ZHONGYAOTECH
XINGTAI ZHONGYAO CHEMICAL

PRODUCT BROCHURE
2026 / 01



ELECTRONIC / OPTICAL GRADE

High Purity Magnesium Oxide.

99.9 % MgO with iron below 50 ppm — the grade that keeps optical coatings transparent and dielectric ceramics low-loss.

MgO	Fe_2O_3	CaO	D50
≥ 99.9 %	≤ 0.005 %	≤ 0.01 %	2–5 μm

At 99 % purity the ceramic works.
At **99.9 %** it becomes
predictable — batch after batch.

≥99.9%

MGO CONTENT

The remaining tenth is what decides optical loss.

≤50 ppm

IRON

Above this, transmission in the visible band drops measurably.

≤100 ppm

CALCIUM

Controls secondary phase formation in dielectric bodies.

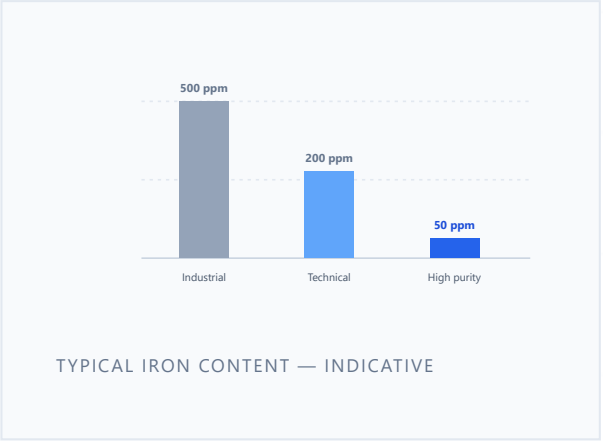
01 — MECHANISM

Purity is a trace-element story.

A single percentage figure hides the variables that matter. Iron, calcium and silicon each change a different property — transmission, dielectric loss and grain-boundary behaviour respectively.

High purity magnesia is therefore specified by its impurity table, not by its headline assay. Two suppliers quoting "99.9 %" can behave very differently.

Compare. For optical coating targets, iron is the controlling element. For microwave ceramics, it is calcium and sodium.



TYPICAL IRON CONTENT — INDICATIVE

PROCESS

Mixing → Cure → Service

Impurity ceiling by grade — Typical iron content — indicative

MGO	FE_2O_3	CAO
≥ 99.9 %	≤ 0.005 %	≤ 0.01 %
vs Complexometric	vs ICP-OES	vs ICP-OES

02 — SPECIFICATION

Controlled batch to batch.

Parameter	Standard value	Method
MgO Content	**≥ 99.9%**	Batch COA
SiO2	**≤ 0.01%**	Batch COA
CaO	**≤ 0.01%**	Batch COA
Fe2O3	**≤ 0.005%**	Batch COA
Particle Size (D50)	**2-5 µm**	Batch COA

Documentation

Full ICP-OES impurity report per batch. For optical customers, lot-specific transmission data can be arranged with a third-party laboratory.

SUPPLY

Packaging	**25 / 1 000 kg**
Minimum order	**1 t**
Lead time	**3–7 days**
Grade code	**High-Purity-MgO**

CAS 1309-48-4 · Batch COA with every shipment. TDS and SDS on request.

INCOMING

Ore assay

Every lot screened for Fe, Ca, Si before calcination.

IN PROCESS

Activity + LOI

Sampled during production against the batch target.

BEFORE SHIPMENT

Full COA

Complete release testing, third-party reports on request.

Where it is specified.



01

Optical coatings

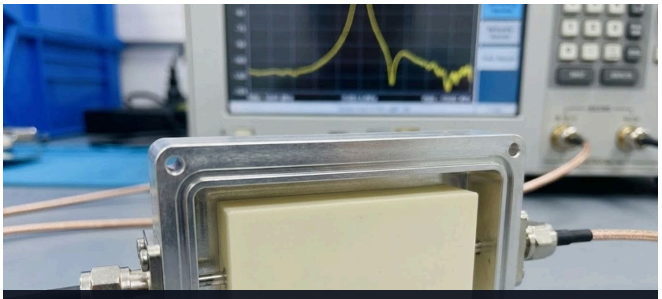
Low-loss thin film targets



02

Dielectric ceramics

Resonators and substrates



03

5G components

Low loss at high frequency



04

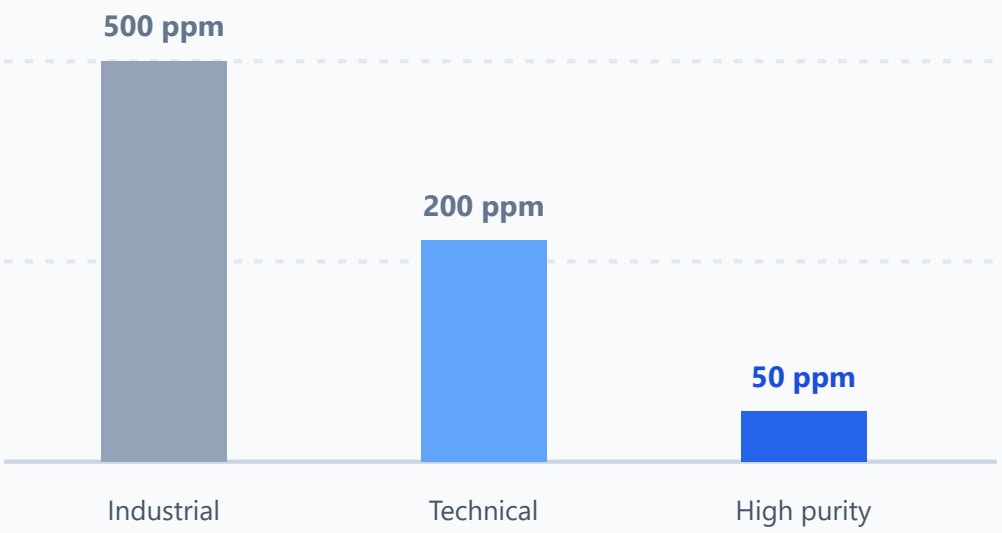
Pharma and food

Excipient and supplement use

Dosage and loading figures are starting points for formulation trials. Final performance depends on the complete compound and test conditions.

04 — PERFORMANCE

Loading against performance.



TYPICAL IRON CONTENT — INDICATIVE

Element	Standard value	Method
MgO	**≥ 99.9 %**	Complexometric
Fe_2O_3	**≤ 0.005 %**	ICP-OES
CaO	**≤ 0.01 %**	ICP-OES
D50	**2–5 µm**	Laser diffraction

PACKAGING

25 kg PE-lined PP woven bag, palletised on request.

1 000 kg jumbo bag for bulk compounding lines.

LOGISTICS

20' FCL load	**20–24 t**
Port of loading	**Tianjin / Qingdao**
Incoterms	**FOB / CIF / CFR**
HS code	**2519.90**

05 — SUPPLY

Batch traceable. Documented every time.

Every shipment carries a batch-specific COA. TDS, SDS and REACH statements are issued on request. Production is ISO 9001:2015 certified.

50,000 t
ANNUAL CAPACITY

50+
EXPORT COUNTRIES

1 t
MINIMUM ORDER

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Specifications are typical values and do not constitute a batch release certificate. Confirm acceptance criteria against the batch COA and the TDS in force at the time of order.

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