

# Safety Data Sheet



## 1. Chemical Product and Company Identification

### Product Name

Thick Film Chip Resistor

### Details of the supplier of the safety data sheet

Premier Farnell  
150 Armley Road  
Leeds LS12 2QQ  
Tel. : +44 (0) 870 129 8608

### Emergency telephone number

+44 (0) 870 202530

## 2. Composition Information on Ingredients

| Material(s)     | CAS No.    | Weight % |
|-----------------|------------|----------|
| Aluminium Oxide | 1344-28-1  | 80~90    |
| Silver (Ag)     | 7440-22-4  | 6~10     |
| Ruthenium Oxide | 12036-10-1 | 0.1~0.5  |
| Nickel          | 7440-02-0  | 2~ 9     |
| Tin             | 7440-31-5  | 2~ 6     |
| Epoxy           | 25068-38-6 | 1~ 3     |
| Lead Oxide      | 1317-36-8  | 0.1~0.4  |

## 3. Hazards Identification

Emergency Overview : Harmful if swallowed.  
Potential Health Effects : Not applicable.  
Ingestion : May be fatal if swallowed.  
Chronic : Not available

## 4. First aid Measures

No risk on skin contact or inhalation  
Ingestion : Vomit and get medical aid immediately. Wash mouth out with water.  
Notes to Physician

## 5. Fire Fighting Measures

General Information : As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.  
Extinguishing Media : Determined by surrounding. In case of fire, use extinguisher, water, dry chemical, chemical foam, or alcohol-resistant foam.

## 6. Accidental Release Measures

General Information : Use proper personal protective equipment. Collect spilled chips then place in suitable container.

## 7. Handling and Storage

|          |   |
|----------|---|
| Handling | : No special precaution                                       |
| Storage  | : Keep away from sources of heat. Store in a cool, dry place. |

## 8. Exposure Controls, Personal Protection

|                |                   |
|----------------|-------------------|
| Exposure Limit | : Not Applicable. |
|----------------|-------------------|

### Personal Protective Equipment:

|                 |  |
|-----------------|--|
| Eyes Protection | : Wear safety glasses.                             |
| Skin Protection | : Wear appropriate protective gloves and clothing. |

## 9. Physical and Chemical Properties

|                           |  |
|---------------------------|--|
| Pure Substance or Mixture | : Mixture                                      |
| Viscosity                 | : Not applicable                               |
| Appearance                | : Black overcoat with metal colour termination |
| PH                        | : Not applicable                               |
| Decomposition Temperature | : Not applicable                               |
| Auto ignition Temperature | : Not applicable                               |
| Vapor Pressure            | : Not applicable                               |
| Solubility in water       | : None   |
| Physical State            | : Stable solid                                 |
| Freezing/Melting Point    | : Not applicable                               |
| Odor                      | : None   |
| Boiling Point             | : Not applicable                               |
| Flash Point               | : Not applicable                               |
| Explosion Limits          | : Not applicable                               |
| Specific Gravity/Density  | : 2 ~ 3 g/cm <sup>3</sup>                      |

## 10. Stability and Reactivity

|   |   |
|---|---|
| Chemical Stability                          | : Stable under normal temperatures and pressures. |
| Conditions to Avoid                         | : None  |
| Incompatibilities with Other Materials      | : Not applicable.                                 |
| Hazardous Decomposition Products on heating | : Not applicable                                  |

## 11. Toxicological Information

|            |                                |
|------------|--------------------------------|
| Skin       | : Insufficient data available. |
| Ingestion  | : Insufficient data available. |
| Inhalation | : Insufficient data available  |

## 12. Ecological Information

|                           |           |
|---------------------------|-----------|
| Biochemical Oxygen Demand | : unknown |
| Chemical Oxygen Demand    | : unknown |
| Remark on ecotoxicity     | : None    |

## 13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

## 14. Transport Information

Transportation should be in accordance with state and local environmental regulation.

Class/figure RID/ADR : None.  
Hazard Class : None.  
UN Number : None.

## 15. Regulatory Information

European Labelling in Accordance with EC Directives

Hazard Symbols: Xn (Harmful)

Risk Phrases:

R20/22 Harmful if swallowed by skin and if swallowed.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S 60 This material and/or its container must be disposed of as hazardous waste.  
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

## 16. Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

**Important Notice** : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell Limited 2016.