

39 Fuller's Earth

Fuller's earth, like bentonite, is also known as 'bleaching clay' because of its inherent bleaching properties. Fuller's earth is any non-plastic clay that can be used to decolorise, filter and purify animal, mineral and vegetable oils and greases. It has great commercial importance like bentonite. Bentonite is a swelling-type clay but fuller's earth is a non-swelling-type clay. This property difference is because of their chemical composition. Bentonite contains sodium, whereas fuller's earth contains calcium. Calcium bentonite, more commonly called fuller's earth, can be converted into sodium bentonite by cation exchange process or acid activation.

RESOURCES

The total reserves/resources of fuller's earth as per UNFC system as on 1.4.2005 are placed at 256.7 million tonnes. Out of these, only 58,200 tonnes are placed under 'reserves' category while about 99.98% are placed under 'resources' category. About 74% resources are located

in Rajasthan. The remaining resources are in Andhra Pradesh, Arunachal Pradesh, Assam, Karnataka and Madhya Pradesh. The statewise reserves/resources of fuller's earth are given in Table-1.

PRODUCTION

Fuller's earth is declared as minor mineral under Mines and Minerals (Development and Regulation) Act, 1957. The value of fuller's earth produced in India in 2008-09 at about Rs. 18.6 crore was significantly higher than that of the previous year. The production was reported from the states of Andhra Pradesh, Rajasthan and Madhya Pradesh.

Andhra Pradesh was the leading state accounting for 86% in the total value of production of fuller's earth followed by Rajasthan with around 13% share and the remaining about 1% was shared by Madhya Pradesh (Table - 2).

**Table – 1 : Reserves/Resources of Fuller's Earth as on 1.4.2005
(By States)**

Grade/State	Reserves			Remaining resources			(In tonnes)
	Proved STD111	Probable STD122	Total (A)	Indicated STD332	Inferred STD333	Total (B)	Total resources (A+B)
All India : Total	–	58200	58200	912340	255681539	256593879	256652079
Unclassified Grade : Total	–	58200	58200	912340	255681539	256593879	256652079
By States							
Andhra Pradesh	–	–	–	–	25523983	25523983	25523983
Arunachal Pradesh	–	–	–	10700	20000000	20010700	20010700
Assam	–	–	–	–	18860000	18860000	18860000
Karnataka	–	58200	58200	551640	1471276	2022916	2081116
Madhya Pradesh	–	–	–	–	117200	117200	117200
Rajasthan	–	–	–	350000	189709080	190059080	190059080

Figures rounded off.

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**Table – 2 : Production Value of Fuller's Earth
2006-07 to 2008-09
(By States)**

State	(In Rs. '000)		
	2006-07	2007-08	2008-09 (P)
India	91773	96825	186479
Andhra Pradesh	84846	85250	160487
Madhya Pradesh	690	2783	1612
Karnataka	114	168	–
Rajasthan	6123	8624	24380

Source: State Governments.

USES

Fuller's earth is generally used in fertilizer industry in India. Fuller's earth is also used usually after activation in bleaching & decolourising vegetable oils, petroleum, lubricants, greases, etc. Recently, the growth in its consumption in this sector, has been affected because of advent of more sophisticated techniques in refining and due to availability of effective substitutes like activated bauxite and magnesium silicate. Consumption, however, is expected to rise in other unconventional uses as absorbent, cleaning oil spillage on factory floors, as carrier for insecticides and fungicides and as a mineral filler and extender.

CONSUMPTION

The consumption of fuller's earth was at 5,600 tonnes in 2009-10 (Table-3). Vanaspati industry, the largest consumer, accounted for about 91% consumption, followed by chemical industry with 5%. A sizeable quantity is consumed in rural and urban areas for non-industrial uses like plastering mud walls and washing of hair. However, the consumption data for such non-industrial purposes are not available.

WORLD REVIEW

The world production of fuller's earth declined marginally compared to 3.7 million tonnes in 2009 from 4.1 million tonnes in 2008. The USA was the top producer, accounted for about 64% of the world production. Other principal producers were Spain, Senegal, Morocco and Japan (Table-4).

**Table – 3 : Reported Consumption of Fuller's Earth
2007-08 to 2009-10
(By Industries)**

Industry	(In tonnes)		
	2007-08(R)	2008-09(R)	2009-10 (P)
All Industries	5100	5500	5600
Chemical	300 (1)	300 (1)	300 (1)
Petroleum refining	++ (3)	200 (4)	200(4)
Vanaspati	4800 (13)	5000 (13)	5100 (13)

Figures rounded off.

Data collected on non-statutory basis.

Figures in parentheses denote the number of units in organised sector reporting consumption.*

*(*Includes actual reported consumption and/or estimates made wherever required).*

**Table – 4 : World Production of Fuller's Earth
(By Principal Countries)**

Country	(In '000 tonnes)		
	2007	2008	2009
World : Total*	4100	4000	3700
India ^(e)	89	29	–
Japan	110	110 ^(e)	110 ^(e)
Korea, Republic of	65	71	100
Mexico	34	66	108
Morocco	122	141	132
Pakistan	11	11	11 ^(e)
Senegal (Attapulгите)	150 ^(e)	167	181
South Africa (Attapulгите)	65	70	52
Spain (Attapulгите & Sepiolite)	742	765	595
USA	2660	2510 ^(e)	2360 ^(e)
Other countries	52	60	51

Source: World Mineral Production, 2005-2009.

** Including Attapulгите & Sepiolite.*

FOREIGN TRADE

There were no exports or imports of fuller's earth during 2008-09 and 2009-10.