Indian Minerals Yearbook 2020

(Part- III : Mineral Reviews)

59th Edition

MINOR MINERALS

30.18 OTHER CALCAREOUS MATERIALS

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

Indira Bhavan, Civil Lines,
NAGPUR – 440 001

PHONE/FAX NO. (0712) 2565471
PBX : (0712) 2562649, 2560544, 2560648
E-MAIL : cme@ibm.gov.in
Website: www.ibm.gov.in

July, 2021

30-18 Other Calcareous Materials

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 dimension limestone is used for buildings and as ornamental stones.

The total resources of chalk of all categories and grades as per NMI data based on UNFC system as on 1.4.2015 has 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 10th 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 10th 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.

Production data of chalk was not available.

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 blackboard chalk used for writing on the blackboard because of its property of crumble and easy to erase. Nowadays 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 soils, in small doses as antacid, 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 residue left. “Bichwa” kankar as known in Punjab and Uttar Pradesh in India is considered to be the best.

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	Probable		Total	Feasibility	Pre-feasibility		Measured	Indicated	Inferred	Reconnaissance	Total	
	STD111	STD121	STD122	(A)	STD211	STD221	STD222	STD331	STD332	STD333	STD334	(B)	
All India : Total	**4215**	**529**	**319**	**5064**	**741**	**331**	**151**	**196**	**-**	**269**	**-**	**1687**	**6751**
By State													
Gujarat	4215	529	319	5064	741	331	151	196	-	269	-	1687	6751

Figures rounded off.

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.

Only Rajasthan State reported production for Kankar-Bajri about 28,98,000 tonnes & 56,30,000 tonnes during 2018-19 & 2019-20 respectively.

FUTURE OUTLOOK

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 domestic applications Indian deposits have the potential to last for many years.