



Indian Minerals Yearbook 2022

(Part- III : Mineral Reviews)

61st Edition

MINOR MINERALS

30.10 FULLER'S EARTH

(ADVANCE RELEASE)

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MINISTRY OF MINES
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30-10 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 has been estimated at 261.38 million tonnes. Out of these, only 3.94 million tonnes are placed under 'Reserves' category while 257.4 million tonnes (98.49%) are placed under 'Remaining Resources' category. About 74% of the total

resources are located in Rajasthan while the remaining resources are in Telangana (10%), Arunachal Pradesh (8%) and Assam (7%). Negligible quantities are also reported from Karnataka and Madhya Pradesh. The Statewise reserves/resources of fuller's earth are furnished in Table-1.

PRODUCTION

As defined in Clause (e) of the Section-3 of MM(DR) Act 1957, 'fuller's earth' has been declared as 'Minor Mineral', hence the producers report the production data directly to the respective States and not to IBM. However, efforts were made to collect this information through correspondence with the State Directorates of Mining and Geology of individual States or visiting their websites. But data of only a few States could be collected. All possible information/data that could be gathered has been presented in this Review.

Statewise production of fuller's earth during 2019-20 to 2021-22 is furnished in Table-2.

**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. Note : " - " Nil

Table-2 : Statewise Production of Fuller's Earth

(In tonnes)

| State | Year | | |
|-----------|---------|---------|---------|
| | 2019-20 | 2020-21 | 2021-22 |
| Telangana | 597205 | - | - |
| Rajasthan | 22000 | 28297 | 222871 |
| Karnataka | 3299 | 32958 | - |

Source: As received from State DGMs and their websites.

Note: "-" " NA

USES & SPECIFICATIONS

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.

WORLD SCENARIO

World resources of clays including fuller's earth are quite large, hence country specific data is not available. USA is the major producer. Other major producers are Spain, Mexico and Senegal.