

安全資料表 SAFETY DATA SHEET

一、物品與廠商資料

Section 1 - Chemical Product and Company Identification

物品名稱：陶瓷晶片電阻 Product Name : Chip-Resistor
其他名稱：----- Other name : -----
建議用途及限制使用：電器產品之內部組件 Recommended use and restrictions on use : Electronic and electric products.
製造商或供應商名稱：華新科技股份有限公司 Manufacture or vender name : Walsin Technology Corporation
製造商或供應商地址：台灣桃園市楊梅區高獅路 566-1 號 Manufacture or vender address : 566-1, Kao-Shi Road, Yang, Tao Yuan, Taiwan
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二、危害辨識資料

Section 2 - Hazards Identification

物品危害分類：不適用 Product hazard class : Not Available.
標示內容：無 Label content: Not Available.
其他危害：無 Other hazards : Not Available.

三、成分辨識資料

Section 3 - Composition/information on ingredients Pure material/Mixtures

WR04xxxxxxxL		重量 Weight(mg)	0.58	
物質 Substance	化學文摘社號碼 CAS No.	化學式 Formula	主要用途 Main purpose	典型% Typical %
三氧化二鋁 Aluminum oxide	1344-28-1	Al ₂ O ₃	Substrate	83.9144
二氧化矽 Silicon dioxide	14808-60-7	SiO ₂	Substrate	1.6127
過氧化鈣 Calcium Peroxide	1305-79-9	CaO	Substrate	0.1984
氧化鎂 Magnesium oxide	1309-48-4	MgO	Substrate	0.5175
銀 Silver	7440-22-4	Ag	Backside layer	1.6284
氧化鉍 Bismuth oxide	1304-76-3	Bi ₂ O ₃	Backside layer	0.4140
過氧化鈣 Calcium oxide	1305-78-8	CaO	Backside layer	0.1656
氧化矽 Silicon oxide	11126-22-0	SiO	Backside layer	0.1104
三氧化二鋁 Aluminum oxide	1344-28-1	Al ₂ O ₃	Backside layer	0.1104
樹脂 Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) _{3-n} (OC ₂ H ₅) _n] _x	Backside layer	0.3312
銀 Silver	7440-22-4	Ag	Topside layer	2.7158
鈀 Palladium	7440-05-3	Pd	Topside layer	0.0197
無鉛玻璃膏 Lead Free Glass	65997-18-4	Lead Free Glass Frit	Topside layer	0.1673
樹脂 Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) _{3-n} (OC ₂ H ₅) _n] _x	Topside layer	0.3772
銀 Silver	7440-22-4	Ag	Resistive layer	0.3433
鈀 Palladium	7440-05-3	Pd	Resistive layer	0.1373
氧化鈳 Ruthenium Dioxide	12036-10-1	RuO ₂	Resistive layer	0.0515

氧化鉛 Lead oxide	1317-36-8	PbO	Resistive layer	0.1717
氧化矽 Silicon oxide	7631-86-9	SiO ₂	Resistive layer	0.2575
無鉛玻璃膏 Lead Free Glass	65997-18-4	Lead Free Glass Frit	Resistive layer	0.0687
無鉛玻璃膏 Lead Free Glass	65997-18-4	Lead Free Glass Frit	Primary coating	0.9880
色料(三氧化二鉻) Pigment(Chromium(III) Oxide)	1308-38-9	CR ₂ O ₃	Primary coating	0.0073
樹脂 Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) _{3-n} (OC ₂ H ₅) _n] _x	Primary coating	0.0447
環氧樹脂 Epoxy Resin	25068-38-6	(C ₁₅ -H ₁₆ -O ₂ · C ₃ -H ₅ -C ₁ -O) _x	Protective coating	0.7600
聚合物 Polymer	29661-89-0	(C ₈ H ₁₀ · C ₆ H ₆ O · CH ₂ O) _x	Protective coating	0.8360
銅鉻黑 Color pigments	68186-91-4	Color pigments	Protective coating	0.4560
二氧化矽 Silicon dioxide	60676-86-0	SiO ₂	Protective coating	1.1020
滑石粉 Talc	14807-96-6	3MgO-4SiO ₂ -H ₂ O	Protective coating	0.1900
添加物 Additives	2530-83-8	C ₉ H ₂₀ O ₅ Si	Protective coating	0.4560
鎳 Nickel	7440-02-0	Ni	Side termination	0.0935
鉻 Chromium	7440-47-3	Cr	Side termination	0.0735
鎳 Nickel	7440-02-0	Ni	Plating Ni	0.9200
錫 Tin	7440-31-5	Sn	Plating Sn	0.7600

四、急救措施

Section 4 - First Aid Measures

不同暴露途徑之急救方法：

The first aid measures for different exposure routes:

- 吸入：非蒸發性物質
- Inhalation : Not Available.

- 皮膚接觸：無過敏反應
- Skin contact : Not Available.

- 眼睛接觸：不會接觸眼睛
- Eye contact : Not Available.

- 食入：不會食入
- Ingestion : Not Available.

最重要症狀及危害效應：無

The most important symptoms and hazardous effects : None.

對急救人員之防護：無

The protection of first-aiders : None.

對醫師之提示：不適用

Notes to Physician : None.

五、滅火措施

Section 5 - Fire-fighting measures

適用滅火劑：不燃物質

Suitable fire extinguishing media : This product is incombustible.

滅火時可能遭遇之特殊危害：無

Specific hazards may be encountered during fire-fighting : None.

特殊滅火程序：無

Specific fire-fighting methods : No.

消防人員之特殊防護設備：無

Special equipment for the protection of firefighters : No.

六、洩漏處理方法

Section 6 - Accidental release measures

個人應注意事項：無

Personal precautions : No.

環境注意事項：無

Environmental precautions : No.

清理方法：無

Methods for cleaning up : No.

七、安全處置與儲存方法

Section 7 - Handling and storage

處置：一般處置

Handling : No special advice.

儲存：依濕敏感係數等級一之方法貯存。

Storage : Following the method defined in MSL level 1.

八、暴露預防措施

Section 8 - Exposure controls/personal protection

工程控制：無

Engineering control: No

控制參數：

Control parameters :

· 八小時日時量平均容許濃度/短時間時量平均容許濃度/最高容許濃度：無

· 8 hours time weighted average exposure limits/Short-term exposure limits/maximum exposure limits : No.

· 生物指標：無

· Biological standards : No.

個人防護設備：

Personal protective equipment :

· 呼吸防護：無

· Respiratory protection : No.

· 手部防護：無

· Hand protection : No.

· 眼睛防護：無

· Eye protection : No.

· 皮膚及身體防護：無

· Skin and body protection : No.

衛生措施：無特殊要求

Hygiene measures: No special requirement.

九、物理及化學性質

Section 9 - Physical and chemical properties:

外觀（物質狀態、顏色等）：四方陶瓷體 Appearance (physical state, color, etc.) : Cuboid ceramic.	氣味：無 Odor : No.
嗅覺閾值：無 Odor threshold : No defined.	熔點：1500 °C Melting point: 1500 °C
pH值：不適用 pH value : Not available.	沸點/沸點範圍：未測試 Boiling point/boiling point range: Not be tested.
易燃性（固體、氣體）：不燃 Flammability (solid, gas) : incombustible.	閃火點：°F °C：未測試 Flash point: °F °C : Not be tested.
分解溫度：未測試 Decomposition temperature : Not be tested.	測試方法：開杯閉杯 Test method : Open cup Closed cup.
自燃溫度：不燃 Auto-ignition temperature: incombustible.	爆炸界限：不會爆炸 Explosion limits : Not Available.
蒸氣壓：--- Vapor pressure: Not Available.	蒸氣密度：不適用 Vapor density : Not Available.
密度：≙ 4 Density: ≙ 4	溶解度：不適用 Solubility : Not Available.
辛醇／水分配係數（log Kow）--- Partition coefficient (n-octanol/water, log Kow) : ---	揮發速率：不適用 Evaporation rate : Not Available.

十、安定性及反應性

Section 10 - Stability and reactivity

安定性：安定

Stability : Stable.

特殊狀況下可能之危害反應：無

Possible hazardous reactions under specific conditions : No.

應避免之狀況：無

Conditions to avoid : No.

應避免之物質：無

Materials to avoid : No.

危害分解物：無

Hazardous decomposition products : No.

十一、毒性資料

Section 11 - Toxicological information

暴露途徑：不適用

Routes of exposure: Not available.

症狀：無

Symptoms: No.

急毒性：無

Acute toxicity: No.

慢性或長期毒性：無

Chronic toxicity or long term toxicity: No.

十二、生態資料

Section 12 - Ecological information:

生態毒性：無

Ecotoxicity: No.

持久性及降解性：---

Persistence and degradability: ---

生物蓄積性：---

Bioaccumulative potential: ---

土壤中之流動性：---

Mobility in soil: ---

其他不良效應：無

Other adverse effects: No.

十三、廢棄處置方法

Section 13 - Disposal considerations

廢棄處置方法：依當地環保法規之規定處理

Methods of waste disposal: Follow the local regulation.

十四、運送資料

Section 14 - Transport information

聯合國編號：不適用

United Nations number (UN No): Not available.

聯合國運輸名稱：不適用

UN Proper shipping name: Not available.

運輸危害分類：不適用

Transport hazard class (es): Not available.

包裝類別：不適用

Packing group: Not available.

海洋污染物（是/否）：否

Marine pollutant (Yes/No): No.

特殊運送方法及注意事項：無

Specific transport measures and precautionary conditions: No.

十五、法規資料

Section 15 - Regulatory information

適用法規：2011/65/EU, EC-1907-2006

Applicable regulations: 2011/65/EU, EC-1907-2006

十六、其他資料

Section 16 - Other information

參考文獻 Literature references		
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