

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	187.44g/mol
Theoretical Gallium Content	74.39%
Density	6.44g/cm ³ ; approx. 0.7g/cm ³ apparent
Melting Point	1,900°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)	<5.0ppm	5.0ppm	<1.0ppm	3.0ppm
Arsenic (As)	<1.0ppm	2.0ppm	<1.0ppm	1.0ppm
Calcium (Ca)	<10.0ppm	10.0ppm	<1.0ppm	3.0ppm
Chromium (Cr)	<3.0ppm	5.0ppm	<1.0ppm	1.0ppm
Copper (Cu)	<3.0ppm	5.0ppm	<1.0ppm	1.0ppm
Germanium (Ge)	<5.0ppm	5.0ppm	<1.0ppm	3.0ppm
Iron (Fe)	<5.0ppm	5.0ppm	<1.0ppm	3.0ppm
Indium (In)	<5.0ppm	5.0ppm	<1.0ppm	3.0ppm
Magnesium (Mg)	<3.0ppm	5.0ppm	<1.0ppm	1.0ppm
Nickel (Ni)	<1.0ppm	5.0ppm	<1.0ppm	1.0ppm
Lead (Pb)	<1.0ppm	2.0ppm	<1.0ppm	1.0ppm
Silicon (Si)	<3.0ppm	10.0ppm	<1.0ppm	3.0ppm
Sodium (Na)	<10.0ppm	10.0ppm	<1.0ppm	3.0ppm
Tin (Sn)	<3.0ppm	5.0ppm	<1.0ppm	1.0ppm
Zinc (Zn)	<3.0ppm	5.0ppm	<1.0ppm	1.0ppm
Total Combined Metals	<50ppm	<100ppm	<10ppm	<10ppm

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

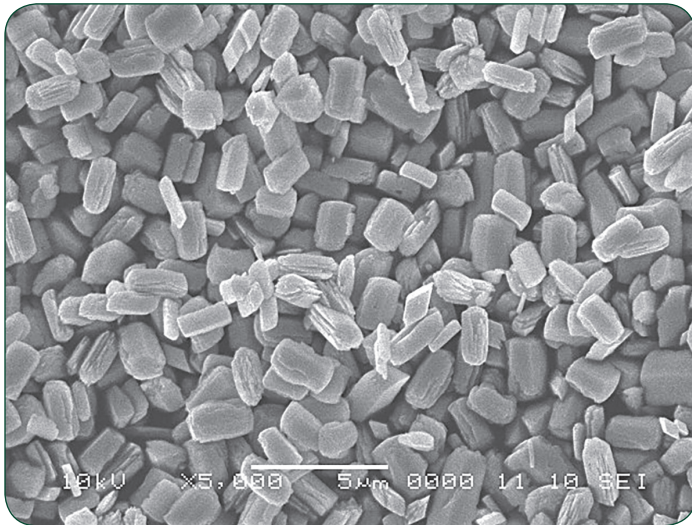
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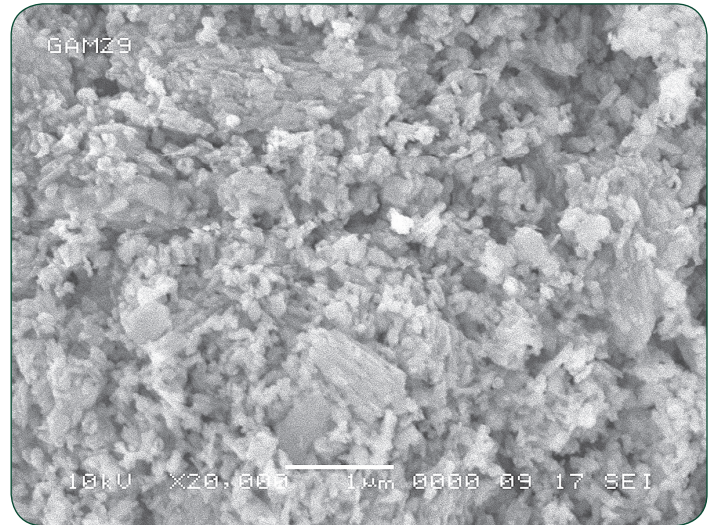
Form No. 98152 R4

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Gallium Sesquioxide (Ga_2O_3)



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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