

# Samarium Pellets

**Formula:** Sm

**Percentage Purity:** 95%

**Maximum Lump Size:** 25mm

**Weight:** 1g

**CAS Number:** 7440-19-9

**UOM Code:** 256-162-36

**SKU:** 1000109208-group

**Product Code:** SM00-LP-000100

## Material Properties for Metals

### Atomic Properties

| Element   | Value                              |
|---|------------------------------------|
| Atomic number                                     | 62                                 |
| Crystal structure                                 | Rhombohedral                       |
| Electronic structure                              | Xe 4f <sup>7</sup> 6s <sup>2</sup> |
| Valences shown                                    | 2,3                                |
| Atomic weight( amu )                              | 150.36                             |
| Thermal neutron absorption cross-section( Barns ) | 5820                               |
| Photo-electric work function( eV )                | 2.7                                |
| Natural isotope distribution( Mass No./% )        | 149/ 13.9                          |
| Natural isotope distribution( Mass No./% )        | 144/ 3.1                           |
| Natural isotope distribution( Mass No./% )        | 148/ 11.3                          |
| Natural isotope distribution( Mass No./% )        | 152/ 26.6                          |
| Natural isotope distribution( Mass No./% )        | 147/ 15.1                          |
| Natural isotope distribution( Mass No./% )        | 150/ 7.4                           |
| Natural isotope distribution( Mass No./% )        | 154/ 22.6                          |
| Atomic radius - Goldschmidt( nm )                 | 0.18                               |
| Ionisation potential( No./eV )                    | 1/ 5.63                            |
| Ionisation potential( No./eV )                    | 2/ 11.07                           |

### Mechanical Properties

| Element            | Value           |
|--------------------|-----------------|
| Material condition | Polycrystalline |

| <b>Element</b>          | <b>Value</b> |
|-------------------------|--------------|
| Poisson's ratio         | 0.31         |
| Bulk modulus( GPa )     | 29.9         |
| Tensile modulus( GPa )  | 34.1         |
| Tensile strength( MPa ) | 124          |
| Yield strength( MPa )   | 110          |

## **Electrical Properties**

| <b>Element</b>                              | <b>Value</b>    |
|---|-----------------|
| Electrical resistivity( $\mu\text{Ohmcm}$ ) | 92@20@20°C      |
| Temperature coefficient( $\text{K}^{-1}$ )  | 0.00148@0-100°C |

## **Physical Properties**

| <b>Element</b>               | <b>Value</b> |
|------------------------------|--------------|
| Boiling point( C )           | 1791         |
| Density( $\text{gcm}^{-3}$ ) | 7.536@20°C   |

## **Thermal Properties**

| <b>Element</b>  | <b>Value</b> |
|---|--------------|
| Melting point( C )                                      | 1077         |
| Latent heat of evaporation( $\text{J g}^{-1}$ )         | 1280         |
| Latent heat of fusion( $\text{J g}^{-1}$ )              | 72.4         |
| Specific heat( $\text{J K}^{-1} \text{kg}^{-1}$ )       | 180@25°C     |
| Thermal conductivity( $\text{W m}^{-1} \text{K}^{-1}$ ) | 13.3@0-100°C |