

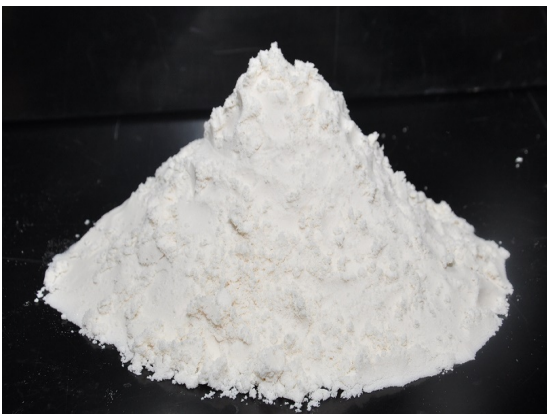


HINDALCO CHEMICALS

The Quality Value Chain

Aluminium Hydroxide

Aluminium Hydroxide or Alumina Tri Hydrate is the hydrated oxide of Aluminium. Alumina Tri Hydrate is separated from ore— bauxite using Bayer process with average particle size ranging from 80 - 100 Micron. The blocky crystals of Alumina Tri Hydrate impart good reactivity. Alumina Tri Hydrate can react with a base as well as an acid and finds many applications as raw material. Some of the applications are Non Ferric Alum (NFA), Poly Aluminium Chloride (PAC), Aluminium Fluoride (AlF₃), Sodium Aluminate, Glass, and Activated Alumina



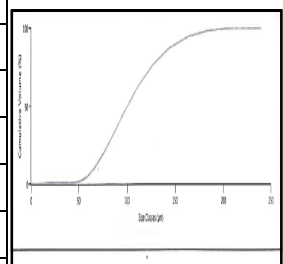
General Characteristics

Characteristics	Unit	Max
IUPAC Name		Aluminium Hydroxide
Formula		Al(OH) ₃
Density	g/cc	2.42
Molecular weight	g/mol	78.00
Appearance		White powder
Moh's Hardness		2.5 - 3.5
Refractive Index		1.57

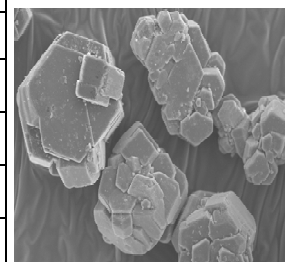
Specifications

Grade Name		CHX /CH1		DH		FDH	
Properties/ Analysis*	Unit	Typical	Max	Typical	Max	Typical	Max
LOI (110 - 1000 °C)	%	34.5	35.0	34.5	34.7	34.5	35.0
Al(OH) ₃ by difference**	%	99.7	99.6	99.7	99.6	99.7	99.6
Na ₂ O	%	0.20	0.35	0.20	0.35	0.20	0.35
Fe ₂ O ₃	%	0.015	0.02	0.015	0.02	0.007	0.02
SiO ₂	%	0.015	0.02	0.015	0.02	0.008	0.02
Moisture (RT - 110 °C)	%	7.0	10.0	0.05	0.20	0.05	0.20
Caustic Insoluble				0.06	0.08		
Cumulative Sieve Analysis#							
+100# (150 μm)	%	0 - 15					
+200# (75 μm)	%	50 - 80					
+325# (45 μm)	%	85 - 95					
-325# (45 μm)	%	5 - 15					

Cumulative Particle Size Distribution



SEM Image



*Analysed by Hindalco Test Methods which are in line with the global standards for Alumina refinery.

** The limit of Al(OH)₃ content is 99.6% Minimum.

Dry sieving method.



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The Quality Value Chain

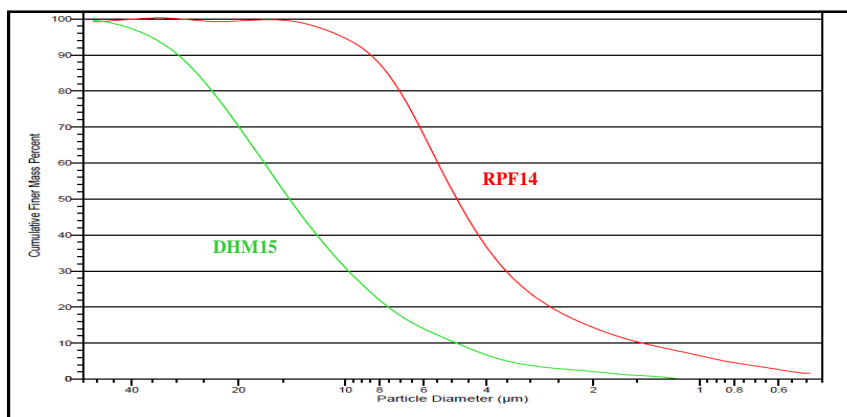
Ground Aluminium Hydroxide—Narrow Distribution

Alumina Tri Hydrate (ATH) contain 3 molecules of water. On heating above 220 Deg C Alumina Tri Hydrate decomposes into Aluminium Oxide & water. This irreversible, endothermic reaction process makes Alumina Tri Hydrate an effective flame retardant. Also the smoke generated by decomposition is non corrosive and non poisonous. Ground Alumina Tri Hydrate is used as a fire retardant filler in applications like Polymer Composites, Cable compounds, artificial marble table tops etc. Hindalco manufactures ground hydrates with different particle sizes.

Specifications

Grade Name		RPF14		RPF18		DHM		DHM15		FH22D	
Properties/ Analysis*	Unit	Typical	Max	Typical	Max	Typical	Max	Typical	Max	Typical	Max
LOI (110 - 1000 °C)	%	34.5	35.0	34.5	35.0	34.5	35.0	34.5	35.0	34.5	35.0
Al(OH) ₃ by difference**	%	99.7	99.6	99.7	99.6	99.7	99.6	99.7	99.6	99.7	99.6
Na ₂ O	%	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35
Fe ₂ O ₃	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
SiO ₂	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
Moisture (RT - 110 °C)	%	0.35	0.70	0.30	0.50	0.30	0.40	0.30	0.40	0.20	0.40
Oil Absorption	g/100 g	45		40		35		35		30	
Particle Size Analysis#											
Average Particle Size (d50)	µm	4.5	5.0	8.0	8.5	10	13	14	16	19	24
+325# (45 µm)	%	0.2	0.5	0.3	0.5	1	5	7	15	10.0	

Cumulative Particle Size Distribution



*Analysed by Hindalco Test Methods which are in line with the global standards for Alumina refinery.

** The limit of Al(OH)₃ content is 99.6% Minimum.

Measured by Sedigraph 5120. For FH22D measurement is by Malvern Mastersizer . +325 Mesh fraction analysed by wet sieving.



HINDALCO CHEMICALS

The Quality Value Chain

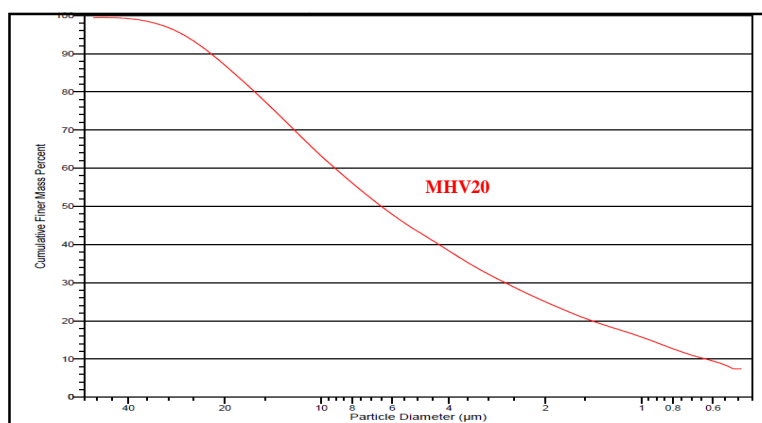
Ground Aluminium Hydroxide—Wide Distribution

Alumina Tri Hydrate (ATH) contain 3 molecules of water. On heating above 220 Deg C Alumina Tri Hydrate decomposes into Aluminium Oxide & water. This irreversible, endothermic reaction process makes Alumina Tri Hydrate an effective flame retardant. Also the smoke generated by decomposition is non corrosive and non poisonous. Wide Distribution Ground ATH is used in Sheet Molding Composites to lower the process viscosity. Hindalco manufacturers different wide distribution ATH to meet the end use demands.

Specifications

Grade Name		FHC		MHV06		MHV20		TH15		LVH20	
Properties/ Analysis*	Unit	Typical	Max	Typical	Max	Typical	Max	Typical	Max	Typical	Max
LOI (110 - 1000 °C)	%	34.5	35.0	34.5	35.0	34.5	35.0	34.5	35.0	34.5	35.0
Al(OH) ₃ by difference	%	99.7	99.6	99.7	99.6	99.7	99.6	99.7	99.6	99.7	99.6
Na ₂ O	%	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35
Fe ₂ O ₃	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
SiO ₂	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
Moisture (RT - 110 °C)	%	0.34	0.50	0.20	0.50	0.30	0.50	0.30	0.50	0.30	0.50
Oil Absorption	g/100g	30		30		30		30		30	
Particle Size Analysis#											
Average Particle Size (d50)	µm	5.0	7.0	8.0	10.0	9.0	12.0	7.0	15	15	20
+63 µm)	%					0.80	1.0				

Cumulative Particle Size Distribution



*Analysed by Hindalco Test Methods which are in line with the global standards for Alumina refinery.

** The limit of Al(OH)₃ content is 99.6% Minimum.

Measured by Sedigraph 5120. +63µm fraction analysed by wet sieving.



HINDALCO CHEMICALS

The Quality Value Chain

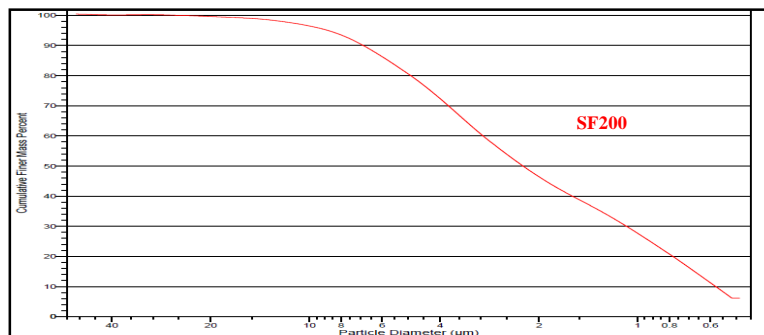
Super Ground Aluminium Hydroxide

Alumina Tri Hydrate (ATH) contain 3 molecules of water. On heating above 220 Deg C Alumina Tri Hydrate decomposes into Aluminium Oxide & water. This irreversible, endothermic reaction process makes Alumina Tri Hydrate an effective flame retardant. Also the smoke generated by decomposition is non corrosive and non poisonous. Super Ground Alumina Tri Hydrate is used as a fire retardant filler in applications like Polymer Composites, Cable compounds, artificial marble table tops etc, where the final product surface finish is very critical.

Specifications

Grade Name		SF100		SF200	
Properties/ Analysis*	Unit	Typical	Max	Typical	Max
LOI (110 - 1000 °C)	%	34.5	35.5	34.5	35.5
Al(OH) ₃ by difference**	%	99.7	99.6	99.7	99.6
Na ₂ O	%	0.20	0.35	0.20	0.35
Fe ₂ O ₃	%	0.015	0.02	0.015	0.02
SiO ₂	%	0.015	0.02	0.015	0.02
Moisture (RT - 110 °C)	%	0.30	0.70	0.50	0.70
pH		9.5	10.0	9.5	10.0
Oil Absorption	g/100 g	55		55	
Particle Size Analysis#					
Average Particle Size (d50)	µm	2.6	3.0	1.5	2.5
+325# (45 µm)	%	0.05	0.10		0.05

Cumulative Particle Size Distribution



*Analysed by Hindalco Test Methods which are in line with the global standards for Alumina refinery.

** The limit of Al(OH)₃ content is 99.6% Minimum.

Measured by Sedigraph 5120. +325 Mesh fraction analysed by wet sieving.



HINDALCO CHEMICALS

The Quality Value Chain

Surface treated Aluminium Hydroxide

Alumina Tri Hydrate (ATH) contain 3 molecules of water. On heating above 220 Deg C Alumina Tri Hydrate decomposes into Aluminium Oxide & water. This irreversible, endothermic reaction process makes Alumina Tri Hydrate an effective flame retardant. Also the smoke generated by decomposition is non corrosive and non poisonous. ATH is surface treated with organic compounds to improve mixing with polymer resin. Hindalco manufacturers various surface treated fine hydrates to meet the end use applications and processing conditions.

Specifications

Grade Name		HC041		HC081		MHV20T		SFC201	
Properties/ Analysis*	Unit	Typical	Max	Typical	Max	Typical	Max	Typical	Max
LOI (110 - 1000 °C)	%	34.5	35.5	34.5	35.5	34.5	35.5	34.5	35.5
Al(OH) ₃ by difference**	%	99.7	99.6	99.7	99.6	99.7	99.6	99.7	99.6
Na ₂ O	%	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35
Fe ₂ O ₃	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
SiO ₂	%	0.015	0.02	0.015	0.02	0.015	0.02	0.015	0.02
Moisture (RT - 110 °C)	%	0.35	0.70	0.30	0.50	0.33	0.50	0.50	0.70
Particle Size Analysis#									
Average Particle Size (d50)	µm	4.5	5.0	8.0	8.5	9.0	12.0	1.5	2.5

*Analysed by Hindalco Test Methods which are in line with the global standards for Alumina refinery.

** The limit of Al(OH)₃ content is 99.6% Minimum.

Measured by Sedigraph 5120.



Shipping information;

Harmonized System (HS) Code: 28183000

Packaging: Coarse Hydrate - 50 kgs PP bags/ 1000 kgs PP bulk bags
Ground Hydrate - 40 kgs PP bags/ 25 kgs Paper bags. Super Ground Hydrate - 20 kgs PP bags
Customized packing can be considered on request.

Safety and Handling informations;

Refer to the Material Safety Data Sheet (MSDS) available with Sales & Marketing team.

Contact us for technical information, free samples, sales & application assistance;

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Website: www.hindalco.com/industries/chemicals

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