

FULLER'S EARTH



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FULLER'S EARTH

(FINAL RELEASE)

**GOVERNMENT OF INDIA
MINISTRY OF MINES
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22 Fuller's Earth

Fuller's earth, like bentonite, is also known as 'bleaching clay' because of its inherent bleaching properties. Fuller's earth is 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 1.4.2010 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 2010-11 at about ₹ 19 crore was lower by 42% as compared to the previous year. The production was reported from the states of Andhra Pradesh, Rajasthan, Madhya Pradesh & Karnataka.

Andhra Pradesh accounted for 74% in the total value of production of fuller's earth followed by Rajasthan with about 21% share and the remaining 5% was shared by Madhya Pradesh & Karnataka (Table - 2).

**Table – 1 : Reserves/Resources of Fuller's Earth as on 1.4.2010
(By States)**

Grade/State	(In tonnes)						
	Reserves			Remaining resources			Total resources (A+B)
	Proved STD111	Probable STD122	Total (A)	Indicated STD332	Inferred STD333	Total (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.

FULLER'S EARTH

**Table – 2 : Value of Production of Fuller's Earth
2008-09 to 2010-11
(By States)**

(In '000)			
State	2008-09	2009-10(R)	2010-2011(P)
India	190745	328037	192003
Andhra Pradesh	160487	186069	142457
Karnataka	4265	-	7055
Madhya Pradesh	1613	2928	2295
Rajasthan	24380	139040	40196

Source: State Governments.

USES

Fuller's earth is 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. Fuller's earth is generally used in fertilizer industry. Consumption, however, is expected to rise in other unconventional uses as absorbent, cleaning oil spillage on factory floors, as carrier for insecticides, fungicides and as a mineral filler and extender.

CONSUMPTION

The consumption of fuller's earth was at 5,600 tonnes in 2011-12 (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 decreased marginally to 3.3 million tonnes in 2011 from 3.4 million tonnes in 2010. The USA was the top producer, accounted for about 64% of the world production. Other principal producers were Spain (18%) and Senegal (5%) (Table-4).

**Table – 3 : Reported Consumption of Fuller's Earth
2009-10 to 2011-12
(By Industries)**

(In tonnes)			
Industry	2008-09	2009-10(R)	2010-2011(P)
All Industries	5600	5700	5600
Chemical	300(1)	300(1)	300(1)
Petroleum refining	200(4)	200(4)	200(3)
Vanaspati	5100(12)	5200(12)	5100(12)

Figures rounded off.

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)**

(In '000 tonnes)			
Country	2009	2010	2011
World : Total*	3304	3400	3300
India ^e	6	6	6
Japan ^e	110	110	110
Korea, Republic of	100	83	47
Mexico	108	170	107
Morocco	132	83	104
Pakistan	10	11	7
Senegal (Attapulgate)	181	204	180
South Africa (Attapulgate)	52	58	14
Spain (Attapulgate & Sepiolite)	595	586	592
USA	2010	2050	2100
Other countries	-	39	33

Source: World Mineral Production, 2007-2011.

** Including Attapulgate & Sepiolite.*

FOREIGN TRADE

There were no exports and imports of fuller's earth during 2011-12.