

PRODUCT DATA SHEET

Gallium Sesquioxide

(Ga₂O₃)

Synonyms	Gallium Oxide, Gallium (III) Oxide
CAS Number	12024-21-4
EC Number	234-691-7
RTECS	LW9650000
Purity	99.99 to 99.999%
Appearance/Form	White powder
Crystal Structure	Mostly β-phase, confirmed by XRD
Formula Weight	187.44 g/mol
Theoretical Gallium Content	74.39%
Density	6.44 g/cm ³ ; approx. 0.7 g/cm ³ apparent
Melting Point	1900°C
Vapor Pressure	N/A
Solubility	Soluble in alkalis, slightly in hot acids, insoluble in water

Impurities	99.99 (Type 1 or 2)		99.999 (Type 1)	
	Typical	Maximum	Typical	Maximum
Moisture (LOD, 104°C)	<0.1%	0.1%	<0.1%	0.1%
Volatile (LOI, 800°C)	<0.1%	0.1%	<0.1%	0.1%
Aluminum (Al)	< 5.0 ppm	5.0 ppm	< 1.0 ppm	3.0 ppm
Arsenic (As)	< 1.0 ppm	2.0 ppm	< 1.0 ppm	1.0 ppm
Calcium (Ca)	< 10.0 ppm	10.0 ppm	< 1.0 ppm	3.0 ppm
Chromium (Cr)	< 3.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Copper (Cu)	< 3.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Germanium (Ge)	< 5.0 ppm	5.0 ppm	< 1.0 ppm	3.0 ppm
Iron (Fe)	< 5.0 ppm	5.0 ppm	< 1.0 ppm	3.0 ppm
Indium (In)	< 5.0 ppm	5.0 ppm	< 1.0 ppm	3.0 ppm
Magnesium (Mg)	< 3.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Nickel (Ni)	< 1.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Lead (Pb)	< 1.0 ppm	2.0 ppm	< 1.0 ppm	1.0 ppm
Silicon (Si)	< 3.0 ppm	10.0 ppm	< 1.0 ppm	3.0 ppm
Sodium (Na)	< 10.0 ppm	10.0 ppm	< 1.0 ppm	3.0 ppm
Tin (Sn)	< 3.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Zinc (Zn)	< 3.0 ppm	5.0 ppm	< 1.0 ppm	1.0 ppm
Total Combined Metals	< 50 ppm	< 100 ppm	< 10 ppm	< 10 ppm

All information is for reference only. Not to be used as incoming product specifications.

Form No. 98152 (A4) R3

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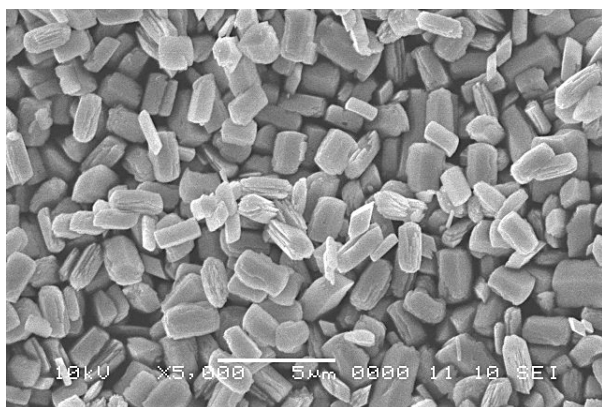
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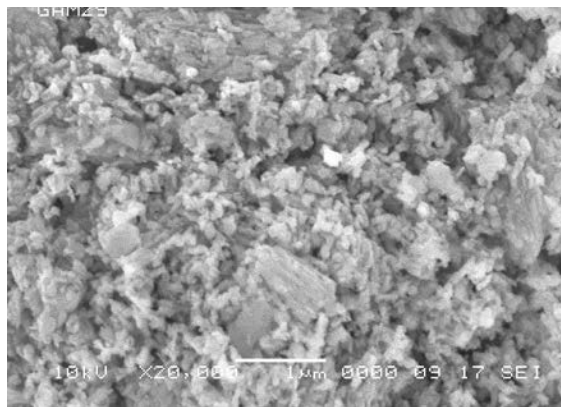


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Gallium Sesquioxide (Ga₂O₃)



Type 1 – Rod shaped uniform particles.



Type 2 – Agglomerates of smaller amorphous particles.

Typical Particle Size and Surface Area Analysis

	d90 (micron)	d50 (micron)	d10 (micron)	BET (m ² /g)
Type 1	2.5-4.0	1.25-2.25	0.75-1.25	12-17
Type 2	20-45	5-15	1-5	12-17

Packaging

PE Bottle: 100g, 500g, 1kg, 2kg

Plastic Pail: 5kg, 10kg, 20kg

Plastic Drum: 25kg, 50kg and up

Applications

- Phosphors
- Cathodes for solid oxide fuel cells
- Piezo-electric crystals
- GGG crystals and IGZO targets for latest technology displays

Storage and Shelf Life

Gallium Sesquioxide should be stored at room temperature and the container kept tightly sealed. Shelf life is 12 months.

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