



Indian Minerals Yearbook 2016

(Part-III : Mineral Reviews)



55th Edition

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 decolourise, filter and purify animal, mineral & 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.

RESERVES/RESOURCES

The total reserves/resources of fuller's earth in India as on 1.4.2015 as per NMI database, based on UNFC system have been estimated at 261.38 million tonnes. Out of these, only 3.94 million tonnes are placed under 'reserves' category while remaining 257.4 million tonnes

(98.49%) are placed under 'resources' category. About 74% of the total resources are located in Rajasthan. The remaining resources are in Telangana (10%), Arunachal Pradesh (8%), Assam (7%), and negligible quantity in Karnataka and Madhya Pradesh. The statewise reserves/resources of fuller's earth are given in Table-1.

PRODUCTION

Fuller's earth was declared as "Minor Mineral" under Mines and Minerals (Development and Regulation) Act, 1957. The value of fuller's earth produced in India in 2014-15 was about ₹ 46 crore, which was higher by 32% as compared to the previous year. The production was reported from the States of Telangana, Madhya Pradesh, Rajasthan & Karnataka.

Telangana was the leading producer contributing about 86% of the total value of production of fuller's earth followed by Rajasthan 13% and Karnataka 1%. The remaining nominal contribution was reported from Madhya Pradesh. (Table - 2).

**Table – 2 : Value of Production of Fuller's Earth
2012-13 to 2014-15(P)
(By States)**

(In ₹'000)

State	2012-13	2013-14	2014-15 (P)
India	309502	346219	458020
Andhra Pradesh	229243	317090	-
Jammu & Kashmir	3631	-	-
Karnataka	13378	9484	2406
Madhya Pradesh	14550	434	220
Rajasthan	48700	19211	59600
Telangana	-	-	395794

Source: State Governments.

**Table – 1: Reserves/Resources of Fuller’s Earth as on 1.4.2015
(By States)**

(In tonnes)

Grade/State	Reserves		Remaining Resources				Total Resources (A+B)
	Proved STD111	Total (A)	Pre-feasibility STD222	Indicated STD332	Inferred STD333	Total (B)	
All India : Total	3941000	3941000	58200	912340	256467419	257437959	261378959
Unclassified Grade : Total	3941000	3941000	58200	912340	256467419	257437959	261378959
By States							
Arunachal Pradesh	–	–	–	10700	20000000	20010700	20010700
Assam	–	–	–	–	18860000	18860000	18860000
Karnataka	–	–	58200	551640	1557156	2166996	2166996
Madhya Pradesh	–	–	–	–	117200	117200	117200
Rajasthan	3941000	3941000	–	350000	190409080	190759080	194700080
Telangana	–	–	–	–	25523983	25523983	25523983

Figures rounded off.

INDUSTRY

Rajasthan is principal producer of fuller's earth where most of the mines as well as industries producing various products of fuller's earth are located. Barmer, Bikaner and Jaisalmer are the major districts whereas, Andhra Pradesh and Telangana are the other states from where fuller's earth deposits are located. Bajaj Earths Pvt. Ltd., Mumbai and Prakash Chemicals , Medak are the renowned industries trading fuller's earth and related products.

USES

Fuller's earth is used to decolourise, deodorise, dehydrate and neutralise various minerals, vegetable/ animal oils, etc. It is also used in the manufacture of No Carbon Required (NCR) papers. Of late, the growth in consumption in these sectors, has been affected because of the 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 as a carrier. In animal feed, fuller's earth is used as binders for pelletised feeds, carriers of supplement free flowing additives for feed in flour and lubricants to reduce dye friction. Consumption, however, is expected to rise in other unconventional uses as absorbent, for cleaning oil spillage on factory floors; as carrier for insecticides, fungicides and as a mineral filler & extender.

CONSUMPTION

The estimated consumption of fuller's earth remained unchanged at 5,600 tonnes in 2015-16. Likewise Vanaspati Industry remained 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 (Table-3).

**Table- 3: Consumption* of Fuller's Earth
2013-14 to 2015-16
(By Industries)**

Industry	(In tonnes)		
	2013-14	2014-15 (R)	2015-16 (P)
All Industries	5600	5600	5600
Chemical	300	300	300
Petroleum refining	200	200	200
Vanaspati	5100	5100	5100

Figures rounded off.

** Includes actual reported consumption and/or estimates made wherever required and due to paucity of data, coverage may not be complete.*

WORLD REVIEW

The world production of fuller's earth increased slightly to 3.3 million tonnes in 2015 as compared to 3.22 million tonnes in 2014. The USA was the top producer which accounted for about 60% of the world production followed by Spain (18%), Mexico (7%) and Senegal (6%) (Table-4).

FOREIGN TRADE

There were no exports and imports of fuller's earth during 2014-15 & 2015-16.

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

Country	(In '000 tonnes)		
	2013	2014	2015
World: Total*	3450	3218	3298
Angola	98	-	-
Australia	11	10	16
Greece (Attapulгите)	32	45	108
India ^c	6	6	6
Korea, Rep. of	51	54	87
Mexico	307	245	240 ^e
Morocco ^c	59	60 ^e	60 ^e
Pakistan	4	6	8
Senegal (Attapulгите)	235	191	188
South Africa (Attapulгите)	21	18	18
Spain (Attapulгите & Sepiolite)	626	582	586
Turkey ^e (Sepiolite)	10	10	10
USA	1990	1990	1970 ^e

Figures rounded off.

Source: World Mineral Production, 2011-2015.

** Including attapulгите & sepiolite.*

c - Smectite