

OTHER CALCAREOUS MATERIALS



# Indian Minerals Yearbook 2018

(Part- III : Mineral Reviews)

**57<sup>th</sup> Edition**

## MINOR MINERALS 30.18 OTHER CALCAREOUS MATERIALS

**(FINAL RELEASE)**

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# 30-18 Other Calcareous Materials

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Other calcareous material used by industry is 'chalk', a white, extremely fine-grained, usually soft and friable variety of limestone, composed largely of microscopic small remains of foraminifera and broken shelly fragments; 'kankar', irregular nodules and concretions of impure calcium carbonate of all sizes found in the older surface alluvium or soils; and 'limeshell', the thick calcareous shells of molluscs deposited in the form of beds as well as present in ancient lakes and shallow seas. A limestone rock which separates well along the stratification into a few centimetres thick slab is termed 'flagstone'. The dimensional limestone is used for building and ornamental stone.

The total resources of chalk of all categories and grades as per NMI data based on UNFC system as on 1.4.2015 have been estimated in Gujarat at 6.75 million tonnes of which 5.06 million tonnes (75%) are under Reserves category and 1.69 million tonnes (25%) are under Remaining Resources category (Table-1).

## Limekankar

As per Govt. of India Notification S.O. 423(E), dated 10<sup>th</sup> February 2015, 'limekankar' has been declared as 'Minor Mineral', hence the producers report the production data directly to the respective states and not to IBM. Production data of limekankar was not available.

## Chalk

As per Govt. of India Notification S.O. 423(E), dated 10<sup>th</sup> February 2015, 'chalk' 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. All possible information/data that could be gathered has been presented in this Review.

Only Gujarat State reported production which was 308495 tonnes, 304687 tonnes & 271694 tonnes for the years 2015-16, 2016-17 & 2017-18 respectively.

## USES

### Chalk

This soft, friable, porous sedimentary carbonate rock is a form of limestone composed mainly of calcite. It forms under reasonably deep marine conditions from the gradual accumulation of minute shells shed by micro-organisms. Chalk deposits are sedimentary types and it has greater resistance to weathering and slumping than the clays with which it is usually associated, thus forming steep cliffs where the chalk ridges meet the sea. Its well jointed nature holds large volume of ground water making it a natural reservoir. Chalk is mined from both above and underground.

Chalk is a common name given to black board chalk used for writing on the black board because of its property of crumble and easy to erase. Now a days many substitutes have replaced the natural chalk. Apart from this primary use, it is extensively used as a filler as builder's putty. It is also used to increase pH of acidic soils, in small doses as anti-acid, as mild abrasive in toothpastes and polishing of metals and also as a fingerprint powder.

### Kankar

Kankar is a nodular variety of limestone which is of spongy nature, found in almost all parts of India containing some quantity of clayey and silicious matter. It is found either in layers or blocks, or in separate nodules. The block form occurs as solid deposits at various depths, and the nodular variety is generally found scattered on the surface or in small thicknesses about a metre or so below the surface in the low lying portions of the catchments of nallas and rivulets. The nodules are of varying sizes from 10 mm to 100 mm. Nodular kankar is superior to block kankar but is not available in large quantities. Shining or glittering particles in a fresh fracture indicate presence of sand. The proportions of clay and sand can be determined by dissolving the sample in powdered form in dilute hydrochloric acid and determining the residue left. "Bichwa" kankar as

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**Table – 1: Reserves/Resources of Chalk as on 01.04.2015**  
(By Grades/States)

(In '000 tonnes)

Grade/State	Reserves			Remaining Resources					Total Resources (A+B)				
	Proved STD111	Probable STD121 STD122	Total (A)	Feasibility STD211	Pre-feasibility STD221 STD222	Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)		
<b>All India : Total</b>	<b>4215</b>	<b>529</b>	<b>319</b>	<b>5064</b>	<b>741</b>	<b>331</b>	<b>151</b>	<b>196</b>	<b>-</b>	<b>269</b>	<b>-</b>	<b>1687</b>	<b>6751</b>
<b>By State</b>													
Gujarat	4215	529	319	5064	741	331	151	196	-	269	-	1687	6751

Figures rounded off. Note : " - " Nil

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### **FUTURE OUTLOOK**

known in the Punjab and U.P. in India is considered to be the best.

Kankar is extensively used for producing hydraulic lime. The nodules should have a blue grey fracture, free of any sand grains or mud sticking to them, and broken to pass a 12 mm gauge before being calcined.

Calcareous materials other than limestone and dolomite produced in India are chalk and lime kankar. Chalk is produced in huge quantities from Gujarat state, whereas Limekankar is found and produced locally from many parts of India. Considering their availability in large quantity, low cost and local uses Indian deposits may last for many years.

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