

Product Data Sheet

Gallium Metal

Introduction

Indium Corporation is a leading global supplier of pure gallium and gallium alloys and chemicals. Gallium metal is extracted as a byproduct during the production process for aluminum and zinc. Rigorous quality standards and advanced analytical instrumentation, such as ICP and GDMS, assures consistent product quality from one lot to another.

General Properties and Applications of Commercial-Grade Gallium

Gallium is used in many applications either as pure gallium, or as an alloy.

- Gallium is supplied in the form of alloyed sputtering targets to deposit thin-film layers in photovoltaic cells (such as CIGS)
- Gallium can be used in thermal evaporation equipment for thin-film deposition
- Gallium can be combined with indium, tin, and/or zinc to form alloys that are liquid at room temperature.
- Gallium is also useful because it wets to glass and ceramics.

Atomic Number	31
Boiling Point	2204°C
Melting Point	29.8°C
Density	6.10g/cm ³
Atomic Weight	69.7g/mol

Available Physical Forms of Gallium

At room temperature, gallium is already very close to its melting point. Because of this, gallium is only offered in two forms:

- Round shot
- Formless metal

As round shot, gallium must be shipped cold in regulation-approved bottles to prevent heat exposure and melting during shipment.

Gallium is also supplied in combination with other elements as an alloy or chemical form.

Grades Available

- 4N (99.99%)
- 6N (99.9999%)

Oxidation and Shelf Life

Gallium is corrosive to most metals. For this reason, it should be stored in regulation-approved containers. Pure gallium, as it applies to round shot and formless metal, has a shelf life of 1 year when stored at <20°C.

Typical Impurities

Impurity	Grade		
	4N	5N	6N
Ag	<1	<1	0.5 max
Bi	2 max	2 max	0.5 max
Cd	<1	<1	0.25 max
Cu	10 max	2 max	0.5 max
Fe	2 max	1 max	0.5 max
Ni	5 max	1 max	0.5 max
Pb	15 max	3 max	0.5 max
Sn	15 max	3 max	0.5 max
Ti	<1 max	<1 max	0.5 max
Tl	5 max	2 max	0.5 max
Zn	<1	<1	0.25 max
Total ppm level	<100	<10	<1

Please note that the above ppm levels are calculated averages from past production lots and do not represent the maximum, minimum, or lot-specific levels. The ppm levels in the table should not be used in designing product specifications. Impurities will vary from one lot of gallium to another, but the total impurities will be below the maximum allowed in each grade, ie:

4N grade: total impurities <100ppm
6N grade: total impurities <1ppm

Please let us know if you have specific requirements for one or two elemental impurities and we will do our best to accommodate your specifications for those impurities.

Technical Support

Indium Corporation's internationally experienced engineers, material scientists, and metallurgists provide in-depth technical assistance to our customers. Thoroughly knowledgeable on all aspects of material science and metallurgy as it pertains to gallium metal, its uses and applications, our technical service staff is available to provide rapid response to all technical inquiries. We believe that our long-standing emphasis on providing our customers with superior technical service clearly differentiates Indium Corporation from our competitors.

Material Safety Data Sheet

The MSDS for this product can be found online at <http://www.indium.com/techlibrary/msds.php>



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.

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