

## PRODUCT DATA SHEET

# Germanium Dioxide



### Introduction

**Germanium dioxide** is a white powder that is manufactured in both crystalline and amorphous forms. **Germanium dioxide's** refractive index (1.7) and its optical dispersion properties are useful for making wide-angle lenses and optical microscope objective lenses. It is transparent to infrared light.

In addition, **Germanium dioxide** is used as a catalyst in the production of polyethylene terephthalate (PET) resin and in the production of other germanium compounds, as well as some phosphors and semiconductor materials.

Germanium dioxide is available in two grades—Standard (Type A) and Fine (Type B).

Synonyms	Germanium (IV) Oxide, $GeO_2$
CAS Number	1310-53-8
EC Number	215-180-8
RTECS Number	LY5240000
Purity	99.999%
Appearance/Form	White powder
Crystal Structure	Hexagonal
Formula Weight	104.61
Theoretical Germanium Content	69.434%
Apparent Density	1.3–1.7g/cc
Melting Point	1,115°C
Solubility	Soluble in alkalis Slightly soluble in acids Slightly soluble in water

Product Type	PSD D90 (micron)*
Type A: Standard	<60
Type B: Fine	<20

\*Particle size distribution, light scattering analysis

Impurities	Typical	Maximum
Chloride	<0.05%	0.05%
Moisture (LOD)	<1.0%	2.0%
Volatile (LOI)	<3.0%	3.0%
	Typical ppm	Maximum ppm
Copper (Cu)	<1.0	3.0
Cobalt (Co)	<1.0	3.0
Aluminum (Al)	<1.0	3.0
Iron (Fe)	<2.0	3.0
Nickel (Ni)	<1.0	3.0
Zinc (Zn)	<1.0	3.0
Total Combined Metals	<3.0	10.0

### Packaging

**Germanium dioxide** is packaged in a polyethylene bag and packed in a polyethylene container. Contact us for other packaging options.

### Storage and Shelf Life

**Germanium dioxide** should be kept in a tightly sealed container and stored at room temperature. It has a minimum shelf life of 12 months after delivery.

### Technical Support

Indium Corporation sets the industry standard in providing rapid response, onsite technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of materials science.

### Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices. All Indium Corporation's products and solutions are designed to be commercially available unless specifically stated otherwise.

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

## From One Engineer To Another®

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