  
Hazardous decomposition products: None  
Hazard category: Flammable, keep away from fireworks  
Intrusion route: None  
Environmental hazards: None  
Health effects: None  
Explosion hazard: This product is flammable

8. First aid measures:

Skin contact: Immediately cool the melted skin with plenty of water and follow the clinical treatment for burns. Eye contact: Lift the eyelids and rinse with running water or saline. Seek medical attention.  
Inhalation: Not necessary  
Ingestion: Induce vomiting and seek medical attention.

IX. Fire-fighting measures:

Hazardous properties: flammable, keep away from fireworks  
Fire extinguishing method: firefighters must wear gas masks and full-body fire suits and extinguish fires in the upwind direction. Fire extinguishing agents: water, foam, dry powder, carbon dioxide, sand.

10. Handling and storage:

Handling precautions: Keep away from fire and heat sources. Avoid contact with oxidants and chemicals. Storage precautions: Store in a cool, naturally ventilated warehouse for 10 years.  
Keep away from fire and heat sources.  
Store separately from oxidants and chemicals and avoid mixing. Equip with appropriate types and quantities of firefighting equipment.

11. Contact Control/Personal Protection:

Other protection: Smoking is strictly prohibited at the work site. Maintain good hygiene habits.

12. Product Usage:

Product use: Toys, shoes, bags, electronic appliances, packaging materials, handicrafts, color printing, silk screen printing, sports equipment protective equipment and other auxiliary materials.

13. Waste disposal:

Waste disposal method: Recycling, processing, reuse or incineration under the permission of local government and laws, or entrusting statutory waste disposal.

14. Transportation Information

Note: It should be put into packaging bags in rolls or sheets. It is strictly forbidden to mix and transport with oxidants, chemicals, etc. It should be prevented from high temperature during transportation.

15. Regulatory Information


Applicable regulations: None

# Material safety data sheet

## Article and manufacturer informatio

Item name :KTM-150F WM
Ohter name: NONE
Recommended use: heat hardening printing ink
Name of manufacturer or supplier: supplier - keyway Technology Co., Ltd Manufacturer - kaiyao Technology Co., Ltd
Address of manufacturer or supplier: supplier - No.18, Lane 646, Boai street, Zhubei City, Xinzhu County Factory - No.18, Lane 646, Boai street, Zhubei City, Xinzhu County
Emergency contact: (03) 555-1822 Fax: (03) 553-1338

## Hazard identification data

Hazard classification: flammable liquid, fire hazard Category 3, acute toxicity category 5.
Label content: flammable mixed solvent 
Symbols: warning:
Hazard warning message: flammable substances, may be harmful if inhaled.
Hazard prevention measures: tightly cover the container; keep away from the ignition source - no smoking; place the container in a well ventilated place; take off the clothes as soon as they are polluted; wear eye mask / face shield; do not eat or drink when using, and avoid release to the environment
Other hazards:

## Component identification data

INGREDIENTS	% by Wt	CAS No.
Polyester resin (polymer)	20~25%	28064-14-4
Mixed solvent	20~25 %	106-65-0 ; 1119-40-0 ; 627-93-0
Titanium dioxide	30~35%	13463-67-7
Filler	10~15 %	14807-96-6
Hexamethylene diisocyanate refers to oligomer	5~10 %	21093-51-6
Butyl acetate	1~5 %	627-93-0

## First aid measures

First aid methods of different exposure routes:
Inhalation:1. remove the patient to fresh air immediately. It can only cause nose irritation and may be harmful to people. Skin contact: 1. Immediately wash with water.
Eye contact: 1. Immediately open the eyelids and wash them with mild water.
Ingestion:
Most important symptoms:
Protection for first aid personnel: wear protective gloves to avoid contact with pollutants.
Tips for doctors:.

## Fire fighting measures

Suitable extinguishing agent: dry powder

Special hazards that may be encountered during fire fighting:

Special fire fighting procedures: 1. Remove the container from the fire site and put out the fire in the upwind.

2. Stop leakage without endangering personnel safety.

3. If the leakage cannot be stopped and the surrounding area is empty, the fire will burn out.

Special protective equipment for firefighters: Firefighters must wear air breathing apparatus, fire clothing and protective gloves.

## Leakage treatment method

Personal precautions: 1. Restrict personnel access until the overflow area is completely clean.

2. It is determined that the trained personnel are responsible for the cleaning work.

3. Wear appropriate personal protective equipment.

Environmental precautions:

1. Ventilate the area.

2. Extinguish or remove all sources of ignition.

3. Report to relevant units of safety, health and environmental protection of the government.

Cleaning method: 1. Do not touch the leakage. 2. Avoid discharging into sewer or other confined space. 3. Try to prevent or reduce the leakage under the condition of safety permission. 4. Use sand, soil or other absorbing substances that do not react with leakage substances to enclose the leakage. 5. In case of a small amount of leakage, absorb it with absorbent that will not react with the leakage. Contaminated absorbents and spills are equally hazardous and should be placed in properly capped and labeled containers. Flush the spill area with water. 6. In case of a large number of spills, contact the fire department, emergency treatment unit and supplier for assistance.

## Safe handling and storage methods:

Without special measures, it is not inflammable and explosive.

Storage: no corrosive container, no reactivity, low flammability, non flammable.

## Exposure precautions

Engineering control: local exhaust device or integral air exchange device.

Control parameters: eight hour daily average allowable concentration / short time

average allowable concentration / maximum allowable concentration:

Personal protective equipment: respiratory protection:

Hand protection: impervious gloves, butyl rubber recommended, Teflon, 4h, barricale, chemrel

Eye protection: 1. Goggles (minimum 8 inches). 2. splash proof safety goggles. 3. Do not wear contact lenses. Skin and body protection: chemical protective clothing.

## Physical and chemical properties

Material state: viscous paste liquid shape: paste liquid

Color: smell: Fragrance

PH value: slightly acidic boiling point / melting point range: OC /---

Decomposition temperature: flash point not measured:

Test method: open cup and close cup

Autoignition temperature: explosion limit: LEL: uel:

Vapor pressure: vapor density: > 1 (air 1)/

Specific gravity: 1.2 ~ 1.4 (25 / 25 °C) for water solubility:

Stability and reactivity

Stability: under normal conditions  
Possible hazardous reactions under special conditions:  
Conditions to avoid:  
Substances to be avoided: acids.  
Hazardous decomposition:

### Toxicity data

Exposure route: skin contact, eye contact, ingestion  
Symptoms: eye damage  
Acute toxicity: inhalation:  
Skin: causes mild irritation. Eyes: cause mild irritation. Ingestion:  
LD50 (test animal, absorption pathway) local effect:---  
Sensitization:---  
Chronic toxicity or long-term toxicity:  
Special effect:.

### Ecological data

Ecotoxicity:  
Durability and degradability:  
Bioaccumulation:  
Mobility in soil:  
Other adverse effects:

### Waste disposal method

Waste disposal method:  
1. Handle according to the current laws and regulations.  
Consider sanitary burying or burning in a qualified solvent burning tower.

### Delivery information

UN No:  
UN transport Name:  
Transportation hazard classification:  
Packing category:  
Marine pollutants (yes / no):  
Special delivery methods and precautions:-

### Other information

References: None  
Prepared by: kaiyao Technology Co., Ltd. / No.18, Lane 646, Boai street, Zhubei City, Xinzhu County/ Tel:03-5551822 / Fax:03-5531338  
Prepared by: Xie Jinquan  
Prepared on: August 15, 2014  
Note: the above information and data are for reference only. The user shall determine the feasibility of the application according to the application requirements.

# Material safety data sheet

## 一、Goods and manufacturer information

Item name: Halogen-free polyimide copper foil substrate(Halogen-free PI -CCL)
Item number: SHIS or SHID
Name of the manufacturer or supplier / Address / Telephone/Portraiture: Suzhou Serengeti Electronic Material Co., Ltd. /NO. 168 north Taiping road, Taicang city , Jiangsu Province, China/0512-5337 8333/0512-5337 8355
Emergency contact number/Phototelephony : 0512-5337 8333/0512-5337 8355

## 二、Component identification data

Pure substance :

Chinese and English names:	1. Halogen-free epoxy resin adhesive 2. Polyimide film 3. 3. Copper foil
Synonymous name:	-
Chemical Abstracts Agency Registration Number(CAS No.):	1. (Halogen-free epoxy resin adhesive) 24969-06-0 25% ~ 41.2% 2. (Polyphenylene amine membrane) 25038-81-7 17.4% ~ 39.6% 3. (Copper foil ) 7440-50-8 28.7% ~ 48%
Hazardous substance composition(percentage composition ):	< 15(Halogen-free epoxy resin adhesive)

## 三、Hazard identification data

Most important harm and effect	Health hazard effect: No harm to the human body.
	Environment effects: -
	Physical and chemical harm: -
	Special harm: -
Cardinal symptom: -	
Hazardous classification of articles: -	

## 四、Emergency treatment

First aid methods for different ways of exposure:
Inhalation: There is no way to inhale the film.
Skin contact: No stimulation.
Eye contact: No volatiles are allowed to touch.
Ingestion: There is no possible way for the film.
Most important symptoms and harmful effects: -
Protection of first aid personnel: -
Tips for doctors: -

## 五、Fire extinguishing measures

Applicable fire-extinguishing agent: Use a fire extinguishing agent suitable for isolating the fire site.
Special hazards that may be encountered at the time of fire-fighting: Inhalation of high-temperature pyrolysis substances.
Special fire-fighting program: -
Special protective equipment for firefighters: Wear air respirator and

protective gloves and fire-fighting clothes.

#### 六、Emergency strain of leakage

Individual considerations: Use of personal protective equipment.

Environmental consideration: -

Cleaning method: -

#### 七、Safety disposal and storage method

Handle: When operating, isolate from food and beverage.

Lay in: Store in a cool, dry and well-ventilated place.

#### 八、Exposure prevention measures

Engineering control: -

Controlling parameter:

Average allowable concentration of eight hours per day/Short time average allowable concentration/Maximum allowable concentration: -

Biological index: -

Personal protective equipment:

Respiratory protection : A dust-proof mask.

Hand protection : Gloves.

Eye protection: Safety glasses.

Skin and body protection: -。

#### 九、Physical and chemical properties

Material state:	Solid body	Form:	Membrane shape
Pigment:	Light brown ~ Dark brown(PI side)	Smell:	not have
PH value :	N/A	Boiling point/Boiling spread :	N/A
Decomposition temperature :	N/A	Flash point :	N/A test method : Open cup Closed cup
Autogenous ignition temperature :	N/A	Explosion limit :	N/A
Vapour pressure:	N/A	Vapour density :	N/A

#### 十、Stability and reactivity:

Stability:	Stable under normal condition
Possible hazardous reactions in special conditions:	-
The situation to be avoided:	-
Substance to be avoided:	-
Hazardous decomposition products:	High thermal decomposition to produce nitrogen, phosphorus oxidation gas.

#### 十一、Toxic data

Acute toxicity:	N/A
Local effect :	N/A
Sensitivity:	N/A



Chronic or long-term toxicity:	N/A
Special effects :	N/A

十二、Ecological data

Possible environmental impact/Environmental flow cloth:	-
---------------------------------------------------------	---

十三、Disposal method

Handle according to local environmental laws and regulations.
---------------------------------------------------------------

十四、Transport information

International shipping regulations:	Not available for IATA, ICAO. (Non-dangerous goods)
UN number :	--
Domestic transportation regulations:	--
Special delivery methods and matters needing attention:	--

十五、Regulatory data

Applicable regulations:	Applicable to RoHS, GP, WEEE.
-------------------------	-------------------------------

十六、Other data

Rdocument ation :	--		
Tabulating unit:	Name:	Suzhou Serengeti Electronic Material Co., Ltd.	
	Address/Telephone:	NO. 168 north Taiping road, Taicang city , Jiangsu Province/0512-5337 8333	
Lister:	Professional ranks and titles : Department Manager		Name: Huang long
Tabulation date:	16 February, 2019		
Remarks:	The symbol "--" in the above data indicates that there is no relevant information at present. All data and data are used for reference only. Users should judge their availability according to the application requirements.		

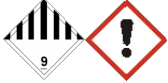
# Material Safety Data Sheet (MSDS)

## 一、物品与厂商资料

页数: 1/2

物品名称: FPC 电镀镍金 (Flexible Printed Circuit)
其他名称: FPC 镀镍金层
建议用途及限制使用: 通讯类产品
制造商或供货商名称: 东莞市飞扬电镀有限公司
制造商或供货商地址: 东莞市虎门镇凤凰山今机工业园 C 栋 202 车间
紧急联络电话/传真电话: 076981617804/076981617804

## 二、危害辨识数据

物品危害分类: 其他危险物、急毒性物质第 4 级 (吞食、皮肤、吸入)
标示内容: 
象 征 符 号: 其他危险物、惊叹号
警 示 语: 警告
危害警告讯息: 吞食有害、吸入有害
危害防范措施: 置容器于通风良好的地方; 避免皮肤、眼睛接触; 如遇意外或觉得不适, 立即洽询医疗
其他危害: -

## 三、成分辨识资料

混合物
中英文名称: 镍 (NICKEL) CAS NO.7440-02-0 百分比 98.95%
金 (Gold) CAS NO.7440-57-5 百分比 1%
光亮剂 / 百分比 0.05%
同义名称: 金手指镍金层
化学文摘社登记号码(CASE No):
危害物质成分(成分百分比):

## 四、急救措施

不同暴露途径之急救方法:
吸 入: -会刺激呼吸道
皮肤接触: 以肥皂及清水清洗接触部位
眼睛接触: 大量水冲洗 15 分钟以上, 并寻求医疗协助
食 入: 喝大量的水, 并寻求医疗协助
最重要症状及危害效应: 具刺激性。
对急救人员之防护: 应穿着 C 级防护装备在安全区实施急救
对医师之提示: 患者吸入时, 考虑给予氧气。吞食时, 考虑洗胃。

## 五、灭火措施

适用灭火剂:
二氧化碳、化学干粉、水雾、酒精泡沫。
灭火时可能遭遇之特殊危害:
加热至干, 盐将分解产生一氧化碳及二氧化碳。
特殊灭火程序:
1.喷水雾冷却暴露于火场中的容器。2.喷水雾冲开外泄物, 以免暴露。
消防人员之特殊防护装备:
配戴全身式化学防护服及空气呼吸器(必要时外加闪火铝质批覆外套)

## 六、物理及化学性质

页数: 2/2

	物质状态	颜色	气味	比重	熔点	沸点
NI	固态	银白色	无味	8.9	1453℃	2732℃
AU	固态	黄色	无味	19.3	1064℃	2807℃
光亮剂	液态	浅棕色	无味	1.1	NA	NA

## 七、安全处置与储存方法

处置:
避免接触眼睛皮肤及衣物, 穿戴个人防护用具, 不要吸入雾气
储存:
储存在凉爽干燥的地方

## 八、废弃物处置方法

废弃处置方法:
1.依现行法规处理。
2.依照厂家的处理先处理废弃物待处理的废弃物
3.依照国家地方政府有关工业废水排放标准规定执行

## 九、泄漏处理方法

个人应注意事项: 穿戴适当的个人防护装备。
环境注意事项: 对泄漏区通风换气。
清理方法: 以大量清水稀释, 并清洗排至水沟。

## 十、暴露预防措施

工程控制: 1.局部排气装置、2.整体换气装置、3.通风系统需用抗蚀材质, 并与其他排气系统分开。
---------------------------------------------------

控 制 参 数			
八小时日时量平均 容许浓度 TWA	短时间时量平均 容许浓度 STEL	最高容许 浓度 CEILING	生物指标 BEIs
1mg/m3	2mg/m3	-	-
个人防护设备： 呼吸防护：- 手部防护：防渗手套，材质以天然橡胶、丁基橡胶、聚乙烯醇为佳。 眼睛防护：化学安全护目镜、面罩。 皮肤及身体防护：上述橡胶材质之防渗衣服、工作鞋			
卫生措施： 1.工作后尽速脱掉污染之衣物，洗净后才可再穿戴或丢弃，且须告知洗衣人员污染物之危害性 2.工作场所严禁抽烟或饮食。3.处理此物后，需彻底洗手。4.维持作业场所清洁			

十一、安定性及反应性

安定性： 正常状态下安定，若加热至熔点，可能发生升华及分解。
特殊状态下可能之危害反应： 1.碱：可能发生剧烈反应，产生热及压力。2.氧化剂(如亚氯酸钠、次氯酸钠)：可能产生剧烈或爆炸性反应。 3.银：可能行程爆炸性草酸银。4.碱金属(如钠或钾)：可能剧烈反应生成易燃性的氢气。5.铁及铁化物(如氧化铁)：可能迅速反应行成草酸铁。6.酰基氯：可能剧烈反应，生成毒性熏烟。7.受热
应避免之状况：受热
应避免之物质： 1.碱。2.氧化剂 6.酸
危害分解物：无

十二、毒性资料

暴露途径：-
症状：-
急毒性：无 吸入：无 皮肤：无具刺激性 眼睛：无具刺激性 食入：无于口中及喉中产生灼热感、腹部疼痛、反胃、恶心、呕吐
慢性或长期毒性： 1.可能造成肾结石，排尿困难及疼痛。2.可能造成体重下降，上呼吸道慢性发炎。3.会造成皮肤局部疼痛、溃烂或坏死以及指甲变色。
十三、生态资料
生物毒性：LC50(鱼类)：- EC50(水生无脊椎动物)：- 生物浓缩系数：-
持久性及降解性：-
生物蓄积性：在体内不太会分解，大部分会以草酸或草酸钙盐形式由尿中排出，而此不溶盐会在体内蓄积如石头，造成肾及尿道结石。
土壤中之流动性：当释放至土壤中，可能会渗入地下水及生物分解。
其他不良效应：-

十四、运送资料

联合国编号：-UN1760CORROSIVE LIQUID
联合国运输名称：-
运输危害分类：第9类其他危险物质
包装类别：-
海洋污染物(是/否)：否
特殊运送方法及注意事项：-

十五、法规资料

适用法规： 1.劳工安全卫生设施规则。 2.危险物及有害物通识规则。 3.劳工作业环境空气中有害物容许浓度标准。 4.道路交通安全规则。 5.事业废弃物储存清除处理方法及设施标准。
-----------------------------------------------------------------------------------------------------------

十六、其他数据

参 考 文 献	MSDS 数据库
制 表 者 单 位	名称：东莞市飞扬电镀有限公司 地址/电话：东莞市虎门镇凤凰山今机工业园 C 栋
制 表 人	职称：品管员 姓名(签章)：李敏
制 表 日 期	2017/07/13
备 注	上述数据中符号 “-” 代表目前尚无相关数据，而符号 “/” 代表此字段对该物质并不适用



## Article Information Sheet

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This product is defined as an article based on the definition of an Article under China New Chemical Environmental Management Method MEP Decree No. 7, and does not require a Safety Data Sheet under Dangerous Chemical Safety Management Regulatory China State Council Decree No. 591 and China GB/T16483-2008 Safety Data Sheet for Chemical Products Content and Order of Sections. This article information sheet (AIS) is provided as a courtesy in response to a customer request. When used as recommended or under ordinary conditions, the product should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

**Document Group:** 07-7168-3  
**Issue Date:** 2015/05/19

**Version Number:** 1.00  
**Supersedes Date:** Initial Issue

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ 300LSE Adhesive Transfer Tapes: 8132LE, 8153LE, 9453FL, 9453LE, 9471FL, 9471LE, 9472FL, 9472LE, 9472LEU, 9653LE, 9671LE, 9672LE and 9698LE

**Other means of identification**

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Bonding & Attachment, Industrial use

#### 1.3. Supplier's details

**Company:** 3M Company  
**Division:** Industrial Adhesives and Tapes Division  
**ADDRESS:** 3M Center, St. Paul, MN 55144, USA  
**Phone:** 021-22105335  
**FAX:** 021-22105036  
**E Mail:** Tox.cn@mmm.com  
**Website:** www.3m.com.cn

#### 1.4. Emergency telephone number

021-22105335

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

This product is considered to be an article and is exempt from GHS classification.

3M™ 300LSE Adhesive Transfer Tapes: 8132LE, 8153LE, 9453FL, 9453LE, 9471FL, 9471LE, 9472FL, 9472LE, 9472LEU, 9653LE, 9671LE, 9672LE and 9698LE

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Paper or Film Liner	Mixture	Not Applicable
Acrylic Polymer Adhesive	Trade Secret	100

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:**

No need for first aid is anticipated.

**Skin Contact:**

No need for first aid is anticipated.

**Eye Contact:**

No need for first aid is anticipated.

**If Swallowed:**

No need for first aid is anticipated.

## SECTION 5: Fire-fighting measures

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Not applicable.

### 6.2. Environmental precautions

Not applicable.

### 6.3. Methods and material for containment and cleaning up

Not applicable.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

### 7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical

3M™ 300LSE Adhesive Transfer Tapes: 8132LE, 8153LE, 9453FL, 9453LE, 9471FL, 9471LE, 9472FL, 9472LE, 9472LEU, 9653LE, 9671LE, 9672LE and 9698LE

under normal use conditions. No engineering controls or personal protective equipment (PPE) are necessary.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Roll of Tape
Appearance/Odor	Translucent adhesive, slight acrylate odor, paper or film quick release liner
Odor threshold	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point/Freezing point	<i>No Data Available</i>
Boiling point/Initial boiling point/Boiling range	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Density	<i>Not Applicable</i>
Relative Density	<i>Not Applicable</i>
Water solubility	Nil
Solubility- non-water	<i>Not Applicable</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H2O & Exempt Solvents	<i>Not Applicable</i>

## SECTION 10: Stability and reactivity

This material is considered to be non reactive under normal use conditions.

## SECTION 11: Toxicological information

### Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

### Skin Contact:

No health effects are expected

### Eye Contact:

No health effects are expected

### Ingestion:

No health effects are expected

### Additional Information:

This product, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use

**3M™ 300LSE Adhesive Transfer Tapes: 8132LE, 8153LE, 9453FL, 9453LE, 9471FL, 9471LE, 9472FL, 9472LE, 9472LEU, 9653LE, 9671LE, 9672LE and 9698LE**

may affect the performance of the product and may present potential health and safety hazards.

## **SECTION 12: Ecological information**

This article is expected to present a low environmental risk either because use and disposal are unlikely to result in a significant release of components to the environment or because those components that may be released are expected to have insignificant environmental impact.

## **SECTION 13: Disposal considerations**

Dispose of contents/container in accordance with the local/regional/national/international regulations.

## **SECTION 14: Transport Information**

Not hazardous for transportation.

## **SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

This product is an article and is exempted from Measures on Environmental Management of New Chemical Substances and from IECSC inventory listing requirements.

## **SECTION 16: Other information**

### **References**

United Nations 'Recommendations on the Transport of Dangerous Goods - Model Regulations '

United Nations 'Globally Harmonized System of Classification and Labelling of Chemicals (GHS)'.

### **Revision information:**

Conversion to AIS.

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**3M People's Republic of China AISs are available at [www.3m.com.cn](http://www.3m.com.cn)**

## MATERIAL SAFETY DATA SHEET

### 物 质 安 全 资 料 表

#### 1 、 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION 产品和公司资料

##### 1.1PRODUCT NAME: Polyimide reinforcement plate

产品名称: Pi 补强片

##### 1.2PRODUCT USE: Flexible printed circuit Boards.

用途: 用于挠性印制电路板.

##### 1.3Product Model 产品型号

Model:HS2025、HS3025、HS4025、HS5025、HS6025、HS7025、HS8025、HS9025、HS10025

##### 1.4 公司名称及地址: 深圳市溢海通电子有限公司

NAME of COMPANY and ADDRESS: Shenzhen YiHaiTong Electronics Co.,ltd

广东省深圳市宝安区沙井后亭第二工业区 57 号福新大厦 B 栋 602

Building B, Fuxin Chuangke Building,  
No.57 Baoan District, Shenzhen, China

Shajing Houting Second Industrial Zone,

FOR MORE INFORMATION CALL:

IN CASE OF EMERGENCY CALL:

紧急联络电话: (Monday~Saturday,9:00am~6:00pm) (24Hours/Day, 7 Days/Week)

0755-33238080

0755-33238080

#### 2 、 COMPOSITION INFORMATION ON INGREDIENTS 组成成份资料

##### 2.1 The main ingredient 主要成分

Ingredient name chemical abstract number weight ratio 成分名称 化学文摘号 重量比

Polyimide film 25038-81-7 30-50% 聚酰亚胺薄膜 25038-81-7 30~50%

Remove 10-25% of the release film / paper when it is used 离形膜/纸 使用时撕掉 10~25%

Acrylates 141-32-2 25-40% 丙烯酸酯 141-32-2 25~40%

Acrylic acid 79-10-7 10-20% 丙烯酸 79-10-7 10~20%

##### 2.2 hazardous ingredients 危害物质成分

No. SGS Test Report:No.CANML1412085401, No.CANML1412085402

##### 2.3 Molecular Structure:分子结构

#### 3 、 HAZARDS IDENTIFICATION 危害性资料



3.1 hazard class filled by GB13690-92 " Classification of hazardous chemicals used and signs " requirement.:

危险性类别 按 GB13690-92 《常用危险化学品的分类及标志》规定填写。

Insoluble in water, no melting point , soluble in acid, alkali .

不溶于水，无熔点，易溶于强酸、强碱。

3.2Anonflammable sheet material, Fumes if decomposed may irritate eyes、nose and throat..

是一种难燃的片状材料。当分解时产生的气体会刺激眼睛、鼻和咽喉。

POTENTIAL HEALTH HAZARDS:

3.3 Abrief description of the extent of environmental harm when hazards caused by certain concentrations of various chemical and biological harm .

环境危害 简要描述化学品在一定浓度时对各种生物造成的危害及其造成危害的程度。

Produces CO2 and CO decomposition.

分解时会产生 CO2 和 CO。

3.4SKIN: Adhesive may cause moderate skin irritation.

皮肤：胶粘剂可能导致中等程度皮肤过敏。

3.5EYES: Adhesive may cause eye moderate irritated, Fumes may irritate eyes.

眼睛：胶粘剂可能导致中等程度眼睛过敏。

3.6INHALATION : Trace of chemical solvents may diffused to air in the processes of varnish preparation and coating production.

吸入物：在涂覆生产过程中，会有很少量化学溶剂挥发出来。

3.7INGESTION: Not determined.

摄食：没有参考值。

4 、 FIRST AID MEASURES 首要援助措施

SKIN: Washing the contaminated clothing in flowing water.

皮肤：脱下已污染衣服，用流动水冲洗。

EYE: Washing with flowing water for 15 minutes, consult the physician If irritation persists.

眼睛：用流动水冲洗 15 分钟，如过敏现象持续发生，请求助于医生。

INHALATION : Such as dust, smoke to much move to fresh air. If can not breathe, give mouth-to-mouth resuscitation and Call physician.

吸入：如粉末烟尘太多请转移到有新鲜空气的地方，如没有呼吸，请进行人工呼吸，并致电医生。

INGESTION: If large amounts are ingested, consult physician.

摄食：如摄入大量，请致电医生。

ADVICE TO PHYSICIAN: Treat symptomatically.

建议医生：处理出现的症状。

5 、 FIRE FIGHTING MEASURES 火灾测试

FLAMMABLE PROPERTIES: N/A

易燃烧性：不适用

FLASH POINT: N/A

闪点：不适用

FLASH POINT METHOD: N/A

闪点方式：不适用

**AUTOIGNITION TEMPERATURE:** Not determined

自燃点温度：无规定

**UPPER FLAME LIMIT (Volume% in air) :** N/A

燃烧上限：不适用

**LOWER FLAME LIMIT (Volume% in air) :** N/A

燃烧下限：不适用

**FLAME PROPAGATION RATE (Solids) :** UL94 V-0

燃烧等级：UL94 V-0

**OSHAFLAMMABILITY CLASS:** N/A

燃烧级别：不适用

**EXTINGUISHING MEDIA:** Water, CO<sub>2</sub> and dry chemical.

灭火介质：水、CO<sub>2</sub> 及干化学品

**SPECIAL FIREFIGHTING PRECAUTIONS/INSTRUCTIONS:**

特别火灾指导：

Firemen should wear proper protective equipment and positive pressure self-contained breathing apparatus.

消防员须身穿保护装置及正压呼吸设施。

## 6 、 ACCIDENTAL RELEASE MEASURES 意外事故的应变措施

**IN CASE OF SPILL OR OTHER RELEASE :** ( Always wear recommended personal protection equipment )

如有泄漏或其他释放：（通常身穿所推荐的保护设施）

Not applicable for the solid material.

不适用于固体材料。

Spills and releases may have to be reported to local authorities.

有关泄漏应报告当地政府。

## 7 、 HANDLING AND STORAGE 仓贮指南

**7.1 Handling Precautions** refers to the process of the operation of the safety of chemicals and personal protection points to note.

操作注意事项 指对化学品操作过程中的安全注意要点和个体防护。

No.

暂无.

### 7.2 Storage Precautions 存储注意事项

a) disposal: storage spaces non fireworks ,sit housekeeping standards to prevent dust.

处置：存放场所严禁烟火，做好整理、整顿以避免灰尘。

b) Storage: high stability, non-reactive under normal storage conditions.

存储：稳定性高，正常的存储条件下无反应。

## 8 、 EXPOSURE CONTROLS / PERSONAL PROTECTION 泄漏控制 / 个人保护

**ENGINEERING CONTROLS:** Use local exhaust ventilation to control dust..

工程控制：使用当地除尘通风设施。

**PERSONAL PROTECTIVE EQUIPMENT:** 个人保护措施：

**SKIN PROTECTION :** For brief contact to dust,no precautions other than clean bodycovering clothing should

needed.Use gloves and aprons when prolonged or frequently repeated contact occurs.

皮肤保护：对于短暂性的接触粉尘，需要时清洗身体或衣服，无预防措施。对于长期性的接触，要配

带手套和围裙。

**EYE PROTECTION:** Use appropriate eye protection when machining material.

眼睛保护：当加工材料时使用眼睛保护装置。

**RESPIRATORY PROTECTION:** When respiratory protection is required for certain operations, use a NIOSH-approved dust respirator.

呼吸保护：当进行产生大量粉尘的操作时使用规范的粉尘防毒面罩。

**ADDITIONAL RECOMMENDATIONS:** N/A

其它建议：不适用。

## **9 、 PHYSICAL AND CHEMICAL PROPERTIES** 物理化学性能

### **9.1 Appearance products** 产品外观

Yellow 、 brown 、 black and so on, odorless solid flake materials

黄色，棕色和黑色等，无味固体片状材料。

### **9.2 PHYSICAL STATE:** Solid

物理形态：固体

### **9.3 ODOR:** None, unless heated

气味：无味，除非加热

### **9.4 Heat of combustion**

燃烧热 94-V0

### **9.5 SOLUBILITY IN WATER:** (Weight%) Negligible in water

水溶性：（重量%）在水中可忽略

### **9.6 The main purpose** 主要用途

Mainly used in packing, printing, screen printing, pad printing, nameplates, membrane switches, flexible circuits,

Insulation products, circuit boards, laser security, laminating , electronic, film sealing material, reflective materials,

Waterproof material, medicine(plaster with paper),toilet paper, adhesive, die punching processing and other industries.

主要应用于包装、印刷、丝印、移印、铭板、薄膜开关、柔性线路、绝缘制品、线路板、激光防伪、

贴合、电子、密封材料用膜、反光材料、防水材料、医药（膏药用纸）、卫生用纸、胶粘制品、模切冲型

加工等行业领域。

## **10 、 STABILITY AND REACTIVITY** 稳定性及反应性

### **10.1 NORMALLY STABLE:** (conditions to avoid) Stable

通常稳定：稳定

### **10.2 INCOMPATIBILITIES:** Not determined

不兼容性：不确定

### **10.3 HAZARDOUS POLYMERIZATION?** None

危险聚合物：无

### **10.4 Condition to avoid** 避免接触的条件

Not available: 无资料

#### 10.5Decompositon products 分解产物

Produces Co 2 and Co decomposition.

分解时会产生 Co 2 和 Co.

#### 11 、 TOXICOLOGICAL INFORMATION 毒物学的资料

##### 11.1Acute Toxicity 急性毒性

N/A

##### 11.2Subacute and chronic toxicity 亚急性和慢性毒性

N/A

##### 11.3Irritating 刺激性

N/A

##### 11.4Sensitization 致敏性

N/A

##### 11.5Mutagenicity 致突变性

N/A

##### 11.6Carcinogenicity 致癌性

N/A

##### 11.7Other 其他

N/A

#### 12 、 ECOLOGICAL INFORMATION 生态学资料

Not Biodegradable

非生物降解。

#### 13 、 DISPOSAL CONSIDERATIONS 处置问题

Is the unused product a hazardous waste substances list of country hazardous waste if discarded? No.

列入国家危险废物名录的危险废物不能够再利用时是否被丢弃? 不。

OTHER DISPOSAL CONSIDERATIONS : Dispose must be made in accordance with all applicable Local

regulations.

其它处置问题: 处置必须遵循当地的法律法规。

Suggestion method after products will be discarded :

(1)、Separate reuse method: crush products into powder, recycling as a filler.

(2)、Incineration method: incinerate the unused products, this method may cause organic compound gas.

(3)、Bury into deep earth.

产品报废之后有以下几种处置方法:

(1)、分离法: 将产品粉碎, 可作填充料;

(2)、焚烧法: 焚烧过程中可能产生有机化合物气体;

(3)、填埋法。

#### 14 、 TRANSPORT INFORMATION 运输资料

For additional information on shipping regulations affecting this material,contact the information number found

on the first page.

附带资料是当运输规则影响到物料时, 请和第一页所提供的联系方式联系。

#### 15 、 REGULATORY INFORMATION 法规资料

### 15.1 Domestic Chemical Safety regulations 国内化学品安全管理法规

“Material Safety Data Sheet preparation specified range” GB/T 16483-2008

《化学品安全技术说明书编写规定范围》GB/T 16483-2008

“Chemical Dangerous Goods Safety Management Regulations” (February 17, 1987 the State Council issued).

《化学危险物品安全管理条例》（1987 年 2 月 17 日国务院发布）

“Common Hazardous Chemicals and signs” (GB13690-1992).

《常用危险化学品的分类和标志》（GB13690-1992）

“Air Pollutant Emission Standards” GB16297-1996

《大气污染物综合排放标志》GB16297-1996

“Sour gas transportation safety regulations” SY6506-2000

《含硫气田安全输送规程》SY6506-2000

“Chemical Dangerous Goods Safety Management Regulation implementing rules” (the Labor Fa[1992] No.677)

《化学危险物品安全管理条例实施细则》（化劳发【1992】677 号）

“Industrial sites safe use of chemicals” (1996 workers are No.423)

《工业场所安全使用化学品规定》(1996 劳都发 423 号)

“Dangerous Goods Classification and code ” GB6944-1986

《危险货物分类和品名编号》GB6944-1986

“Transport of Dangerous Goods Package CATEGORY principle” GB/T15098-1994

《危险货物运输包装类别划分原则》GB/T15098-1994

“Transport of Dangerous Goods Management Regulations” (formerly the Ministry of Railways issued)1995

《危险货物运输管理规则》（原铁道部颁布）1995 年

These laws and regulations for the safe use of hazardous chemicals, production, storage, transport, handling, etc.

are made relevant regulations.

以上法规对化学危险品的安全使用，生产，存储，运输，装卸等方面均做了相关规定。

附 加 法 规 资 料 :

Shenzhen YIHAITONG Electronic Co., Ltd. does not use PBBs or PBDEs as flame retardant in the resin system of the products 深圳市溢海通电子有限公司 没有采用多溴联苯或多溴联苯醚作为阻燃剂在产品的树脂体系当中

16 、 OTHER INFORMATION 其它资料 CURRENT ISSUS DATE: 现在版本日期: 2015-11-12

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# Material Safety Data Sheet

**ITEM : PSM-800@ /SMH-800**

Identity (Trade Name As Used On Label)

## SECTION 1 IDENTIFICATION

Manufacturer

**UNIRES CHEMICAL INDUSTRIAL CO.,LTD.**

Address

**22CHING CHIAN 4<sup>th</sup>RD.KUANYIN INDUSTRIAL**

**DISTRICT TAOYUAN HSIEN TAIWAN**

Phone Number (For Information)

886-3-4836651 (fax)886-3-4837487

Emergency Phone Number

Telex \* **886-3-4836651**

MSDS Number\* **20110701AAA**

CAS Number\*

**07/01/2011**

Data Prepared

**HUANG CHIN HUAI**

Prepared By\*

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS No.	CONTENTS(%)	OSHA (PEL)	ACGIH (TLV)
Heavy aromtic naphtha(petroleum)	64742-94-5	<12%	N.D.	N.D.
Epoxy-Acrylic derivative	Trade secret	<48%	N.D.	N.D.
Barium sulfate	7727-43-7	<20%	dust 15mg/m3	10mg/m3
Silica, amorphous, fused	7631-86-9	<8%	N.D.	dustTLV10mg/m3
Dipropylene glycol methyl ether	34590-94-8	<12%	100ppm	200ppm

## SECTION 3 HAZARDS IDENTIFICATION

INHALATION : Highly concentrated vapor irritates nose, throat ant and lungs. May cause headache and dizziness.

EYE CONTACT : Slight irritation

SKIN CONTACT : Slight irritation

INGESTION : Harmful, if swallowed.

## SECTION 4 FIRST AID MEASURES

SKIN CONTACT : Wash with plenty of water using a soap. Do not use organic solvents.

EYE CONTACT : Rinse immediately with clean water for at least 15 minutes. If irritation persists, seek medical attention

INHALATION : Immediately carry the victim to a place where fresh air is available. If irritation persists, treat with oxygen and seek medical attention.

INGESTION :obtain medical advice immediately. It is not recommended that vomiting be induced except on medical advice

<b>SECTION 5</b>	<b>FIRE-FIGHTING MEASURES</b>
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SUITABLE EXTINGUISHING MEDIA	: Carbon dioxide, foam, powder.
UNSUITABLE EXTINGUISHING MEDIA	: water spray and water jet.
EXPOSURE HAZARDS	: Burning may release oxides of carbon, nitrogen, sulfur and other toxic gases or vapors. Do not release chemically contaminated water into drains or surface waters, and soil according to local regulations.
PROTECTIVE EQUIPMENT	: Use full protective clothing and self-contained breathing apparatus.
FIR FIREFIGHTERS MEASURES	: promptly move transferable containers to another safety area .Check the speed of fire. Extinguish the fire with suitable extinguisher from the windward side

<b>SECTION 6</b>	<b>ACCTDENTAL RELEASE MEASURES</b>
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PERSONAL PRECAUTION	: Avoid ignition sources. Avoid contact with skin, eyes and clothing. Avoid inhaling vapor.
ENVIRINMENTAL PRECAUTIONS	: Prevent contamination of soil, drains and surface waters
METHODS FOR CLEANING	: Scoop up or absorb into combustible material, wipe out a stain in use organic solvents. Dispose in accordance with local regulations.

<b>SECTION 7</b>	<b>HANDLING AND STORAGE</b>
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HANDLTNG	: Handle with care. Avoid ignition sources. Ensure good ventilation and local exhaust. Do not smoke at the workplace
STORAGE	: Store in the original sealed container at less than 20°C.Avoid direct exposure to UV and sunlights.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS/PERSINAL PROTECTION</b>
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People who know they are chemically sensitive, should avoid contact with this product.

TECHNICAL PROTECTIVE MEASURES	: No special safety measures required.
EXPOSURE CONTROL LIMITS	: (see PEL and TLV values shown in shown in section 2)
RESPIRATORY PROTECTION	: Wear suitable mask to avoid inhalation of vapor.
HAND PROTECTION	: wear chemical resistant gloves.
EYE PROTECTION	: wear safety glasses.
SKIN PROTECTION	: wear suitable protective working cloths.

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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BOILING	: *156°C(760mmHg)	COLOR	: <b>black</b>
FLASH	: 75.0°C	FORM	: Paste
VAPOR PRESSURE	: * 2.00mmHg(40°C)	VAPOR DENSITY	: *6.08(Air=1)
SOLUBILITY IN WATER	: * <10.7wt%	ODOR	: Mild odor
		SPECIFIC GRAVITY	: 1.18

\*Data of the organic solvents or monomers contained in this product is product is quoted.

<b>SECTION 10</b>	<b>STABILITY AND REACTIVITY</b>
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STABILITY : Stable  
CONDITIONS TO AVOID : Heat and sunlight.  
MATERIALS TO AVOID : Strong acids, strong bases, peroxides and strong oxidizing agents.  
HAZARDOUS DECOMPOSITION PRODUCTS : Burning may release oxides of carbon, nitrogen, sulfur and other toxic gases or vapors.

<b>SECTION 11</b>	<b>TOXICOLGICAL INFORMATION</b>
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PRIMARY ROUTE(S) OF ENTRY  
☒ DERMAL      ☒ INHALATION      ☐ INGESTION

TOXICITY STUDIES : Toxicity studies have not been carried out in this product. Toxicity information available for the ingredients listed in section 2 is given below.

HEALTH HAZARDS  
ACUTE INGESTION TOXICITY : N.E.  
ACUTE SKIN IRRITATION : Slightly irritant  
MUTAGENICITY : NONE

CARCINOGENICITY  
☐ NTP      ☐ IARC      ☐ OSHA      ☒ NOT LISTED

SYMPTOMS OF OVER EXPOSURE  
INHALATION : Slight irritation to respiratory tract. Highly concentrated vapor may cause headaches, and nausea.  
EYES : Slight irritation  
SKIN : Slight irritation  
INGESTION : Expected to have a low order of toxicity.

<b>SEVTION 12</b>	<b>ECOLOGICAL INFORMATION</b>
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ACUTE FISH TOXICITY : Ecological data are not available  
BIODEGRADABILTY : No data available.

<b>SEVTION 13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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Incineration or landfill in accordance with local regulations.

<b>SEVTION 14</b>	<b>TRANSPORT INFORMATION</b>
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ADR : Inflammable liquid  
IMDG-CODE : Free  
IATA : Free  
US DOT : Combustible liquid



UN : Free  
FLASH POINT : 75.0°C

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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EEC LABELING : Harmful

RISK PHRASES : Harmful : may cause lung damage if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES : Avoid contact with skin.  
: Do not breathe vapor.  
: If swallowed, do not induce vomiting :seek medical advice immediately and show this container or label.  
: Avoid release to the environment. Refer to special instructions/Safety data sheets.

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.

It may not be valid for this material, if used in combination with any other materials.