

1. Chemical Product and Company Identification

Product Name

Chip-Resistor

Name of Manufacturer or Supplier of the goods

Premier Farnell plc

150 Armley Road, Leeds, LS12 2QQ

+44 (0) 8701 202530

Emergency telephone number

+44 1865 407333

2. Hazards Identification

Product hazard class : Not Available

Product hazard class : Not Available

Other hazards : Not Available

3. Composition/information on ingredients Pure material/Mixtures

Substance	CAS No.	Formula	Main purpose	Typical %
Aluminium oxide	1344-28-1	Al ₂ O ₃	Substrate	90.3839
Silicon dioxide	14808-60-7	SiO ₂	Substrate	2.3538
Magnesia	1309-48-4	MgO	Substrate	1.4123
Silver	7440-22-4	Ag	Backside layer	0.3776
Bismuth oxide	1304-76-3	Bi ₂ O ₃	Backside layer	0.0960
Calcium oxide	1305-78-8	CaO	Backside layer	0.0384
Silicon oxide	11126-22-0	SiO	Backside layer	0.0256
Aluminium oxide	1344-28-1	Al ₂ O ₃	Backside layer	0.0256
Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) ₃ -n(OC ₂ H ₅) _n] _x	Backside layer	0.0768
Silver	7440-22-4	Ag	Topside layer	1.1537
Lead Free Glass	65997-18-4	Lead Free Glass Frit	Topside layer	0.0695
Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) ₃ -n(OC ₂ H ₅) _n] _x	Topside layer	0.1668
Silver	7440-22-4	Ag	Resistive layer	0.3233
Palladium	7440-05-3	Pd	Resistive layer	0.1293
Ruthenium	12036-10-1	RuO ₂	Resistive layer	0.0485
Lead oxide	1317-36-8	PbO	Resistive layer	0.1617
Silicon dioxide	7631-86-9	SiO ₂	Resistive layer	0.2425
Lead Free Glass	65997-18-4	Lead Free Glass Frit	Resistive layer	0.0647
Lead Free Glass	65997-18-4	Lead Free Glass Frit	Primary coating	1.0735
Pigment(Chromiu	1308-38-9	Cr ₂ O ₃	Primary coating	0.0079
Resin	9004-57-3	[C ₆ H ₇ O ₂ (OH) ₃ -n(OC ₂ H ₅) _n] _x	Primary coating	0.0486
Epoxy Resin	25068-38-6	(C ₁₅ -H ₁₆ -O ₂ -C ₃ -H ₅ -Cl-O) _x	Protective coating	0.1155
Polymer	29661-89-0	(C ₈ H ₁₀ -C ₆ H ₆ O-CH ₂ O) _x	Protective coating	0.1375

Newark.com/multicomp-pro

Farnell.com/multicomp-pro

sg.element14.com/b/multicomp-pro

Substance	CAS No.	Formula	Main purpose	Typical %
Colour pigments	68186-91-4	Colour pigments	Protective coating	0.0770
Silicon dioxide	60676-86-0	SiO ₂	Protective coating	0.1870
Talc	14807-96-6	3MgO-4SiO ₂ -H ₂ O	Protective coating	0.0330
Titanium oxide	13463-67-7	TiO ₂	Marking	0.0287
Epoxy Resin	29690-82-2	Epoxy Resin	Marking	0.0176
Talc	14807-96-6	3MgO-4SiO ₂ -H ₂ O	Marking	0.0019
Silicon dioxide	112945-52-5	SiO ₂ ·nH ₂ O	Marking	0.0018
Nickel	7440-02-0	Ni	Side termination	0.0056
Chromium	7440-47-3	Cr	Side termination	0.0044
Nickel	7440-02-0	Ni	Plating Ni	0.6100
Tin	7440-31-5	Sn	Plating Sn	0.5000

4. First AID Measures

The first aid measures for different exposure routes:

Inhalation : Not Available

Skin contact : Not Available

Eye contact : Not Available

Ingestion : Not Available

The most important symptoms and hazardous effects

None

The protection of first-aiders : None

Notes to Physician : None

5. Fire-fighting measures

Suitable fire extinguishing media : This product is incombustible

Specific hazards may be encountered during fire-fighting : None

Specific fire-fighting methods : No

Special equipment for the protection of firefighters : No

6. Accidental release measures

Personal precautions : No

Environmental precautions : No

Methods for cleaning up : No

7. Handling and storage

Handling : No special advice

Storage : Following the method defined in MSL level 1

8. Exposure controls/personal protection

Engineering control : No

Control parameters:

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

Biological standards : No

Personal protective equipment:

Respiratory protection : No

Hand protection : No

Eye protection : No

Skin and body protection : No

Hygiene measures : No special requirement

9. Physical and chemical properties

Appearance
(physical state, colour, etc.) : Cuboid ceramic

Odor threshold : No defined

pH value : Not available

Flammability (solid, gas) : incombustible

Decomposition temperature : Not be tested

Auto-ignition temperature : Incombustible

Vapor pressure : Not Available

Density : =6

Partition coefficient
(n-octanol/water,log Kow) : -

Odor: : No

Melting point : 1500°C

Boiling point/boiling point range : Not be tested

Flash point : °F °C: Not be tested

Test method : Open cup Closed cup

Explosion limits : Not Available

Vapor density : Not Available

Solubility : Not Available

Evaporation rate : Not Available

Rated watt hour (WH) : N/A (Note: resistor, capacitor, conductor could not provide energy, they are called pas-
sive component)

10. Stability and reactivity

Stability : Stable

Possible hazardous reactions
under specific conditions : No

Conditions to avoid : No

Materials to avoid : No

Hazardous decomposition products : No

11. Toxicological information

Routes of exposure : Not available
Symptoms : No
Acute toxicity : No
Chronic toxicity or long term toxicity : No

12. Ecological information

Ecotoxicity : No
Persistence and degradability : -
Bioaccumulative potential : -
Mobility in soil : -
Other adverse effects : No

13. Disposal considerations

Methods of waste disposal : Follow the local regulation

14. Transport information

United Nations number (UN No) : Not Available.
UN Proper shipping name : Not Available.
Transport hazard class (es) : Not Available.
Packing group : Not Available.
Marine pollutant (Yes/No) : No
Specific transport measures and precautionary conditions : No

15. Regulatory information

Applicable regulations : 2011/65/EU, EC-1907-2006, (EU) 2015/863

16. Other information

No Information are available.

Part Number
MCWR12W1R00FTL

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