AIM is a leading supplier of high purity indium solders, compounds and chemicals used in a broad range of applications. AIM’s indium products include:

- **Solders**
  - Paste, Wire, Preforms, Foil, Ribbon, Spheres

- **Targets**
  - Sputtering Target Form or Evaporation Source.

- **Chemicals & Compounds**
  - Acetate, Oxide, Hydroxide, Sulfate, Sulphamate, Trichloride

The unique properties of indium are driving its use into a broad variety of applications in new markets.

Indium is a highly maleable, low melting element that remains workable to cryogenic temperatures. Indium alloys offer a broad range of mechanical and melting characteristics. Indium alloys with excellent fatigue resistance are a good choice for use in difficult joining applications, while the wide range of melting temperatures of various indium alloys meet many fusible alloy needs.

Indium is a chemically versatile element. High purity indium is often utilized in the manufacture of III-V semiconductors, and indium-tin-oxide (ITO) is an important transparent conducting oxide in LCD and related technologies. Inorganic salts are utilized in alkaline battery manufacturing and a number of indium plating chemicals are used in depositing indium as a lubricant to bearing surfaces.

Whatever your application, AIM has the indium based products and technical support to fulfill your most stringent requirements.

### Published Technical Data on Pure Indium

#### General Data
- **Atomic Number**: 49
- **Atomic Weight**: 114.82
- **Stable Isotopes**: 113;115
- **Valence**: 3 (2 and 1)
- **Crystal Structure**: a = 0.3253 nm  
                         c = 0.4947 nm
- **Density**
  - **Solid (20°C)**: 7.31 Mg.m⁻³
  - **Liquid (157°C)**: 7.023 Mg.m⁻³
  - **Volume Change on Solidification**: 2%, 2.5%

#### Electrical Properties
- **Electrical Resistivity**
  - **Solid (20°C)**: 8.8 micro Ohms.cm
  - **Liquid (157°C)**: 29 micro Ohms.cm
- **Temperature Coefficient of Resistivity (0 - 100 °C)**: 5.2 x 10⁻³K⁻¹
- **Electrode Potential**: 0.338V
- **Electromechanical Equiv.**: 0.396 41g.Coulomb⁻¹

#### Mechanical Properties
- **Tensile Data**
  - **UTS (294K, 77K)**: 2.7, 14.5 MPa
  - **YS (294K, 77K)**: 4, 5.0 MPa
  - **Elastic Modulus**: 10.8 - 12.8 GPa
  - **Hardness**: 0.9HB
  - **Poisson’s Ratio (20°C)**: 0.445

#### Thermal Properties
- **Melting Point**: 156.598°C
- **Boiling Point**: 2070-2080°C
- **Latent Heat**
  - **Fusion**: 24.28 kJ.kg⁻¹
  - **Evaporation**: 1959-2024 kJ.kg⁻¹
- **Mean Specific Heat**
  - **Solid (0-100°C)**: 243 J.kg⁻¹K⁻¹
  - **Liquid (200-400°C)**: 259 J.kg⁻¹K⁻¹
- **Mean Thermal Conductivity**
  - **Solid (0-100°C)**: 70 - 80 W.m⁻¹K⁻¹
  - **Liquid (160-400°C)**: 42 W.m⁻¹K⁻¹
- **Linear CTE**
  - **Liquid Indium Properties (between melting and boiling points)**
  - **Density (Mg.m⁻³)**: ~ 7.1295 - 0.6798 x 10⁻³T
  - **Surface Tension (mN. m⁻¹)**: ~ 571 - 0.09T (T, °C)
  - **Viscosity (mN.s.m⁻²)**: ~ 0.302exp(800/T) (T,K)
  - **Vapor Pressure (p, kPa)log₁₀p**: ~ 1.42 - (1825/T) - 0.0653log₁₀T (T,K)