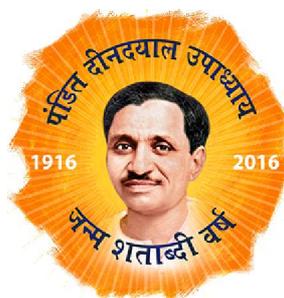


TALC, SOAPSTONE AND STEATITE



Indian Minerals Yearbook 2016

(Part- III : Mineral Reviews)



55th Edition

TALC, SOAPSTONE AND STEATITE

(FINAL 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

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47 Talc, Soapstone and Steatite

Talc is a hydrous magnesium silicate. In trade parlance, talc often includes: (i) the mineral talc in the form of flakes and fibres; (ii) steatite, the massive compact cryptocrystalline variety of high-grade talc; and (iii) soapstone, the massive talcose rock containing variable talc (usually 50%), which is soft and soapy in nature. Commercial talc may contain other minerals like quartz, calcite, dolomite, magnesite, serpentine, chlorite, tremolite and anthophyllite as impurities. The properties of talc that enable its use in a wide variety of applications are its extreme softness & smoothness, good lustre & sheen, high slip & lubricating property, low moisture content, ability to absorb oil & grease, chemical inertness, high fusion point, low electrical & heat conductivity, high dielectric strength, good retention for filler purposes, whiteness, good hiding power as pigment and high specific heat. In addition, it has the advantage of being relatively abundant. It can be easily mined and prepared for market. Rajasthan is the hub of activities related to talc mining, processing and trade. Talc, Steatite and soapstone has been declared as Minor Mineral vide Notification No. SO 423 (E) dated 10.02.2015.

RESERVES/RESOURCES

As per NMI data base on the UNFC system, the total reserves/resources of talc/steatite/soapstone as on 1.4.2015 have been estimated at 316 million tonnes of which reserves and remaining resources are 106 million tonnes and 209 million tonnes, respectively. Substantial

quantities of reserves/resources are established in Rajasthan (57%) and Uttarakhand (25%). The remaining 28% resources are in Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Odisha, Sikkim, Tamil Nadu and Telangana by states. By grades, Paper & Textile grade accounts for about (22%) share in total resources followed by Insecticides (21%) and Cosmetics (9%). Resources of Ceramic and Paint grades are negligible. Others, Unclassified and Not-known grades account for about (48%) resources (Table-1).

EXPLORATION & DEVELOPMENT

During the year 2015-16, DGM Rajasthan carried out prospecting for search of Soapstone and other economic mineral within ultramafics between Surata, Kochri, Tahsil Simalwara and chikhli Distt. Dungarpur. The well foliated light greenish coloured talc-chlorite schist has been exposed in the form of thin bands and lenses.

PRODUCTION & STOCKS

As per GOI Notification S.O. 423(E) dated 10th February 2015, Steatite or Talc or Soapstone has been declared as Minor Minerals hence the data on production beyond January, 2015 are not available with Indian Bureau of Mines and, therefore, have not been reflected in this edition of the title. List of producers in various States is indicated in Table - 2.

TALC, SOAPSTONE AND STEATITE

**Table – 1 : Reserves/Resources of Talc/Steatite/Soapstone as on 1.4.2015
(By Grades/States)**

Grade/States	(In '000 tonnes)												
	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)
All India	72172	8067	26251	106490	18178	13020	32221	2994	8126	128620	6275	209434	315924
By Grades													
Paper & textile	21398	4401	6088	31887	5947	818	7170	575	430	15452	5890	36283	68170
Cosmetics	9094	361	2912	12368	1575	991	4287	1102	844	5986	146	14932	27300
Insecticide	17258	2193	7307	26759	6002	3205	11850	956	217	17066	40	39336	66095
Ceramic	131	10	64	205	17	46	93	-	35	160	17	367	572
Paint	52	300	242	594	57	27	92	-	-	135	30	341	935
Others	544	-	267	811	1314	3603	3539	346	100	2219	-	11122	11933
Unclassified	23359	801	9302	33462	2004	4246	4509	11	6444	78213	147	95573	129035
Not-known	336	-	67	404	1263	84	680	2	56	9388	5	11479	11883
By States													
Andhra Pradesh	1875	482	1001	3358	197	725	1804	184	369	3611	248	7137	10495
Bihar	-	-	-	-	-	-	-	-	-	149	-	149	149
Chhattisgarh	22	-	8	29	-	-	-	-	70	8	-	78	107
Gujarat	-	-	4	4	-	20	9	-	-	4	-	33	37
Jharkhand	336	-	83	419	-	-	54	2	4	243	16	319	739
Karnataka	46	53	182	280	58	78	251	11	208	1196	-	1800	2081
Kerala	-	-	-	-	-	-	-	-	-	14390	-	14390	14390
Madhya Pradesh	185	20	79	283	179	378	1609	-	1679	6107	-	9952	10235
Maharashtra	-	-	-	-	-	-	-	-	2565	14262	-	16827	16827
Odisha	-	2	8	10	106	89	193	151	-	278	-	817	827
Rajasthan	52812	2989	22189	77990	11249	6167	17498	1640	858	63411	151	100975	178965
Sikkim	-	-	-	-	-	-	60	-	-	-	-	60	60
Tamil Nadu	-	-	-	-	559	210	1762	27	-	553	-	3110	3110
Telangana	-	-	-	-	-	-	-	-	-	20	-	20	20
Uttarakhand	16896	4521	2698	24115	5831	5353	8982	978	2372	24388	5860	53765	77881

Figures rounded off.

TALC, SOAPSTONE AND STEATITE

Table – 2: Principal Producers of Talc/Steatite/ Soapstone

Name & address of producer	Location of mines	
	State	District
Associated Soapstone Distributing Co. (P) Ltd, Golcha Garden, Agra Road, Jaipur- 302 003, Rajasthan.	Rajasthan	Udaipur
Udaipur Mineral Development Syndicate (P) Ltd, Golcha Trade Centre (GTC), 4 th Floor Ajmeri Gate, MI Road, Jaipur- 302 001, Rajasthan.	Rajasthan	Bhilwara
Rajasthan Mineral & Co. B-25, Gautam Marg, Hanuman Nagar, Post- Vaishali Nagar, Jaipur- 302 021, Rajasthan.	Rajasthan	Bhilwara
Ratanlal Deedwaniya, D-4, Nagori Garden, Near Bank of Baroda, Bhilwara- 311 001, Rajasthan.	Rajasthan	Bhilwara
Nalwaya Mineral, Industries (P) Ltd, 7/A, Bapu Bazar, Udaipur- 313 001, Rajasthan.	Rajasthan	Dungarpur

(Contd.)

Table - 2 (Concl.)

Name & address of producer	Location of mines	
	State	District
Kedarnath Khaitan, Khaitan Industries, 5, Shivaji Nagar, Udaipur, Rajasthan.	Rajasthan	Udaipur
Katiyar Mining & Industries Corpn, 117/L/215, Naveen Nagar, Kakadeo, Kanpur- 208 025, Uttar Pradesh.	Uttarakhand	Bageshwar
Buddhra Mineral Aangan 7, New Fateh Pura, Udaipur- 313 001, Rajasthan.	Rajasthan	Udaipur
Raj Kumar Pareek Vill. & Post Jalia Via Bigod, Tehsil-Malagarh, Ajmer- 311 601.	Rajasthan	Bhilwara
Krishna Mines & Traders Rajasamand, 3-B, Industrial Estate Pratap Nagar, Udaipur- 313 003, Rajasthan.	Rajasthan	Udaipur

MINING, MARKETING & TRANSPORT

The deposits of talc are worked both by opencast and underground methods of mining. In India, almost all the mines are worked by opencast method except a few mines in Rajasthan and Andhra Pradesh, where underground method of mining is followed.

In opencast method, the overburden, being hard, is removed by drilling and blasting and the mineral, being soft, is mined and transported to the stacking places manually. In some opencast pits in Rajasthan, mechanical excavators are in use. Benches are formed along the strike on the

hanging wall and foot wall sides to work the deposit at depth. Most soapstone mines are worked manually. Some mines are semi-mechanised and a few are mechanised. In manually worked opencast mines, drilling is sometimes done by compressor-jackhammer unit. In semi-mechanised mines, drilling and face transport are by mechanical means but face loading, sorting, etc. are carried out manually. In a few mines, small capacity shovel and matching dumpers are deployed for handling waste. In most opencast mines, loading is done manually. In some larger mines, loading and transport are done by shovel and dumper combination. In a few mines, hand trimming is carried out on the surface. Mechanical haulage transports the material through the incline.

In underground mining in Rajasthan and Andhra Pradesh, the deposit is reached from the surface through shafts or inclines depending upon the topography and the configuration of the deposit. Generally, inclines of 1.8 m x 1.8 m and 2 m x 2 m in section are developed from the surface through the soapstone mineralisation along the dip. Levels of 1.8 m x 1.8 m or 2 m x 2 m in cross-section are driven along the body at vertical intervals of 15 to 25 m. For development, holes are drilled with compressed-air operated jackhammers. Holes in soapstone are blasted with special gelatine using ordinary detonators and safety fuses. For transportation and hoisting from underground, tipping tubs and skip hoists are used.

Talc stacked at the mine site or in stacking yard is processed by hand sorting to remove impurities like calcite, dolomite, iron oxide and quartzite. After removal of impurities grading is done visually on the basis of its whiteness. Sometimes, talc is washed to remove fine dust and impurities. It is generally graded as Grade 'A', Grade 'B', Grade 'C' and Grade 'D'.

Grade A

It is known as the first quality material. The colour of the mineral is pure white to slightly green. The whiteness is in the range from 90 to 95%. It is used in producing pharmaceuticals and cosmetics.

Grade B

It is known as the second quality material. The colour is pale-greenish to white. The whiteness is in the range from 85 to 90%. It is used in producing superior-grade paper, textile and ceramics.

Grade C

It is known as the third quality material. The colour is light greenish-grey. Whiteness is in the range from 78 to 85%. It is used in paper (inferior grade), paint, rubber, plastic and detergent industries.

Grade D

It is known as the fourth quality or DDT grade. The material having whiteness of 78% or below is generally classified under this grade. The colour of the material is dark greenish-grey to reddish-green. The DDT grade material is considered to be of a very poor quality. Gradewise whiteness & their specification along with consuming industries are furnished in Table-3.

Table – 3: Gradewise Consuming Industries of Talc

Grade	Whiteness Percentage	Industry
Grade - A	90 to 95%	i) Pharmaceutical ii) Cosmetic
Grade - B	85 to 90%	i) Superior grade paper ii) Textile iii) Ceramic
Grade - C	78 to 85%	i) Paper inferior grade ii) Paint iii) Rubber iv) Plastic v) Detergent
Grade - D	78% or below	DDT

The Industry's demand for fine powder is continuously prompting technological advancements to meet this purpose. The pulverisers/hammer mills developed and manufactured in India are capable of producing up to 700 mesh powder. The world market prefers fine powder which can be produced by adopting new processing techniques like micronising and sterilisation of the product.

Talc is crushed and ground by hammer mills and roller mills into powder and the size of talc particles is analysed by classifier. After pulverising/processing, the material is packed in 25 kg, 50 kg, 500 kg and 1,000 kg HDPE bags for internal use and laminated bags for export purpose. The pulverised talc from the processing plants and unprocessed talc from the mines are despatched through trucks and railway wagons to various consuming centres. The important loading stations for talc in the country are Maharana Pratap Nagar (Udaipur) and Kachhola in Rajasthan and Tanakpur in Uttarakhand. For exports, nearest ports are Kandla or Mumbai.

USES & SPECIFICATIONS

Talc in pulverised form is mostly used as a filler in paper, textile, rubber, insecticides and fertilizer industries. Pure talc after calcining, called 'Lava', is used in the manufacture of low-loss ceramic materials essential for radio, radar, television, etc. In roofing products, such as, tar, paper, asphalt shingles and roll roofing, talc acts as a fire retardant and increases weather resistance. Body and face powders (talcum powder) are prepared from the finest quality talc after adding deodorant and perfumes. Massive steatite when cut into panels is used for switchboards and acidproof tabletops in laboratory, laundry and kitchen sinks, in tubs and tanks as well as for lining alkali tanks in Paper Industry. Due to its high melting point (1630 °C), soapstone can be used in refractories and fire places. It is also quite useful in sculpturing.

Indian talc, especially mined in Rajasthan and Andhra Pradesh is comparable with the best quality available in other countries. In the world market, talc, free from grit, having high whiteness and high degree of soapiness feeling is very much sought after in cosmetic, filler and weighing applications. Talc having more than 92% brightness, less than 1% Fe₂O₃ and less than 1.5% CaCO₃ is preferred for exports.

Soapstone powder is also used as parting agent in Foundry Industry. Parting agents are used for easy release of moulds and cores from pattern equipment and core boxes. BIS specification IS 8250-1988 (first revision reaffirmed, February 2014) prescribes use of off-white or cream-coloured material having a very smooth and slippery feel, passing completely through 75 microns IS-sieve. The material shall be predominantly magnesium silicate and chemical composition as agreed to between buyer and purchaser compatible with naturally occurring soapstone. In Paint Industry, foliated, fibrous or lamellar material of 300 mesh and free from silica is used. Specifications of steatite (as French chalk) used in paper, textile, pyrotechnic and rubber industries as per IS: 380-1978 (Second Revision, Reaffirmed 2003) are furnished in Table - 4. Specifications as per IS : 10429-1982 (Reaffirmed 2001) for Ceramic Industry and actual user specifications for Insecticide Industry are furnished in Table-5. BIS has prescribed specifications for use of talc in Cosmetic Industry vide IS: 1462-1985 (Third Revision, Reaffirmed 2006). The international specifications of talc for use in Ceramic, Cosmetic and Paint industries are detailed in Table- 6.

Table – 4 : Specifications of Steatite (French Chalk, Technical for Use in Paper, Textile, Pyrotechnics and Rubber Industries) (IS: 380-1978, Second Revision, Reaffirmed 2003)

Parameter	Paper	Textile	Pyrotechnics	Rubber
Loss on ignition	4% (max.)	4% (max.)	4% (max.)	4% (max.)
Matter insoluble in HCl	95% (min.)	95% (min.)	95% (min.)	95% (min.)
Grit, percentage by mass, max.	0.02	0.02	0.02	–
Chlorides (NaCl)	0.5% (max.)	0.5% (max.)	0.5% (max.)	0.5% (max.)
Iron (as Fe ₂ O ₃) percentage by mass, max.	0.3	0.3	0.3	–
pH 8.5 (max.)	8.5 (max.) (of 10% solution)			
Whiteness, reflectance to blue light of wave length 5040 Å ⁰ (percent, min.)	80	80	80	–
Relative density	2.7-2.9 (at 27 °C)	2.7-2.9 (at 27 °C)	2.7-2.9 (at 27 °C)	2.7-2.9 (at 27 °C)
Remarks	–	–	–	*

* Material required for preservation of rubber goods shall contain not more than 0.05%, by mass, of copper or manganese or their compound in terms of respective compounds.

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Table – 5 : Specifications of Steatite for Use in Insecticide and Ceramic Industries

Parameter	Insecticide (User)	Ceramics (IS:10429-1982)	
		Grade-I	Grade-II
Loss on ignition (% by mass, max.)	7% (max.)	5.5%	6.5%
Moisture and other volatile matter	1% (max.)	1% (max.)	1% (max.)
Silica (as SiO ₂) % by mass, min.	–	60	56
Alumina (as Al ₂ O ₃) % by mass, max.	–	1.5	2.5
Iron oxide (as Fe ₂ O ₃) % by mass, max.	1-1.5	1.0	1.5
Calcium oxide (as CaO) % by mass, max.	–	1.0	3.5
Magnesia (as MgO) % by mass, min.	–	30	28
Alkali (as Na ₂ O + K ₂ O) % by mass, max.	–	0.4	0.5
pH	6-7	–	–
Fineness	300 mesh	–	–
Size grading			
Material passing through 75 microns IS sieve, % by mass, min.	–	99	99
Material passing through 45 microns IS sieve, % by mass, min.	–	80	80
Specific gravity	–	2.7 to 2.8	2.7 to 2.8
Fusibility (Orton Standard Pyrometric Cone)	–	18 to 23 (1522-1605 °C)	16 to 18 (1491-1522 °C)
Linear shrinkage (fired) % by length, max.	–	12	–
Water absorption % by mass, max.	–	0.1	–

Grade-I : Suitable for Ceramic Insulator Industry & Grade II: Suitable for Ceramic Pottery Industry

Table – 6 : International Specifications for Talc

Parameter	Ceramic	Cosmetic	Paint*
MgO	30% (min.)	–	88% (Mg and Ca silicates)
SiO ₂	60%	0.1-1.0%	–
CaO	1% (max.)	–	–
Al ₂ O ₃	4% (max.)	–	–
Fe ₂ O ₃	1.5% (max.)	–	–
Alkali	0.4% (max.)	–	–
Size	-325 mesh (95%)	-200 mesh	-325 mesh
Acid soluble	6	–	–
Water soluble	–	0.1 (max.)	1
Loss on ignition	–	6	7
Brightness	–	–	Over 90

* Moisture 1%.

CONSUMPTION

Talc is used mostly in pulverised form as a filler and extender in various industries. The non-pulverised talc is used in refractory, etc. Total reported consumption of Talc/Steatite/Soapstone in the Organised Sector was about 382 thousand tonnes in 2015-16. During 2015-16, paper industry consumes (54%) of total talc consumed, followed by Paint (20%), Pesticide (11%), Ceramic (9.4%) and Cosmetic (3.5%) industries. Nominal consumption was shared by Foundry, Rubber and other industries. Consumption of Talc/Steatite/Soapstone during 2013-14 to 2015-16 is given in Table-7.

Table – 7: Consumption* of Talc/Steatite/ Soapstone, 2013-14 to 2015-16 (By Industries)

Industry	(In tonnes)		
	2013-14	2014-15 (R)	2015-16 (P)
All Industries	367800	369300	381800
Ceramic	28700	30400	35900
Cosmetic	13300	13000	12800
Foundry	++	++	6100
Paint	74800	74800	75800
Paper	207300	207300	207300
Pesticide	42100	42100	42100
Rubber	700	700	700
Others (abrasive, chemical, electrode, electrical fertiliser, foundry, pharmaceutical, refractory, textile and vanaspati)	900	1000	1100

Figures rounded off.

(*Includes actual reported consumption and/or estimates made wherever required and Paucity of data, hence consumption may not be complete).

Plastic Industry also consumes talc for which data is not available.

POLICY

The Export-Import Policy incorporated in the Foreign Trade Policy, 2015-20 allows imports and exports of talc freely without restrictions under Heading No. 2526.

WORLD REVIEW

The world reserves of talc and pyrophyllite are quite large and sufficient to meet the world

demand. The world reserves of talc (along with pyrophyllite) are given in (Table - 8). Reserves of talc are not available separately.

The world production of talc marginally increased to 6.8 million tonnes in 2015. Principal producing countries were China (32%), followed by Mexico and India (11%) each, Brazil (14%), USA (9%) and France (5%) (Table- 9). Several domestic talc markets have declined over the years. The largest decrease took place in the ceramic industry which fell by 50%, paper 37% cosmetic 35% respectively.

Table – 8 : World Reserves of Talc and Pyrophyllite (By Principal Countries)

(In '000 tonnes)	
Country	Reserves
World: Total (rounded off)	Large
Brazil (Crude & beneficiated)	52000
China (Unspecified Minerals)	Large
France (Crude)	Large
India	110000
Japan	100000
Korea, Rep. of	11000
Mexico	Large
USA	140000
Other countries(include crude)	Large

Source: Mineral Commodity Summaries, 2017

Table – 9 : Production of Talc (By Principal Countries)

(In '000 tonnes)			
Country	2013	2014	2015
World: Total	6959	6792	6804
Argentina [@]	25	25	25 ^e
Australia ^e	104	115	80
Austria	135	131	122
Brazil [@]	593	644	650 ^e
Canada	175	81	164
China ^e	2200	2200	2200
Egypt	63	31	30 ^e
Finland	362	381	332
France ^e	350	350	350 ^e
India	888	774	770 ^e
Iran	93	113	100 ^e
Italy	162	165 ^e	165 ^e
Japan ^e	25	25	25
Korea, Dem P.R.	50	50	50
Mexico	847	752	750 ^e
Pakistan	93	89	116
Peru	33	29	27
Russia ^e	150	150	150
USA	542	610	633
Other countries	69	77	64

Source: World Mineral Production, 2011- 2015.

@ : Including talc, agaimatolite and pyrophyllite

FOREIGN TRADE**Exports**

Exports of Talc/Steatite/Soapstone increased considerably to 1,87,287 tonnes in 2015-16 from 1,58,405 tonnes in the previous year. Out of the total steatite exported in 2015-16 steatite blocks constituted 2,621 tonnes, steatite lumps 2736 tonnes and steatite powder and others 1,71,930 tonnes. Steatite in different forms was exported mainly to Thailand (17%), Indonesia (10%), UAE and Nigeria (7%) each, Bangladesh & Malaysia and Spain (6%) each, and Philippines (3%) & Japan (2% each) (Tables- 10 to 13).

Imports

Imports of steatite marginally increased to 4,533 tonnes in 2015-16 from 3,693 tonnes in the previous year. Out of the total steatite imported in 2015-16, steatite lumps were 55 tonnes and steatite powder & others 4,478 tonnes. Steatite in different forms was imported mainly from China (52%), Italy (25%), France (6%) and USA (4%) (Tables-14 to 16).

Table – 10 : Exports of Steatite (By Countries)

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	158405	2156562	187287	2709697
Thailand	28432	318437	32416	373545
Indonesia	16750	299871	18557	340559
UAE	14530	181808	13097	177727
Spain	5006	59957	11394	153213
Italy	2984	44979	7925	143218
Philippines	3852	121806	5769	134181
Nigeria	11724	119904	12631	131249
Malaysia	9819	106459	11647	120202
Bangladesh	9909	106287	8765	107249
Japan	3590	89321	3365	97338
Other countries	51809	707733	61721	931216

Table –11 : Exports of Steatite Blocks (By Countries)

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	1056	19327	2621	33769
China	512	8116	720	11933
Korea Rep. of	-	-	1313	10771
USA	20	689	54	1840
Canada	-	-	20	1722
Switzerland	55	788	108	1419
Ivory Coast	-	-	140	1157
Germany	107	3003	52	902
Norway	-	-	28	592
Japan	41	408	42	487
Saudi Arabia	-	-	44	440
Other countries	321	6323	100	2506

Table –12 : Exports of Steatite & Lumps (By Countries)

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	7926	96594	12736	222370
Italy	2350	34560	7000	128859
Korea Rep. of	-	-	3412	65324
China	1209	26021	710	16250
Japan	851	15051	140	2930
Bangladesh	2306	9584	1180	5138
Netherlands	144	2253	92	1610
Sri Lanka	-	-	79	1049
Vietnam	249	1757	20	397
Oman	-	-	50	331
Belgium	119	2163	23	300
Other countries	698	5205	30	182

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**Table – 13 : Exports of Steatite Powder & Others
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (`.'000)	Qty (t)	Value (`.'000)
All Countries	149423	2040641	171930	2453558
Thailand	28432	318473	32415	373367
Indonesia	16600	298474	18557	340559
UAE	14530	181788	13097	177624
Spain	5006	59957	11394	153213
Philippines	3852	121806	5769	134181
Nigeria	11724	119887	12631	131294
Malaysia	9711	105872	11647	120202
Bangladesh	7388	94460	7580	101805
Japan	2698	73862	3183	93921
Saudi Arabia	4868	61172	4522	70309
Other countries	44614	604926	51135	757128

**Table – 14 : Imports of Steatite
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (`.'000)	Qty (t)	Value (`.'000)
All Countries	3693	130505	4533	198579
Italy	659	45928	1155	77646
China	988	37923	2345	70417
USA	186	10726	188	12579
France	198	6748	286	9162
Belgium	5	378	74	6339
Japan	22	4079	25	3136
Portugal	64	3477	40	2025
Korea Rep. of	15	1634	28	2419
Bangladesh	-	-	1	2310
Austria	2	885	25	1975
Other countries	1554	18727	366	10571

**Table –15: Imports of Steatite Lumps
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (`.'000)	Qty (t)	Value (`.'000)
All Countries	908	7135	55	779
Pakistan	358	3686	55	779
Nepal	550	3449	-	-
Other countries	-	-	-	-

FUTURE OUTLOOK

The apparent domestic demand for talc-steatite was estimated to be 1.35 million tonnes by 2016-17 at 9% growth rate. India is one of the principal sources of 'Lava' grade talc suited for specialised purposes like low ceramic materials and of swan shaped talc. Indian talc is considered to be the second best in the world next to Italian talc. The world market conditions for talc minerals

**Table – 16: Imports of Steatite Powder & Others
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (`.'000)	Qty (t)	Value (`.'000)
All Countries	2785	123370	4478	197800
Italy	659	45928	1155	77646
China	988	37923	2345	70417
USA	186	10726	188	12579
France	198	6748	286	9162
Japan	22	4079	25	3136
Portugal	64	3477	40	2025
Belgium	5	378	74	6339
Korea Rep. of	15	1634	28	2419
Bangladesh	-	-	1	2310
Austria	2	885	25	1975
Other countries	646	11592	311	9792

are steadily growing, and world talc demand is forecast to increase over the next five years by 2.3% annually. India has large resource base and well-developed production facilities that utilise modern pulverising techniques. Concerted efforts through R & D advancements are necessary to make Indian talc suitable for world market.