

YTTRIUM OXIDE GRADE A, GRADE AT, GRADE B, GRADE C

Chemical Formula	Y ₂ O ₃
Chemical Name	Yttrium Oxide
Description of Product	White Powder
HS Number	28469000
Grades Available	Product Designation Y ₂ O ₃ Grade A Y ₂ O ₃ Grade AT Y ₂ O ₃ Grade B Y ₂ O ₃ Grade C

Chemical Characteristics

(Mass fraction in % [cg/g]; ppm [µg/g])

	Grade A	Grade AT	Grade B	Grade C	Unit
Loss on Ignition (L.O.I.) ¹⁾	max. 1.00	1.00	1.50	1.00	%
Total Rare Earth Oxides (TREO)	min. 99.00	99.00	98.50	99.00	%
Y ₂ O ₃ /TREO	min. 99.90	99.90	99.90	99.95	%
Al	max. 0.005	0.005	0.005	0.005	%
Ca	max. 0.003	0.003	0.003	0.003	%
Fe	max. 0.005	0.005	0.005	0.005	%

Physical Characteristics

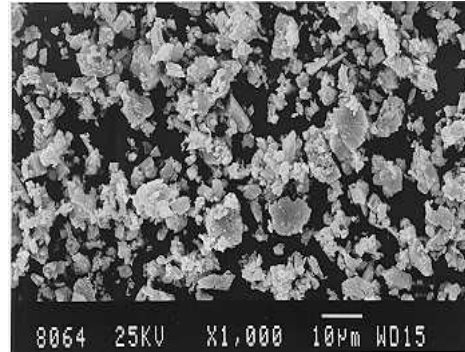
Specific Surface Area ²⁾	4.0 – 9.0	1.0 – 7.0	4.0 – 12.0	10.0 – 16.0	m ² /g
Particle Size Distribution ³⁾					
D 90 %	4.0 – 9.0	4.0 – 9.0	2.0 – 4.0	1.0 – 2.0	µm
D 50 %	1.5 – 3.0	1.5 – 3.0	0.9 – 1.7	0.6 – 0.9	µm
D 10 %	0.6 – 1.5	0.6 – 1.5	0.3 – 0.6	0.2 – 0.5	µm

1) 1 h/1000°C, 2) TriStar 3-point by BET per ASTM D 3663,

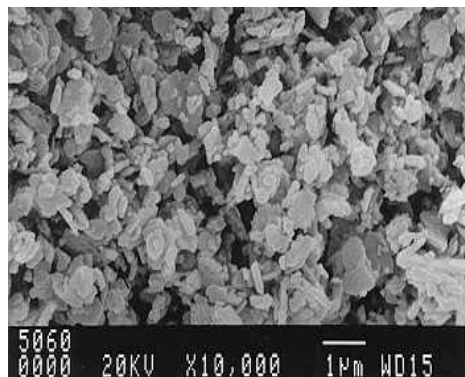
3) MASTERSIZER by Laser Light Diffraction per ASTM B 822, degglomeration with high energy ultra sonic before analysis.

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SEM Photomicrograph ⁴⁾
scale see photograph,
Y₂O₃ Grade A



SEM Photomicrograph ⁴⁾
scale see photograph,
Y₂O₃ Grade C



Packaging

Grade A and AT: 50 kg steel drums with polyethylene inlet (60 l).
8 drums on one pallet CP 1 (1000 x 1200 mm) = 1 packaging unit of 400 kg.
Grade B: 25 kg steel drums with polyethylene inlet (60 l).
8 drums on one pallet CP 1 (1000 x 1200 mm) = 1 packaging unit of 320 kg.
Grade C: 15 kg steel drums with polyethylene inlet (60 l).
8 drums on one pallet CP 1 (1000 x 1200 mm) = 1 packaging unit of 120 kg.
Other packaging/quantity on request.
Lot Size: Yttriumoxide powders are available in homogeneous lots up to 500 kg.

Storage and Handling

Storage and handling are subject to the rules and regulations in the country of use. Store in a closed container.

Hazards identification in Advertising (REGULATION (EC) No 1272/2008 Article 48)

None.

Documentation

An inspection document in accordance with EN 10204 is supplied with every shipment.

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4) Secondary Electron Image (SEI).