Some Insights

Preface

The study uses trade indicators to analyse merchandise export and import data in a way that should be useful for the purpose of policy. The indicators provide a glimpse of the trade patterns of the world and the performance of India in comparison to various other countries. They have been used in the case of India's exports of **Embroidery in the piece and Sacks & Bags** and imports of **Synthetic Rubber and Phenols ; Phenol – Alcohols** to indicate the possible directions policy may take.

The data used in this study has been sourced from the Export Import Data Bank of the DGCI&S, Department of Commerce, and Government of India and from the United Nations Comtrade Database. Introduction notes of each commodities has been sourced from the various sights –viz Wikipedia, Britannica, The Economic Times etc.

Computations are based on data at ITC-HS four-digit level (ITC-HS Code-5810 & 6305 for export and 4002 & 2907 for import) and the latest finalized data available on the UN Comtrade Database up to year 2020 and on the DGCI&S Database up to July'2022. So, trends from 2017 to 2020 have been shown when we extract the data from UN Comtrade and from 2018 to 2021 have been shown when we extract the data from DGCIS Data base.

In this report, we will see various analysis and aspects of India's Precious as well as International export trade of Embroidery in the piece and Sacks & Bags and imports of Synthetic Rubber and Phenols ; Phenol – Alcohols. We will use both the 4 digit Commodity codes.

Trends in India's as well as International Trade i.e. Exports and Imports of above four Commodities are given below in different tables :

- **Table 1 : India's top 10 Export destination of Embroidery in the piece with their shares in percentage.**
- **Table 2 : World's top 10 Exporters of Embroidery in the piece with their shares in percentage.**
- **Table 3 : World's top 10 Importers of Embroidery in the piece with their shares in percentage.**
- **Annex- I : Top 3 sources of Embroidery in the piece of World's top 3 Importers.**
- **Table 4 : India's top 10 destination of Sacks & Bags with their shares in percentage.**
- **Table 5 : World's top 10 Exporters of Sacks & Bags with their shares in percentage.**
- **Table 6 : World's top 10 Importers of Sacks & Bags with their shares in percentage.**
- **Annex-II : Top 3 sources of Sacks & Bags of World's top 3 Importers.**
- **Table 7 : India's top10 Sources of Synthetic Rubber with their shares in percentage.**
- **Table 8 : World's top 10 Importers of Synthetic Rubber with their shares in percentage.**
- **Table 9 : India's top 10 Sources of Phenols ; Phenol – Alcohols with their shares in percentage.**
- **Table 10 : World's top 10 Importers of Phenols ; Phenol – Alcohols with their shares in percentage.**

EXPORT

Embroidery in the piece

Embroidery, art of decorating material, primarily textile fabric, by means of a needle and thread (and sometimes fine wire). The basic techniques include crewel work, needlepoint, cross-stitch embroidery, and quilting, as well as quillwork and feather work.

Ancient Egyptian tomb paintings show that clothes, couch covers, hangings, and tents were so decorated. Quilting was known to the ancient Persians and, at the time of the Battle of Marathon (490 bce), quilted garments were worn as armour; Greek vase paintings show these quilted suits covered with embroidery. Greeks depicted on vases from the 7th and 6th centuries bce and later are dressed in embroidered garments.

In India embroidery was also an ancient craft, but it is from the Mughal period (from 1556) that numerous examples have survived, many finding their way to Europe from the late 17th to the early 18th century through the East India trade. Stylized plant and floral motifs, notably the flowering tree, influenced English embroidery. The Dutch East Indies also produced silk embroideries in the 17th and 18th centuries. In Islamic Persia, examples survive from the 16th and 17th centuries, when embroideries show geometric patterns far removed by stylization from the animal and plant shapes that inspired them, owing to the Qurʾān's proscription of depicting living forms. In the 18th century these gave way to less severe, though still formal, flowers, leaves, and stems. In the 18th and 19th centuries a sort of patchwork called Resht was produced. Of the Middle Eastern work in the first half of the 20th century, there is a colourful peasant embroidery made in Jordan. In western Turkestan, Bokhara work with floral sprays in bright colours was done on covers in the 18th and 19th centuries.

Embroidery can be classified according to what degree the design takes into account the nature of the base material and by the relationship of stitch placement to the fabric. The main categories are free or surface embroidery, counted-thread embroidery, and needlepoint or canvas work.

In free or surface embroidery, designs are applied without regard to the weave of the underlying fabric. Examples include crewel and traditional Chinese and Japanese embroidery.

embroidery patterns are created by making stitches over a predetermined number of threads in the foundation fabric. Counted-thread embroidery is more easily worked on an even-weave foundation fabric such as embroidery canvas, aida cloth, or specially woven cotton and linen fabrics. Examples include cross-stitch and some forms of black work embroidery.

While similar to counted thread in regards to technique, in canvas work or needlepoint, threads are stitched through a fabric mesh to create a dense pattern that completely covers the foundation fabric. Examples of canvas work include bargello and Berlin wool work.

Embroidery can also be classified by the similarity of its appearance. In drawn thread work and cutwork, the foundation fabric is deformed or cut away to create holes that are then embellished with embroidery, often with thread in the same color as the foundation fabric. When created with white thread on white linen or cotton, this work is collectively referred to as white work However, white work can either be counted or free. Hardanger embroidery is a counted embroidery and the designs are often geometric. Conversely, styles such as Broderieanglaise are similar to free embroidery, with floral or Abstract art that are not dependent on the weave of the fabric.

A needle is the main stitching tool in embroidery, and comes in various sizes and types. The fabrics and yarns used in traditional embroidery vary from place to place. Wool, linen, and silk have been in use for thousands of years for both fabric and yarn. Today, embroidery thread is manufactured in cotton, rayon, and novelty yarns as well as in traditional wool, linen, and silk. Ribbon embroidery uses narrow ribbon in silk or silk/organza blend ribbon, most commonly to create floral motifs.

The development of machine embroidery and its mass production came about in stages during the Industrial Revolution. Contemporary embroidery is stitched with a computerized embroidery machine using patterns digitized with embroidery software.

These are broadly classified under **H.S. Code-5810.**

Table - 1

India's Top 10 destination of Embroidery in the piece (H.S Code-5810)

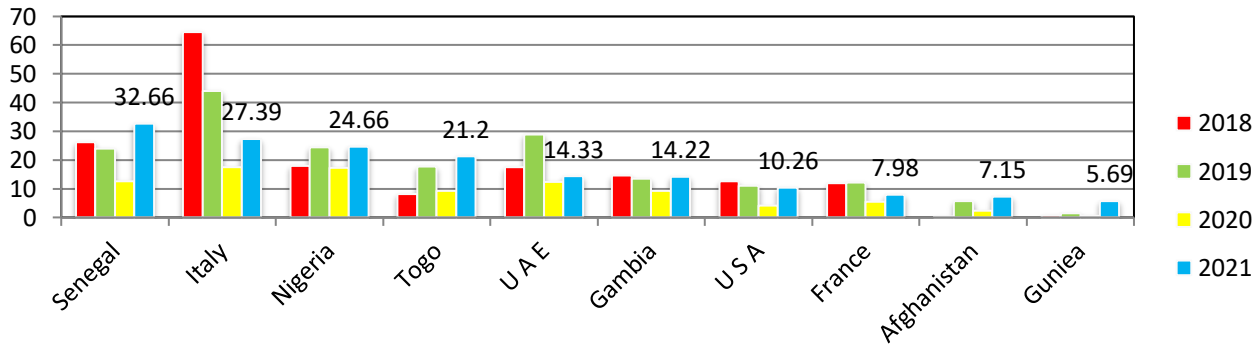
Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Senegal	26.19	11.26	23.99	9.86	12.56	11.18	32.66	16.32
2.	Italy	64.55	27.75	44.06	18.10	17.53	15.59	27.39	13.69
3.	Nigeria	17.95	7.72	24.40	10.03	17.38	15.47	24.66	12.32
4.	Togo	8.19	3.52	17.73	7.28	9.15	8.14	21.20	10.59
5.	U A E	17.47	7.51	28.76	11.82	12.28	10.93	14.33	7.16
6.	Gambia	14.59	6.27	13.47	5.53	9.26	8.24	14.22	7.11
7.	U S A	12.69	5.45	11.02	4.53	4.06	3.62	10.26	5.13
8.	France	12.03	5.17	12.17	5.00	5.48	4.87	7.98	3.99
9.	Afghanistan	0.40	0.17	5.73	2.35	2.41	2.15	7.15	3.57
10.	Guniea	0.85	0.36	1.53	0.63	0.61	0.54	5.69	2.84
	Others	57.74	24.82	60.53	24.87	21.67	19.28	34.56	17.27
	Total	232.66	100	243.39	100	112.40	100	200.10	100

Source: DGCI&S.

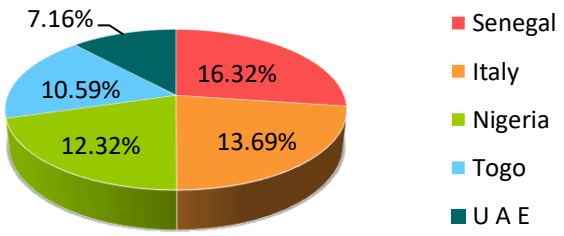
Note : India's Export including re-export

Leading importers of Embroidery in the Piece from India from 2018-2021**(Values in million USD)**

Data label given on the basis of 2021



India's top 5 destinations of Embroidery in the Piece by percentage India in 2021:



Embroidery in the piece is exported to over 160 countries from India. In the year 2021, India has exported the same worth value of US $ 200.10Million, showing the rise of more than 80% compared to the year 2020. Senegal was the largest market for Embroidery in the piece export from India, in 2021 Senegal imported US $ 32.66Million of Embroidery in the piece from India which was 16.32% share of India's total export. It was followed by Italy and Nigeria with 13.69 % and 12.32% share. The top 10 countries in total shared the share of 82.73% of total export from India.

Table-2

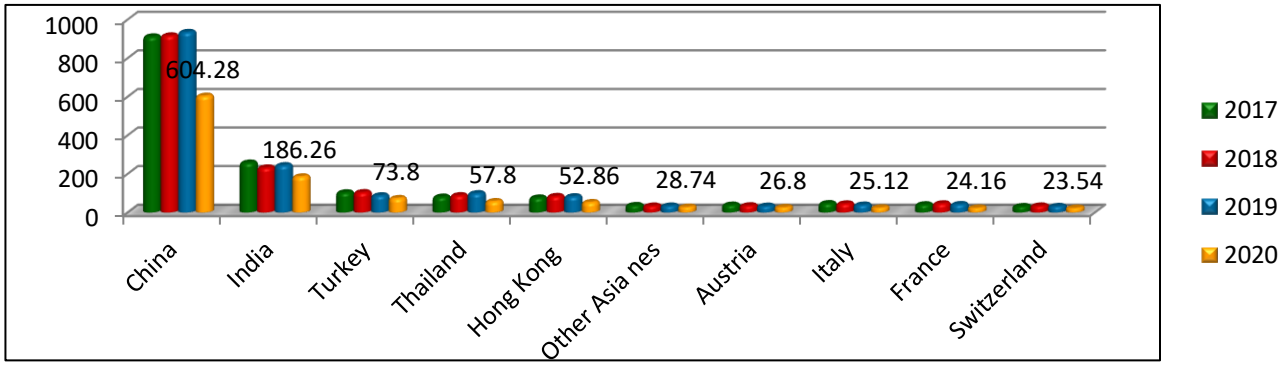
World's Top 10 exporter of Embroidery in the piece (H.S Code-5810)

Rank	Countries	2017		2018		2019		2020	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	911.80	47.60	916.97	48.38	934.83	50.20	604.28	47.76
2.	**India**	**257.46**	**13.44**	**232.33**	**12.26**	**244.21**	**13.11**	**186.26**	**14.72**
3.	Turkey	103.44	5.40	104.29	5.50	87.92	4.72	73.80	5.83
4.	Thailand	81.15	4.24	88.44	4.67	98.83	5.31	57.80	4.57
5.	Hong Kong	76.41	3.99	84.45	4.46	82.84	4.45	52.86	4.18
6.	Other Asia nes	37.38	1.95	34.60	1.83	34.72	1.86	28.74	2.27
7.	Austria	39.49	2.06	35.90	1.89	33.82	1.82	26.80	2.12
8.	Italy	47.36	2.47	45.78	2.42	39.61	2.13	25.12	1.99
9.	France	41.39	2.16	46.16	2.44	42.41	2.28	24.16	1.91
10.	Switzerland	31.80	1.66	34.83	1.84	32.47	1.74	23.54	1.86
	Others	287.94	15.03	271.62	14.33	230.51	12.38	161.85	12.79
	Total	1915.62	100	1895.36	100	1862.19	100	1265.21	100

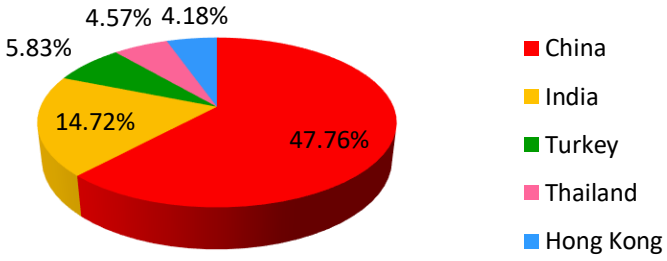
Source: UN Comtrade

World's Leading Exporters of Embroidery in the piece from 2017 to 2020(**Values in million USD)**

Data label given on the basis of 2020



Country Wise World Exports of Embroidery during 2020



In the year 2020, the world exports of Embroidery in the piece exceeded US $ 1.26 billion, down from US $ 1.86 Billion in 2019 and world export of the same is decreasing over the review period from 2017.Chinawas the top exporter of Embroidery in the piece, exported at about US $ 604.28Million, accounted 41.76% share of world export in 2020. **India** was the 2nd largest exporter of Embroidery in the piece in the world, exported US $ 186.26 Million, accounted 14.72% share of world export in the same year. It was followed by Turkey, exported the same in that year at 5.83%.

Table-3

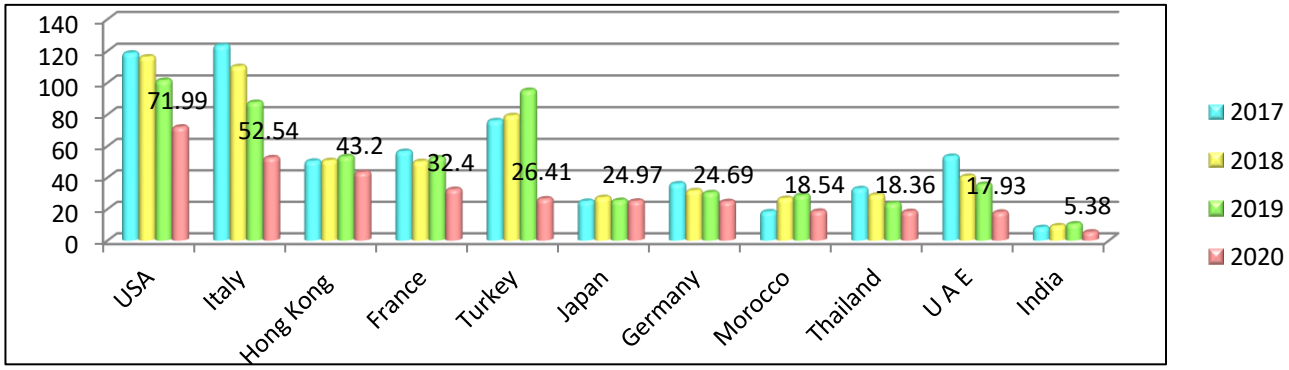
World's top 10 Importers of Embroidery in the piece (H.S Code-5810)

Rank	Countries	2017		2018		2019		2020	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	118.60	11.10	116.20	11.45	101.44	10.52	71.99	12.37
2.	Italy	123.34	11.54	110.11	10.85	87.54	9.08	52.54	9.03
3.	Hong Kong	50.36	4.71	50.77	5.00	53.22	5.52	43.20	7.42
4.	France	56.52	5.29	50.12	4.94	52.51	5.44	32.40	5.57
5.	Turkey	76.01	7.11	79.21	7.81	95.08	9.86	26.41	4.54
6.	Japan	24.86	2.33	27.26	2.69	25.40	2.63	24.97	4.29
7.	Germany	35.95	3.36	31.62	3.12	30.34	3.15	24.69	4.24
8.	Morocco	18.18	1.70	26.69	2.63	28.68	2.97	18.54	3.19
9.	Thailand	32.89	3.08	28.83	2.84	23.49	2.43	18.36	3.15
10.	U A E	53.44	5.00	40.68	4.01	35.66	3.70	17.93	3.08
24.	**India**	**8.19**	**0.77**	**9.30**	**0.92**	**10.50**	**1.09**	**5.38**	**0.93**
	Others	470.19	44.00	444.02	43.75	420.71	43.62	245.49	42.19
	Total	1068.51	100	1014.82	100	964.56	100	581.90	100

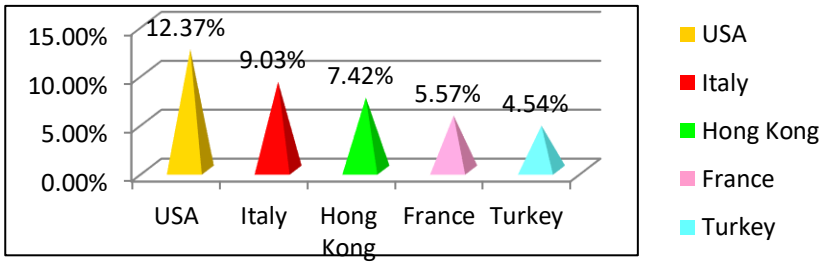
Source : UN Comtrade

Leading Embroidery in the piece importers of world from 2017 to 2020 **(Values in million USD)**

Data label given on the basis of 2020



Country wise world's leading importers of Embroidery in the piece by percentage in 2020

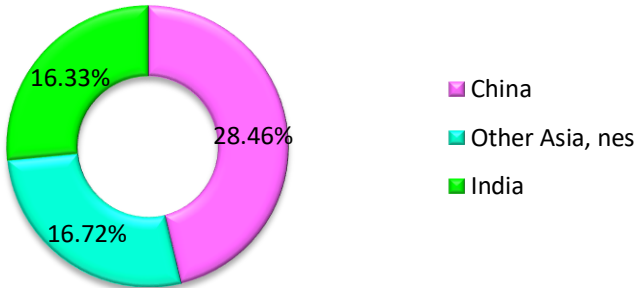


Global purchases of imported Embroidery in the piece cost a total US$ 581.90Million in 2020. In that year, imported of the commodity depreciated by 39.68% from US $ 964.56Million during 2019. USA consumed the highest dollar worth of imported Embroidery in the piece during 2020 with purchases valued at US $72Million or 12.37% of the world total. In second and third place were Italy and Hong Kong at 9% and 7.42% of globally imported of Embroidery in the piece in 2020. In that year India's share only0.93% of world total import value of Embroidery in the piece.

Annexure-1

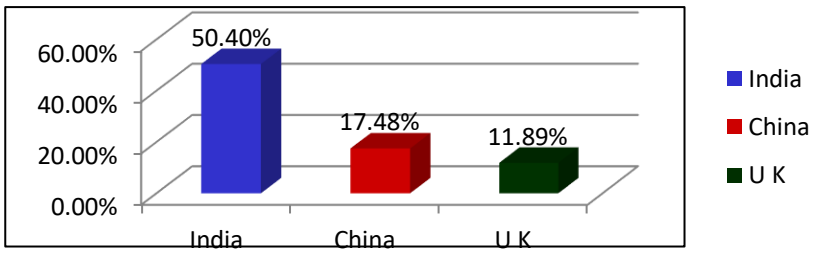
Sources of world's top 3 importers of Embroidery in the piece (H.S Code-5810)

(i) Top 3 Sources of Embroidery in the piece to USA in 2020 by percentage*:*



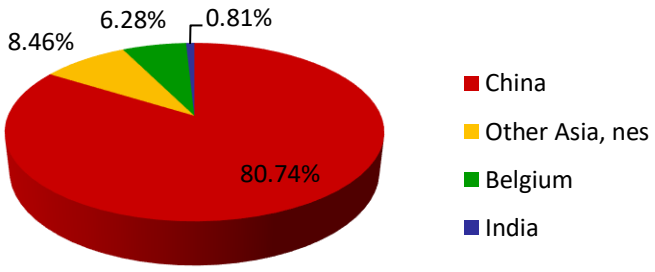
USA imports most of its requirements of Embroidery in the piece from China with 28.46 % share of USA's total import in 2020, from Other Asia, nes with 16.72%. **India** exports 16.33% share to USA in the same year and hold the 3rd major source of the commodity to USA.**(Source : UN Comtrade)**

ii) Top 3 Sources of Embroidery in the piece to Italy in 2020 by percentage*:*



50.40% of Embroidery in the piece Imports of Italy comes from **India** in 2020, it was distantly followed by China (17.48%) and UK (11.89%). **Source : UN Comtrade)**

iii) Top 3 Sources of Embroidery in the piece to Hong Kong in 2020 by percentage*:*



Hong Kong's 3 major source countries of Embroidery in the piece in 2020 were China (80.74 %), Other Asia, nes(8.46%) and Belgium (6.28%) in 2020.**India**has exported only 0.81% share of Embroidery in the piece to Hong Kong in 2020. **(Source: UN Comtrade)**

Sacks & Bags

Bags and sacks that have a square-shaped bottom are designed for storage on pallets. Storage containers with rigid-bottom forklift channel provide an alternative to palletization altogether. Super sacks are bulk bags that are fitted with pull-strings. Often, these bags and sacks are used in manufacturing environments for handling raw materials. Typically, a super sack is positioned over a hopper so that the contents are dumped when the pull strings are drawn or tugged. These bags and sacks are also used to move materials such as powders, grains, and other particulate matter into a production line. Specialized bags and sacks are available.

Some bags and sacks are manufactured with anti-static or static-shielding features. Typically, these products are used to protect sensitive electronic components. Other bags and sacks are specially-designed with air-filled bubbles or blisters for mailing or shipping fragile or breakable objects. Products also include bulk bags and specially-designed flexible bags for shipping. Flexible intermediate bulk containers (FIBC) are large, heavy-duty products made of woven filaments of polypropylene or polyethylene (either coated or uncoated) that come in several shapes for specific types of loads. When used as bags and sacks, they can be configured to make filling and discharging their contents quick and easy.

Sack is a type of bag that is used to keep and transport many items, especially food items, from one place to another. This is a definition that is used for gunny sacks made from jute or similar material and is inexpensive in nature. Sacks are closed at the bottom while they are open at the top. They usually do not have a handle. Gunny sacks are very popular among school kids as they are used in a special race called sack racing. Farmers and transporters make heavy use of gunny sacks in many countries of the world as they are large enough to contain around 100 pounds of potatoes and onions. Sacks are popular to carry perishable vegetables as they are made from natural fibers that allow the air to pass through.

A bag is a common tool in the form of a non-rigid container. The use of bags predates recorded history, with the earliest bags being no more than lengths of animal skin, cotton, or woven plant fibers, folded up at the edges and secured in that shape with strings of the same material.

Bags have been attested for thousands of years and have been used by both men and women. Bags have been prevalent as far back as ancient Egypt. Many hieroglyphs depict males with bags tied around their waist. The Bible mentions pouches, especially with regard to Judas Iscariot carrying one around, holding his personal items. In the 14th century, wary of pickpockets and thieves, many people used drawstring bags, in which to carry their money. These bags were attached to "girdles" via a long cord fastened to the waist.

In the modern world, bags are ubiquitous, with many people routinely carrying a wide variety of them in the form of cloth or leather briefcases, handbags, and backpacks, and with bags made from more disposable materials such as paper or plastic being used for shopping, and to carry home groceries. A bag may be closable by a zipper, snap fastener, etc., or simply by folding (e.g. in the case of a paper bag). Sometimes a money bag or travel bags has a lock. The bag likely predates the inflexible variant, the basket, and bags usually have the additional advantage over baskets of being foldable or otherwise compressible to smaller sizes. On the other hand, baskets, being made of a more rigid material, may better protect their contents.

An empty bag may or may not be very light and foldable to a small size. If it is, this is convenient for carrying it to the place where it is needed, such as a shop, and for storage of empty bags. Bags vary from small ones, like purses, to large ones for use in travelling like a suitcase. The pockets of clothing are also a kind of bag, built into the clothing for the carrying of suitably small objects.

These are broadly classified under **H.S. Code-6305**.

Table - 4

India's Top 10 destination of Sacks & Bags (HS Code –6305)

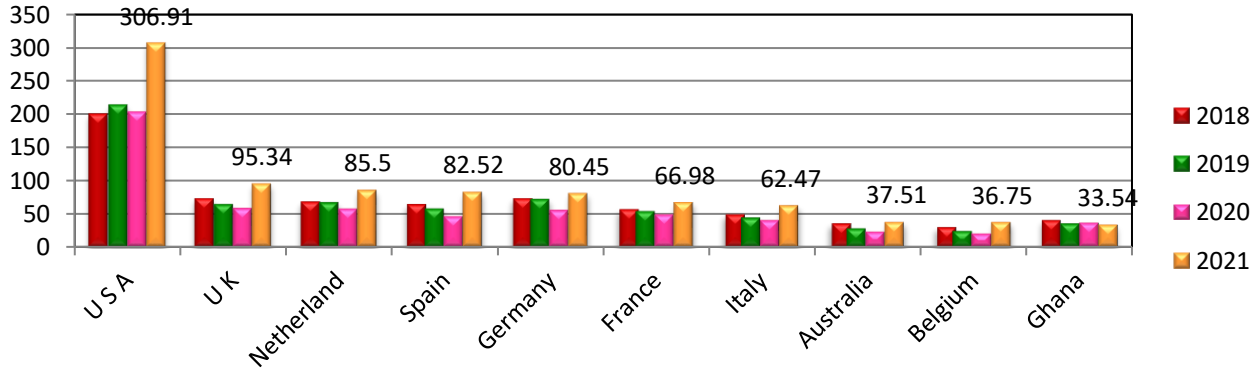
Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	U S A	199.83	21.50	213.53	23.81	202.81	25.72	306.91	25.77
2.	U K	72.42	7.79	63.95	7.13	58.11	7.37	95.34	8.00
3.	Netherland	68.49	7.37	66.91	7.46	57.68	7.31	85.50	7.18
4.	Spain	63.99	6.88	57.32	6.39	45.75	5.80	82.52	6.93
5.	Germany	72.95	7.85	71.78	8.00	55.66	7.06	80.45	6.75
6.	France	55.99	6.02	53.77	6.00	48.87	6.20	66.98	5.62
7.	Italy	48.43	5.21	44.19	4.93	40.37	5.12	62.47	5.24
8.	Australia	34.82	3.75	27.63	3.08	23.16	2.94	37.51	3.15
9.	Belgium	29.45	3.17	23.43	2.61	19.47	2.47	36.75	3.08
10.	Ghana	39.69	4.27	35.04	3.91	36.54	4.63	33.54	2.82
	Others	243.47	26.19	239.18	26.67	200.26	25.39	303.22	25.46
	Total	929.53	100	896.74	100	788.68	100	1191.18	100

Source: DGCI&S

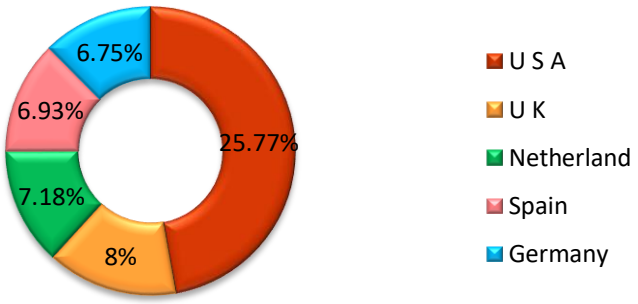
Note : India's Export including re-export

India's major destination Sacks & Bags from 2018-2021**(Values in million USD)**

Data label given on the basis of 2021



India's top 5 destinations of Sacks & Bags by percentage in 2021:



In the year 2021, India has exported of Sacks & Bags worth of US $ 1.19Billion. USA is the largest market for the Commodity group export from India. In 2021, USA imported US $ 306.91Million worth of Sacks &Bags from India, which was accounted 25.77% of world import. Followed by UK and Netherland with the Sacks & Bags shipment value being US $ 95.34 Million and US $ 85.50Million. The top 10 countries in total shared the share of 74.54% of the Sacks & Bags export from India.

Table - 5

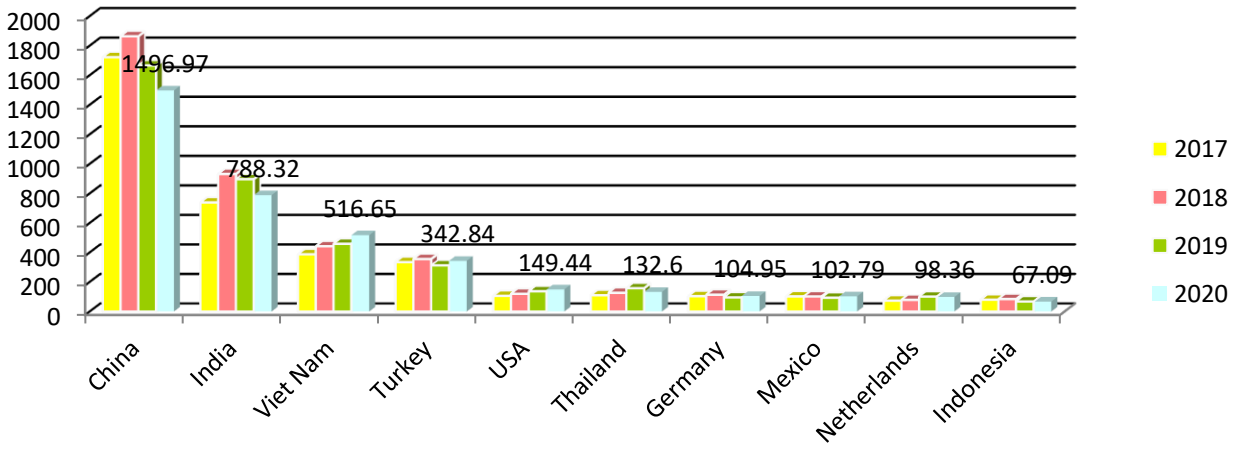
World's Top 10 exporters of Sacks & Bags (HS Code –6305)

Rank	Countries	2017		2018		2019		2020	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	1722.06	33.99	1863.51	33.69	1666.12	31.76	1496.97	30.44
2.	**India**	**738.72**	**14.58**	**931.83**	**16.84**	**896.97**	**17.10**	**788.32**	**16.03**
3.	Viet Nam	387.64	7.65	442.02	7.99	458.88	8.75	516.65	10.51
4.	Turkey	334.76	6.61	355.57	6.43	312.82	5.96	342.84	6.97
5.	USA	106.04	2.09	119.95	2.17	137.09	2.61	149.44	3.04
6.	Thailand	109.96	2.17	126.78	2.29	157.79	3.01	132.60	2.70
7.	Germany	103.91	2.05	113.60	2.05	95.19	1.81	104.95	2.13
8.	Mexico	102.07	2.01	101.68	1.84	93.19	1.78	102.79	2.09
9.	Netherlands	73.46	1.45	78.48	1.42	100.78	1.92	98.36	2.00
10.	Indonesia	79.66	1.57	84.14	1.52	67.72	1.29	67.09	1.36
	Others	1307.50	25.81	1314.33	23.76	1259.04	24.00	1117.21	22.72
	Total	5065.78	100	5531.88	100	5245.58	100	4917.23	100

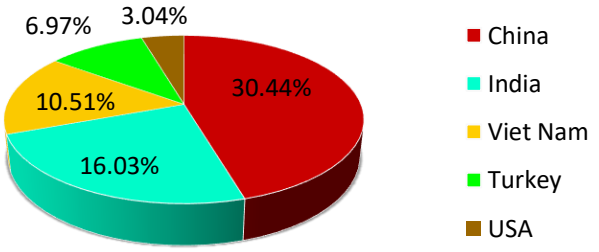
Source: UN Comtrade

Top world exporters of Sacks& Bags from 2017 to 2020 **(Values in million USD)**

Data label given on the basis of 2020



Export trends in world's leading Sacks & Bags exporters by percentage in 2020:



In 2020total export of Sacks & Bags was US $4.91Billion. Between 2019 and 2020 the exports of Sacks &Bags decreased by 6.30%, from US $5.24 Billion to US $4.91Billion. In 2020 China is the top country by Sacks & Bags export in the world, exported US $ 1.49Billion that accounts for 30.44% of the world export. **India** constituted the 2nd position in ranking of world export of Sacks and Bags, exported US $ 788.32 Million in 2020, accounted 16.03%. Which was followed by Viet Nam, exported 10.51% share of world export.

Table - 6

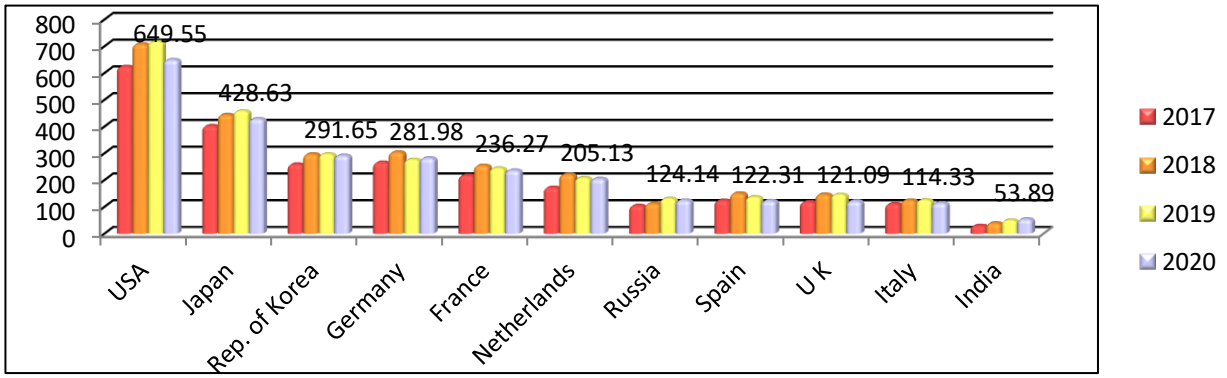
World's Top 10 Importers of Sacks & Bags (HS Code – 6305)

Rank	Countries	2017		2018		2019		2020	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	623.66	13.97	707.96	14.29	716.40	14.96	649.55	14.52
2.	Japan	402.35	9.01	443.86	8.96	457.63	9.55	428.63	9.58
3.	Rep. of Korea	258.84	5.80	296.84	5.99	296.70	6.19	291.65	6.52
4.	Germany	265.58	5.95	303.74	6.13	276.27	5.77	281.98	6.30
5.	France	216.95	4.86	253.97	5.13	243.96	5.09	236.27	5.28
6.	Netherlands	171.77	3.85	220.72	4.46	207.74	4.34	205.13	4.58
7.	Russia	104.28	2.34	111.71	2.25	130.65	2.73	124.14	2.77
8.	Spain	123.41	2.76	150.36	3.03	136.30	2.85	122.31	2.73
9.	U K	117.93	2.64	146.09	2.95	145.58	3.04	121.09	2.71
10.	Italy	111.12	2.49	124.13	2.51	124.86	2.61	114.33	2.56
19.	**India**	**29.04**	**0.65**	**38.99**	**0.79**	**49.53**	**1.03**	**53.89**	**1.20**
	Others	2040.34	45.69	2155.98	43.52	2004.73	41.85	1845.55	41.25
	Total	4465.26	100	4954.34	100	4790.36	100	4474.53	100

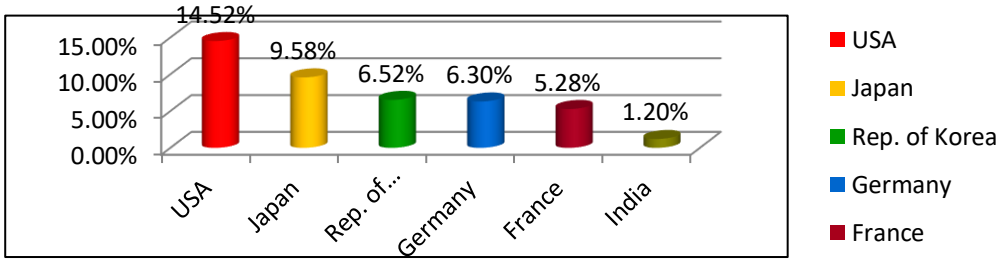
Source :UN Comtrade

Top world importers of Sacks & Bags from 2017 to 2020 **(Values in million USD)**

Data label given on the basis of 2020



Country wise leading global Importer of Sacks &Bags by percentage in 2020

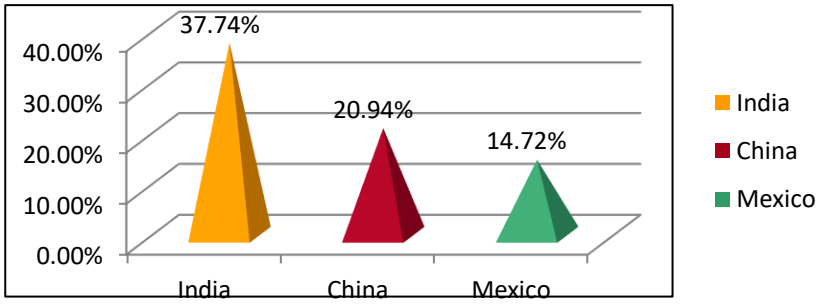


In the year 2020 total global import of Sacks & Bags was US $ 4.47 Billion which was decreased by 6.59% from 2019. The USA imported US $ 649.55million worth of Sacks &Bags in 2020, making it the leading importer of Sacks & Bags worldwide that year. Japan followed in second place, importing US $ 428.63million worth of the commodity and Rep of Korea stood at 3rd position in raking in world largest importers Sacks & Bags, imported 6.52% of world import. The import value Sacks & Bags into India amounted to US $ 53.89 million in the year 2020 and ranked in 19th position in the world with the share of 1.20% of total Global import.

Annexure-II

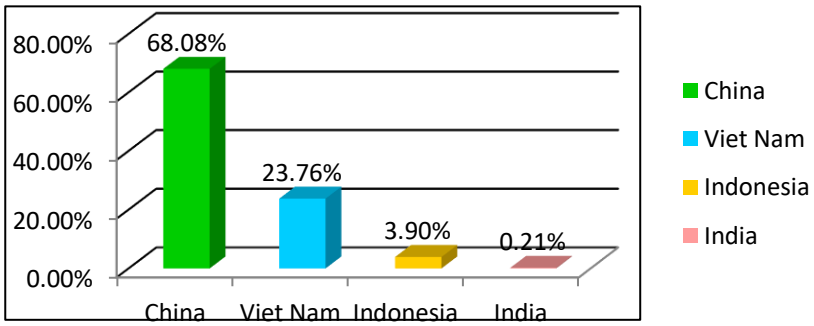
Sources of world's top three importers of Sacks & Bags (HS Code – 6305)

i) Top 3 Sources of Sack &Bags to USA in 2020 by percentage**:**



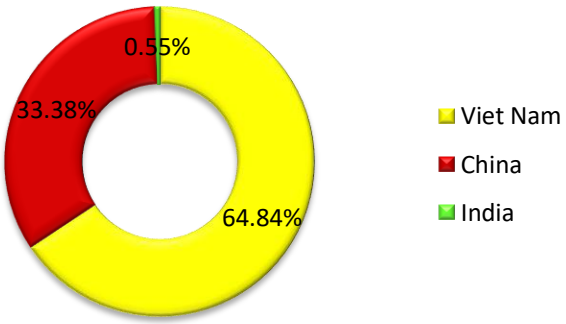
USA's source most of its Sacks & Bags came from **India** with 37.74% share of its import of the commodity in 2020. China and Mexico are found to be the 2nd and 3rd largest exporters of Sacks & Bags to USA by 20.94% and14.72% shares of USA's total import respectively in 2020.**(Source: UN Comtrade)**

ii) Top 3 Sources of Sack &BagstoJapan in 2020 by percentage**:**



68.08% share of Sacks & Bags imports to Japan came from China in 2020, it was distantly followed by Viet Nam (23.76%) and Indonesia (3.90%). India's share was only 0.21% of Japan's total import in 2020.**(Source: UN Comtrade)**

iii) Top 3 Sources of Sack &BagstoRep. of Korea in 2020 by percentage**:**



With 64.84% share of Rep. of Korea's total import of Sacks & Bags, Viet Nam became the largest source of it to Rep. of Korea in 2020. China became the 2nd largest source of the commodity with 33.38%shareand India's share was only 0.55% of Rep. of Korea's total export of Sacks a& Bags in 2020.**(Source : UN Comtrade)**

IMPORT

Synthetic Rubber

A **Synthetic Rubber** is any artificial elastomer. They are polymers synthesized from petroleumbyproducts. About 32-million metric tons of rubbers are produced annually in the United States, and of that amount two thirds are synthetic. Global revenues generated with synthetic rubbers are likely to rise to approximately US$56 billion in 2020. Synthetic rubber, just like natural rubber, has many uses in the automotive industry for tires, door and window profiles, seals such as O-rings and gaskets, hoses, belts, matting, and flooring. They offer a different range of physical and chemical properties, so can improve the reliability of a given product or application. Synthetic rubbers are superior to natural rubbers in two major respects, thermal stability and resistance to oils and related compounds. They are more resistant to oxidizing agents, such as oxygen and ozone which can reduce the life of products like tires.

The expanded use of bicycles, and particularly their pneumatic tires, starting in the 1890s, created increased demand for rubber. In 1909, a team headed by Fritz Hofmann, working at the Bayer laboratory in Elberfeld, Germany, succeeded in polymerizing isoprene, the first synthetic rubber.

Studies published in 1930 written independently by Lebedev, the American Wallace Carothers and the German scientist Hermann Staudinger led in 1931 to one of the first successful synthetic rubbers, known as neoprene, which was developed at DuPont under the direction of E. K. Bolton. Neoprene is highly resistant to heat and chemicals such as oil and gasoline, and is used in fuel hoses and as an insulating material in machinery. The company Thiokol applied their name to a competing type of rubber based on ethylene dichloride.

In 1935, German chemists synthesized the first of a series of synthetic rubbers known as Buna rubbers. These were copolymers, meaning the polymers were made up from two monomers in alternating sequence. Other brands included *Koroseal*, which Waldo Semon developed in 1935, and *Sovprene*, which Russian researchers created in 1940.

The most prevalent synthetic rubber is styrene-butadiene rubbers (SBR) derived from the copolymerization of styrene and 1,3-butadiene. butyl rubber is commonly used in tyre inner tubes or linings owing to its resistance to diffusion of air through the lining. It is however, a much less resilient material than cis-polybutadiene which is frequently used in tyre sidewalls to minimize energy losses and hence heat build-up. Indeed, it is so resilient that it is used in super balls. An elastomer widely used for external sheet such as roof coverings is Hypalon or chlorosulphonatedpolyethylene. Synthetic rubbers like EPR can also be used for electrical insulation.

Silicone rubber is also a synthetic elastomer composed of silicone polymers. Silicone rubbers are widely used in industry, and there are multiple formulations. Silicone rubbers are often one- or two-part polymers, and may contain fillers to improve properties or reduce cost. Silicone rubber is generally non-reactive, stable, and resistant to extreme environments and temperatures.

Some synthetic rubbers are less sensitive to ozone cracking than NR. Natural rubber is sensitive owing to the double bonds in its chain structure, but some synthetic rubbers do not possess these bonds and so are more resistant to ozone cracking. Examples include Viton rubber, EPDM and butyl rubber.

A new class of synthetic rubber is the thermoplastic elastomers which can be moulded easily unlike conventional NR vulcanized rubber. Their structure is stabilized by cross-linking by crystallites in the case of polyurethanes or by amorphous domains in the case of SBS block copolymers.

In 2020, Synthetic Rubber were the world's 165th most traded product, with a total import trade of US $ 21.89 Billion. Between 2019 and 2020 the imports of Synthetic Rubber decreased by -9.59%, from US $ 24.21B to US $ 21.89B. Trade in Synthetic Rubber represent 0.13% of total world trade.

These are broadly classified under H. S. Code 4002.

Table - 7

India's Top 10 Sources of Synthetic Rubber (HS Code : 4002)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Korea RP	281.25	24.92	199.76	21.99	86.21	19.86	278.87	22.17
2.	Japan	145.04	12.85	127.26	14.01	67.72	15.60	169.53	13.48
3.	Russia	137.03	12.14	90.93	10.01	49.24	11.34	150.79	11.99
4.	Singapore	126.56	11.21	135.15	14.88	53.77	12.39	97.88	7.78
5.	U S A	77.41	6.86	57.96	6.38	35.79	8.24	86.53	6.88
6.	Poland	41.72	3.70	30.86	3.40	15.02	3.46	64.64	5.14
7.	China	38.30	3.39	35.33	3.89	15.70	3.62	46.65	3.71
8.	Germany	30.40	2.69	21.21	2.34	12.52	2.88	38.99	3.10
9.	U A E	32.73	2.90	34.52	3.80	14.61	3.37	38.10	3.03
10.	Saudi Arab	25.30	2.24	16.07	1.77	7.97	1.84	37.67	3.00
	Others	192.81	17.08	159.42	17.55	75.51	17.40	248.13	19.73
	Total	1128.56	100	908.46	100	434.05	100	1257.78	100

Source: DGCI&S

Note : India's Import including re-import

There is a total of 64 countries India has imported Synthetic Rubber from. The Synthetic Rubber import in 2021 stood at US $ 1.26Billion and US $ 1.13Billion in 2018.The Synthetic Rubber import to India reached pick with worth value of US $ 1.26 Billion in the year 2021. Major three source countries of Synthetic Rubber to India in 2021 are Korea RP(US $ 278.87 Million), Japan (US $ 169.53 Million), Russia (US $ 150.79 Million). These 3 countries in total sold US $ 599.19 Million value of Synthetic Rubber to India which rounds up to 47.64% of the total Synthetic Rubber import into India.

Table – 8

World Top 10 Importer of Synthetic Rubber (HS Code : 4002)

Rank	Countries	2017		2018		2019		2020	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	8470.16	31.01	7621.88	28.28	6676.41	27.57	7514.04	34.31
2.	Malaysia	1075.05	3.94	1238.01	4.59	1218.91	5.03	1244.00	5.68
3.	USA	1569.02	5.75	1623.70	6.03	1601.86	6.61	1168.89	5.34
4.	Thailand	1187.66	4.35	1201.28	4.46	1055.89	4.36	1033.21	4.72
5.	Germany	1400.12	5.13	1379.95	5.12	1219.49	5.04	952.44	4.35
6.	**India**	**1003.52**	**3.67**	**1130.04**	**4.19**	**908.08**	**3.75**	**723.75**	**3.30**
7.	Viet Nam	614.97	2.25	644.25	2.39	693.06	2.86	647.66	2.96
8.	Indonesia	759.84	2.78	721.37	2.68	662.44	2.74	542.30	2.48
9.	Brazil	571.28	2.09	568.19	2.11	525.58	2.17	496.22	2.27
10.	Turkey	640.73	2.35	645.40	2.40	562.21	2.32	495.29	2.26
	Others	10017.86	36.68	10173.02	37.75	9094.27	37.55	7081.54	32.34
	Total	27310.22	100	26947.09	100	24218.19	100	21899.35	100

Source :UNComtrade

Global Imports of Synthetic Rubber, the top five importers of Synthetic Rubber in 2020 were China (US $ 7.51B), Malaysia (US $ 1.24 B), U S A (US $ 1.17B), Thailand (US $ 1.03 B) and Germany (US $ 952.44M), accounted for 34.31%, 5.68%, 5.34%, 4.72% and 4.35% respectively of world import value of Synthetic Rubber. The import value of Synthetic Rubber into India amounted to US $ 723.75 million in the year 2020 , and ranked in 6th position in the world with the share of 3.30% share of total Global import value of Synthetic Rubber. This was decrease from the previous year.

Phenols ; Phenol Alcohols

Phenols : Phenol -Alcohols, any of a family of compounds characterized by a hydroxyl (—OH) group attached to a carbon atom that is part of an aromatic ring. Besides serving as the generic name for the entire family, the term *phenol* is also the specific name for its simplest member, monohydroxybenzene (C_6H_5OH), also known as benzenol, or carbolic acid.

Phenols are similar to alcohols but form stronger hydrogen bonds. Thus, they are more soluble in water than are alcohols and have higher boiling points. Phenols occur either as colourlessliquids or white solids at room temperature and may be highly toxic and caustic.

Phenols are widely used in household products and as intermediates for industrial synthesis. For example, phenol itself is used (in low concentrations) as a disinfectant in household cleaners and in mouthwash. Phenol may have been the first surgical antiseptic. In 1865 the British surgeon Joseph Lister used phenol as an antiseptic to sterilize his operating field. With phenol used in this manner, the mortality rate from surgical amputations fell from 45 to 15 percent in Lister's ward. Phenol is quite toxic, however, and concentrated solutions cause severe but painless burns of the skin and mucous membranes. Less-toxic phenols, such as *n*-hexylresorcinol, have supplanted phenol itself in cough drops and other antiseptic applications. Butylatedhydroxytoluene (BHT) has a much lower toxicity and is a common antioxidant in foods.

In industry, phenol is used as a starting material to make plastics, explosives such as picric acid, and drugs such as aspirin. The common phenol hydroquinone is the component of photographic developer that reduces exposed silver bromide crystals to black metallic silver. Other substituted phenols are used in the dye industry to make intensely colouredazo dyes. Mixtures of phenols (especially the cresols) are used as components in wood preservatives such as creosote.

Phenols are common in nature; examples include tyrosine, one of the standard amino acids found in most proteins; epinephrine (adrenaline), a stimulant hormone produced by the adrenal medulla; serotonin, a neurotransmitter in the brain; and urushiol, an irritant secreted by poison ivy to prevent animals from eating its leaves. Many of the more complex phenols used as flavorings and aromas are obtained from essential oils of plants. For example, vanillin, the principal flavoring in vanilla, is isolated from vanilla beans, and methyl salicylate, which has a characteristic minty taste and odour, is isolated from wintergreen. Other phenols obtained from plants include thymol, isolated from thyme, and eugenol, isolated from cloves.

Similar to alcohols, phenols have hydroxyl groups that can participate in intermolecular hydrogen bonding; in fact, phenols tend to form stronger hydrogen bonds than alcohols. (*See*chemical bonding: Intermolecular forces for more information about hydrogen bonding.) Hydrogen bonding results in higher melting points and much higher boiling points for phenols than for hydrocarbons with similar molecular weights. For example, phenol (molecular weight [MW] 94, boiling point [bp] 182 °C [359.6 °F]) has a boiling point more than 70 degrees higher than that of toluene ($C_6H_5CH_3$; MW 92, bp 111 °C [231.8 °F]).

The ability of phenols to form strong hydrogen bonds also enhances their solubility in water. Phenol dissolves to give a 9.3 percent solution in water, compared with a 3.6 percent solution for cyclohexanol in water. The association between water and phenol is unusually strong; when crystalline phenol is left out in a humid environment, it picks up enough water from the air to form liquid droplets.

To make more-complicated phenolic compounds, a more general synthesis is needed. The cumenehydroperoxide reaction is fairly specific to phenol itself. The Dow process is somewhat more general, but the stringent conditions required often lead to low yields, and they may destroy any other functional groups on the molecule. A milder, more general reaction is the diazotization of an arylamine (a derivative of aniline, $C_6H_5NH_2$) to give a diazonium salt, which hydrolyzes to a phenol. Most functional groups can survive this technique, as long as they are stable in the presence of dilute acid.

These are broadly classified under H. S. Code - **2907**.

Table - 9

India's Top 10 Source Countries of Phenols ; Phenol-Alcohols (HS Code : 2907)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	133.48	16.77	114.53	19.15	66.58	22.64	266.28	32.43
2.	Korea RP	145.50	18.28	78.11	13.06	39.30	13.36	142.96	17.41
3.	Thailand	120.89	15.19	73.52	12.29	18.61	6.33	83.84	10.21
4.	U S A	91.13	11.45	80.65	13.48	51.37	17.47	63.99	7.79
5.	Taiwan	47.70	5.99	46.90	7.84	19.02	6.47	60.43	7.36
6.	Japan	36.60	4.60	55.19	9.23	33.01	11.22	47.50	5.78
7.	Singapore	41.45	5.21	29.06	4.86	12.10	4.11	33.21	4.05
8.	South Africa	27.05	3.40	27.68	4.63	10.99	3.74	28.73	3.50
9.	Saudi Arab	62.66	7.87	14.56	2.43	0.14	0.05	20.36	2.48
10.	France	8.19	1.03	6.27	1.05	6.65	2.26	12.72	1.55
	Others	81.44	10.23	71.75	11.99	36.33	12.35	61.04	7.43
	Total	796.10	100	598.21	100	294.09	100	821.06	100

Source: DGCI&S

Note : India's Import including Re-import

The value of imports of Phenols ; Phenol-Alcohols to India totalled US$ 821.06million in 2021. Sales of Phenols ; Phenol-Alcohols to India increased by almost 3 times in value terms compared to 2020.Major five source countries of Phenols ; Phenol-Alcoholsto India in 2021 are China (US $ 266.28 Million), Korea RP (US $ 142.96 Million), Thailand (US $ 83.84 Million), USA (US $ 63.99 Million) and Taiwan (US $ 60.43 Million). These 5 countries in total exported US $ 617.50 Million value of Phenols ; Phenol-Alcoholsto India which rounds up to 75.20% of the total Phenols ; Phenol-Alcoholsimport into India.

Table - 10

World Top 10 Importer of Phenols ; Phenol-Alcohols (HS Code : 2907)

Rank	Countries	2017		2018		2019		2020	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	1076.83	18.31	1601.09	21.38	1419.85	23.69	1481.57	27.17
2.	**India**	**569.50**	**9.68**	**792.48**	**10.58**	**597.76**	**9.97**	**472.03**	**8.66**
3.	Germany	613.02	10.42	655.22	8.75	517.80	8.64	426.36	7.82
4.	Rep. of Korea	296.57	5.04	388.59	5.19	385.06	6.43	378.34	6.94
5.	Netherlands	493.33	8.39	589.22	7.87	420.60	7.02	349.98	6.42
6.	Japan	235.73	4.01	436.81	5.83	290.02	4.84	276.13	5.06
7.	Thailand	297.13	5.05	341.43	4.56	175.52	2.93	191.55	3.51
8.	USA	197.46	3.36	252.13	3.37	201.29	3.36	185.76	3.41
9.	Belgium	230.49	3.92	244.52	3.26	151.54	2.53	158.18	2.90
10.	U K	169.22	2.88	186.47	2.49	173.53	2.90	156.63	2.87
	Others	1701.34	28.93	2001.18	26.72	1660.08	27.70	1375.64	25.23
	Total	5880.62	100	7489.14	100	5993.05	100	5452.19	100

Source :UNComtrade

The imports of the three major importers of Phenols ; Phenol-Alcohol, namely China, **India** and Germany, represented 43.65% of total world imports in 2020. In value terms, China (US $ 1.48 B), **India** (US $ 472.03 M) and Germany (US $ 426.36 M) constituted the countries with the highest levels of imports in 2020, together accounting for 43.65% share of global imports of Phenol ; Phenol - Alcohols. India experienced the highest growth rate of the value of imports, among the main importing countries and ranked in 2nd position in the world with 8.66% share of Global import of Phenols ; Phenol-Alcohol in 2020.