

## **India's International Trade of Four Specific commodities in the Recent Past 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 **Plastic Tubes, Pipes and Hoses. & Imitation Jewellery and imports of Electronic Integrated Circuits and Synthetic Rubber** 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-3917 & 7117 for export and 8542 & 4002 for import ) and the latest finalized data available on the UN Comtrade Database up to year 2022 and on the DGCI&S Database up to July 2023. So, trends from 2019 to 2022 have been shown when we extract the data from UN Comtrade and from 2019 to 2022 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 Plastic Tubes, Pipes and Hoses. & Imitation Jewellery and imports of Electronic Integrated Circuits and Synthetic Rubber. We will use both the 4 digit Commodity codes, for our analysis, as appropriate.

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 Plastic Tubes, Pipes and Hoses with their shares in percentage.
- Table 2 : World's top 10 Exporters of Plastic Tubes, Pipes and Hoses with their shares in percentage.
- Table 3 : World's top 10 Importers of Plastic Tubes, Pipes and Hoses with their shares in percentage.
- Annex- I : Top 3 sources of Plastic Tubes, Pipes and Hoses of World's top 3 Importers.
- Table 4 : India's top 10 Export destination of Imitation Jewellery with their shares in percentage.
- Table 5 : World's top 10 Exporters of Imitation Jewellery with their shares in percentage.
- Table 6 : World's top 10 Importers of Imitation Jewellery with their shares in percentage.
- Annex-II : Top 3 sources of Imitation Jewellery of World's top 3 Importers.
- Table 7 : India's top10 Sources of Electronic Integrated Circuits with their shares in percentage.
- Table 8 : World's top 10 Importers Electronic Integrated Circuits with their shares in percentage.
- Table 9 : India's top 10 Sources of Synthetic Rubber with their shares in percentage.
- Table 10 : World's top 10 Importers of Synthetic Rubber with their shares in percentage.

## EXPORT

### Tubes, Pipes and Hoses of Plastics

**Plastic pipe** is a tubular section, or hollow cylinder, made of plastic. It is usually, but not necessarily, of circular cross-section, used mainly to convey substances which can flow—liquids and gases (fluids), slurries, powders and masses of small solids. It can also be used for structural applications; hollow pipes are far stiffer per unit weight than solid members. Plastic pipework is used for the conveyance of drinking water, waste water, chemicals, heating fluid and cooling fluids, foodstuffs, ultra-pure liquids, slurries, gases, compressed air, irrigation, plastic pressure pipe systems, and vacuum system applications. Pipe incorporating a flexible metallic layer as the middle of three bonded layers. Barrier pipe is used, for example, to provide additional protection for the contents passing through the pipe (particularly drinking water) from aggressive chemicals or other pollution when laid in ground contaminated by previous use. Plastic tubing is tubing constructed from plastic compounds for use in fluid flow or structural systems, or as insulation or sheathing for electrical or heating assemblies. Plastic tube is lightweight and versatile, used commonly as flow lines for fluids and gases in pneumatic, hydraulic, process, medical and many other applications. Tubing can be flexible or rigid depending on the material type and its intended purpose, though tubing listed in this product area is generally smaller and less rigid than materials classified as hose or pipe.

ABS is a thermoplastic material and was originally developed in the early 1950s for use in oil fields and the chemical industry. The variability of the material and its relative cost effectiveness has made it a popular engineering plastic. It can be tailored to a range of applications by modifying the ratio of the individual chemical components. Polythene has been successfully used for the safe conveyance of potable and waste water, hazardous waste, and compressed gases for many years. Two variants are HDPE Pipe (high-density polyethylene) and the more heat resistant PEX (cross-linked polyethylene, also XLPE). PE has been used for pipes since the early 1950s. PE pipes are made by extrusion in a variety of sizes dimensions. PE is lightweight, flexible and easy to weld. Its smooth interior finish ensures good flow characteristics. Continuous development of the material has enhanced its performance, leading to rapidly increasing usage by major water and gas utility companies throughout the world.

The pipes are also used in lining and trench-less technologies, the so-called no-dig applications where the pipes are installed without digging trenches without any disruption above ground. Here the pipes may be used to line old pipe systems to reduce leakage and improve water quality. These solutions are therefore helping engineers to rehabilitate antiquated pipe systems. Excavation is minimal and the process is carried out quickly below ground. Also for PE pipe material, several studies demonstrated the long track record with expected lifetime of more than 50 years.

It has been used for pipes in Europe since the early 1970s and has been gaining rapid popularity over the last few decades. Often supplied in coils, it is flexible and can therefore be led around structures without fittings. Its strength at temperatures ranging from below freezing up to almost boiling makes it an ideal pipe material for hot and cold water installations, radiator and under floor heating, de-icing and ceiling cooling applications. Plastic pipes have been used in service for over 50 years. The predicted lifetime of plastic piping systems exceeds 100 years. Plastic pipe materials have always been classified on the basis of long-term pressure testing. The measured failure times as a function of the stresses in the pipe wall has been demonstrated in so-called Regression Curves. Pipes, fittings, valves, and accessories make up a plastic pressure pipe system. The range of pipe diameters for each pipe system does vary.

These are broadly classified under **H.S. Code-3917**

Table – 1

**India's Top 10 destination of Tube, Pipes and Hoses of Plastics (H.S Code-3917)**

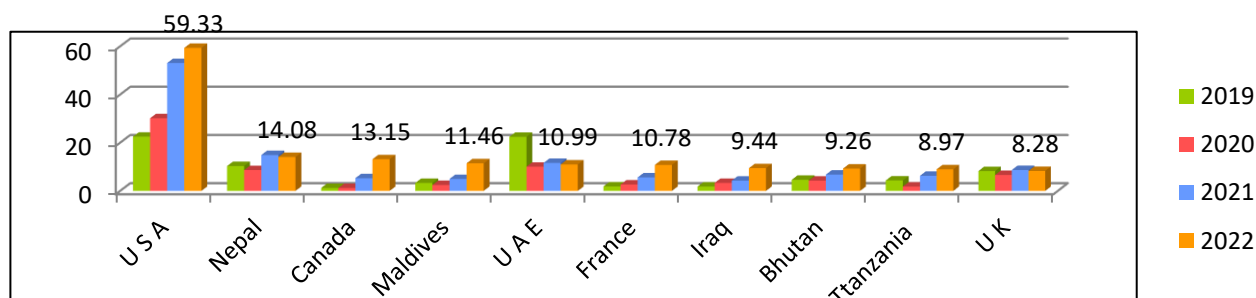
Rank	Countries	2019		2020		2021		2022	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	U S A	22.52	11.71	30.14	17.61	53.06	19.92	59.33	19.47
2.	Nepal	10.33	5.37	8.64	5.05	14.89	5.59	14.08	4.62
3.	Canada	1.22	0.64	1.21	0.71	5.28	1.98	13.15	4.31
4.	Maldives	3.32	1.73	2.45	1.43	4.94	1.86	11.46	3.76
5.	U A E	22.44	11.67	10.04	5.86	11.62	4.36	10.99	3.61
6.	France	1.85	0.96	2.65	1.55	5.60	2.10	10.78	3.54
7.	Iraq	1.81	0.94	3.32	1.94	4.28	1.61	9.44	3.10
8.	Bhutan	4.60	2.39	4.25	2.48	6.77	2.54	9.26	3.04
9.	Ttanzania	4.34	2.26	1.80	1.05	6.26	2.35	8.97	2.94
10.	U K	8.23	4.28	6.60	3.86	8.66	3.25	8.28	2.72
	Others	111.58	58.04	100.07	58.47	144.93	54.42	149.05	48.90
	<b>Total</b>	192.24	100	171.16	100	266.29	100	304.79	100

Source: **DGCI&S**

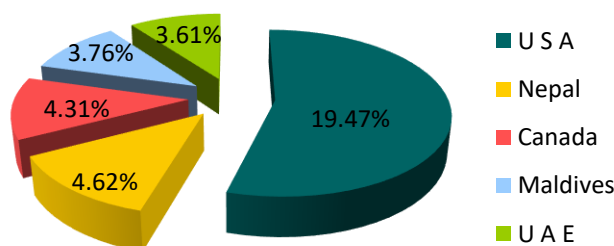
Note : India's Export including re-export

India's major destination Tube, Pipes and Hoses of Plastics from 2019-2022( **Values in million USD**)

Data label given on the basis of 2022



India's top 5 destinations of Tube, Pipes and Hoses of Plastics by percentage in 2022:



In the year 2022 the total value of Plastics Tube, Pipes and Hoses export from India was US \$ 304.79 million. Whereas the data of 2019 states the export value was US \$ 192.24 million, which shows a considerable 58.55% greater and it was 14.46% greater than that the year 2021. In 2022 India's Plastics Pipe export value to USA is around US \$ 59.33 million, which holds the top position with the share of 19.47 % of the total export. With the 4.62% and 4.31% share, Nepal(US \$ 14.08 M) and Canada(US \$ 13.15 M) takes 2<sup>nd</sup> and 3<sup>rd</sup> position in the global importers of India's Plastics Pipe export in 2022.

Table - 2

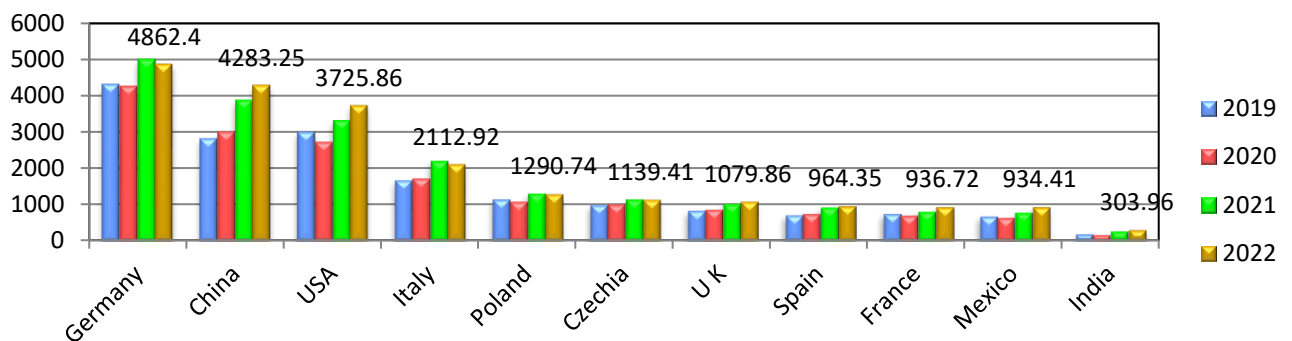
**World's Top 10 exporter of Tube, Pipes and Hoses of Plastics (H.S Code-3917)**

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	Germany	4307.07	16.35	4259.47	16.20	4990.17	15.48	4862.40	15.07
2.	China	2817.03	10.69	3010.10	11.45	3877.42	12.03	4283.25	13.28
3.	USA	2995.08	11.37	2724.22	10.36	3319.21	10.30	3725.86	11.55
4.	Italy	1671.29	6.34	1719.52	6.54	2200.32	6.83	2112.92	6.55
5.	Poland	1149.02	4.36	1080.29	4.11	1302.49	4.04	1290.74	4.00
6.	Czechia	999.59	3.79	1011.97	3.85	1147.11	3.56	1139.41	3.53
7.	U K	833.58	3.16	865.77	3.29	1018.37	3.16	1079.86	3.35
8.	Spain	710.07	2.69	751.40	2.86	922.38	2.86	964.35	2.99
9.	France	747.00	2.83	700.55	2.67	810.51	2.51	936.72	2.90
10.	Mexico	673.95	2.56	639.03	2.43	780.17	2.42	934.41	2.90
22.	<b>India</b>	<b>191.52</b>	<b>0.73</b>	<b>170.93</b>	<b>0.65</b>	<b>266.29</b>	<b>0.83</b>	<b>303.96</b>	<b>0.94</b>
	Others	9254.70	35.12	9353.59	35.58	11592.81	35.97	10626.21	32.94
	<b>Total</b>	<b>26349.89</b>	<b>100</b>	<b>26286.84</b>	<b>100</b>	<b>32227.24</b>	<b>100</b>	<b>32260.12</b>	<b>100</b>

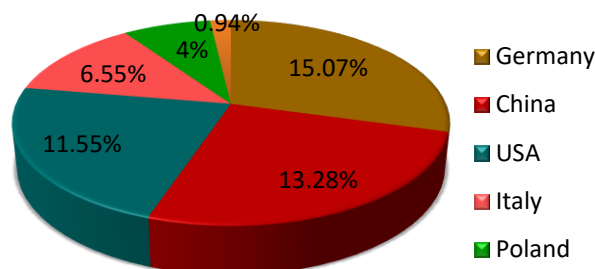
Source: UN Comtrade

Top world exporters of Tube, Pipes and Hoses of Plastics from 2019 to 2022 (in million USD)

Data label given on the basis of 2022



Export trends in world's leading Tube, Pipes and Hoses of Plastics exporters by percentage in 2022:



The global plastic tubes, pipe and hoses market reached US \$ 32.23 Billion in 2022, flattening at the previous year. Global consumption peaked in 2022. With the 15.07%, 13.28% and 11.55% share of world export Germany (US \$ 4.86 B) , China (US \$ 4.28B ) and the USA ( US \$ 3.72 B) appeared to be the countries with the highest levels of exports in 2022, together comprising 39.90% of global exports. In that year India has exported US \$ 303.96 Million of plastic tubes, pipe and hoses which was accounted 0.94% share of world export.

Table - 3

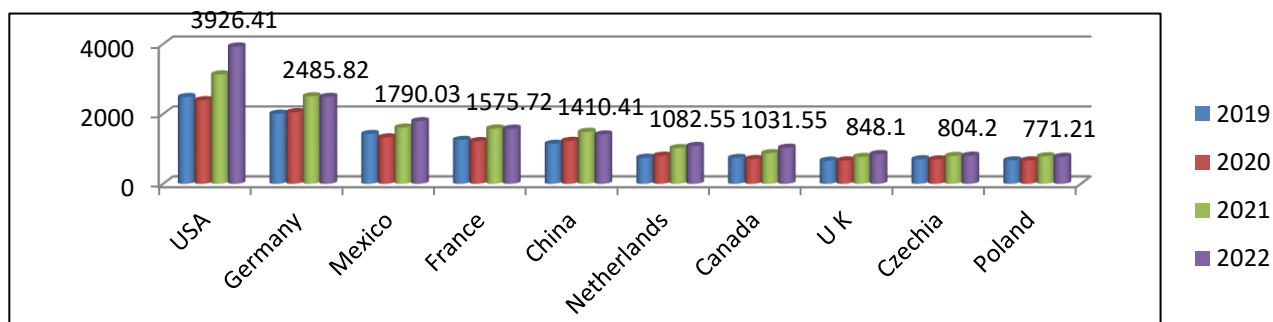
**World's top 10 Importers of Tube, Pipes and Hoses of Plastics (H.S Code-3917)**

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	USA	2482.07	9.75	2391.10	9.57	3128.65	10.20	3926.41	13.60
2.	Germany	2004.53	7.87	2048.49	8.20	2502.36	8.16	2485.82	8.61
3.	Mexico	1423.71	5.59	1325.38	5.31	1607.71	5.24	1790.03	6.20
4.	France	1254.24	4.93	1218.96	4.88	1580.49	5.15	1575.72	5.46
5.	China	1143.33	4.49	1226.38	4.91	1485.75	4.84	1410.41	4.88
6.	Netherlands	744.93	2.93	803.26	3.22	1020.10	3.32	1082.55	3.75
7.	Canada	738.45	2.90	707.70	2.83	875.39	2.85	1031.55	3.57
8.	U K	659.85	2.59	667.26	2.67	768.39	2.50	848.10	2.94
9.	Czechia	701.48	2.76	695.05	2.78	796.12	2.59	804.20	2.78
10.	Poland	669.00	2.63	667.65	2.67	784.88	2.56	771.21	2.67
<b>28.</b>	<b>India</b>	<b>194.88</b>	<b>0.77</b>	<b>166.25</b>	<b>0.67</b>	<b>258.08</b>	<b>0.84</b>	<b>260.06</b>	<b>0.90</b>
	Others	13444.06	52.80	13060.74	52.29	15872.82	51.74	12892.69	44.64
	<b>Total</b>	25460.54	100	24978.23	100	30680.75	100	28878.76	100

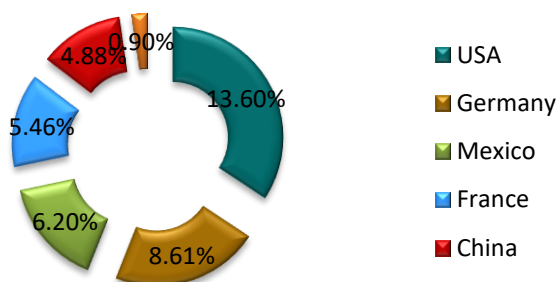
Source :UNComtrade

Top world importers of Tube, Pipes and Hoses of Plastics from 2019 to 2022 (in million USD)

Data label given on the basis of 2022



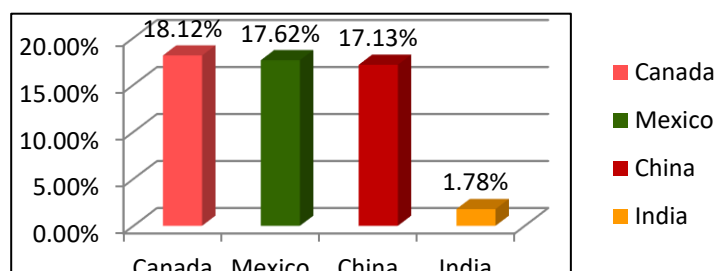
Country wise leading global Importer of Tube, Pipes and Hoses of Plastics by percentage in 2022



In value terms, plastic tubes, pipe and hoses imports stood at US \$ 28.87 Billion in 2022. Overall, it indicated a prominent negative growth from 2021. the total imports value decreased at 5.88% over the previous year. The USA imported around US \$ 3.93 billion worth of plastic tubes, pipe and hoses. in 2022, making it the leading importer of plastic tubes, pipe and hoses with 13.60% share of world wide that year. Germany (US \$ 2.48 B) and Mexico ( US \$ 1.79 B) followed in second place and third position, importing 8.61% and 6.20% share of world import. **India's** contribution was only 0.90% share of world import in that year.

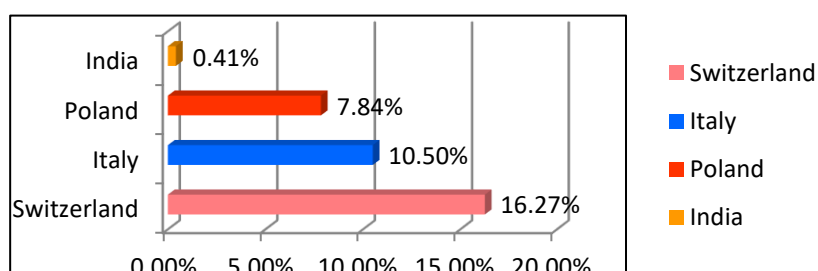
**Sources of world's top three importers of Tube, Pipes and Hoses of Plastics (H.S Code-3917)**

(i) Top 3 Sources of plastic tubes, pipe and hoses to USA in 2022 by percentage:



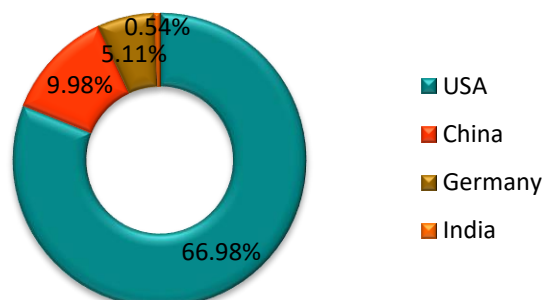
USA, being the largest importer of plastic tubes, pipe and hoses imports from Canada, 18.12% of total plastic tubes, pipe and hoses imports of USA, followed by Mexico (17.62%) and China (17.13%). **India** has exported 1.78% share of USA's total import of plastic tubes, pipe and hoses in 2022. (Source: UN Comtrade)

(ii) Top 3 Sources of plastic tubes, pipe and hoses to Germany in 2022 by percentage:



Switzerland was the number one source of plastic tubes, pipe and hoses to Germany, Germany imports 16.27% share of plastic tubes, pipe and hoses from Switzerland, 10.50% from Italy and 7.84% share Poland 2022. In the same year only 0.41% share of plastic tubes, pipe and hoses imported by Germany from **India**. (Source: UN Comtrade)

(iii) Top 3 Sources of plastic tubes, pipe and hoses to Mexico in 2022 by percentage:



Almost 67% share of Mexico's total import of plastic tubes, pipe and hoses from USA in 2022. 9.98% share from China and 5.11% share of plastic tubes, pipe and hoses came from Germany. In that year **India's** share was only 0.54% share of Mexico's total import. (Source : UN Comtrade)

## Imitation Jewellery

Imitation could well be the best form of flattery. Take a close look around every around every where. That antique kundan-work necklace you saw your neighbour wearing may not be that antique. Or the pair of dazzling earrings that you saw your aunt flaunting was in fact not real. Soaring gold prices stand testimony to that and there is quite clearly a growing market for imitation jewellery. The last few years imitation jewellery markets have sprung up.

Imitation jewellery largely makes use of materials like brass, casting iron, plastic beads and a number of stones. It does not have any resale value. A number of genuine jewellery stores have expanded their operations to spread across the country. The smaller jewellery stores who are facing the heat have decided to sell their space, which today, has been gleefully accepted by the stores selling imitation jewellery.

Moreover, the same glamorous effect of precious metals and jewels like gold, diamonds, emeralds, pearls etc. can be achieved without a huge expenditure of money. These artificial pieces are designed to imitate expensive styles, with similarly elaborate designs and intricate settings. The tremendous varieties available means you can purchase the latest trends for the upcoming season without worrying about the cost.

Experts opinions says that the jewellery businessman, the imitation jewellery has been grown by over 20% every year over the last few years. There is an audience for imitation jewellery and not too surprisingly, it comes from the price-sensitive rural and middle classes. These people choose not to spend on intricate real jewellery when they get the same design courtesy imitation jewellery.

The market is not restricted to what exists just in India. Export demand for imitation jewellery has risen as the prices of precious metals have risen globally. Even though Chinese imitation jewellery accounts for a large part of the market, India has managed to carve out a niche for itself thanks to its contemporary design and high quality levels.

Imitation jewellery from India is one of the most popular accessories around the world today for a reason. Indian culture celebrates colour, life and extravagance and as such the jewellery worn, especially for special occasions, is supposed to be quite heavy and gorgeous. The ornate factor is what makes it so attractive and it is also what can make or break an outfit and this is where artificial jewellery comes in handy. There is huge demand of Indian Imitation Jewellery especially from East Africa, the UK, Middle east, Afghanistan and the USA .

Indian jewellery has more variety and lasts longer than Chinese jewellery. In fact, Chinese jewellery is cheaper, The large-size traders of Jewellery business believes that the Rs 1,000-crore imitation jewellery market has grown by over 60% in the last few years alone due to rising gold prices. Overall, the export of imitation jeweller looks altogether brighter than the domestic business.

Imitation Jewellers are broadly Classified under the **ITC-HS Code : 7117.**

Table - 4

**India's Top 10 destination of Imitation Jewellery (HS Code –7117)**

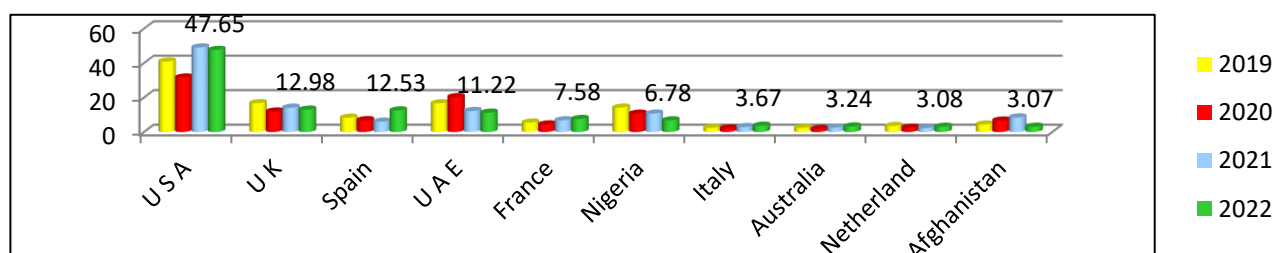
Rank	Countries	2019		2020		2021		2022	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	U S A	40.93	21.49	31.64	22.32	49.08	29.62	47.65	30.32
2.	U K	16.73	8.78	11.89	8.39	14.13	8.53	12.98	8.26
3.	Spain	8.31	4.36	6.88	4.86	6.02	3.63	12.53	7.97
4.	U A E	16.68	8.76	20.30	14.32	12.21	7.37	11.22	7.14
5.	France	5.48	2.88	4.42	3.12	6.83	4.12	7.58	4.82
6.	Nigeria	14.17	7.44	10.66	7.52	10.68	6.45	6.78	4.31
7.	Italy	2.40	1.26	2.05	1.45	2.91	1.75	3.67	2.34
8.	Australia	2.41	1.26	1.73	1.22	2.56	1.55	3.24	2.06
9.	Netherland	3.53	1.85	2.47	1.74	2.28	1.38	3.08	1.96
10.	Afghanistan	4.35	2.28	6.69	4.72	8.47	5.11	3.07	1.96
	Others	75.50	39.63	43.02	30.35	50.54	30.50	45.34	28.85
	<b>Total</b>	190.49	100	141.75	100	165.70	100	157.14	100

Source: **DGCI&S**

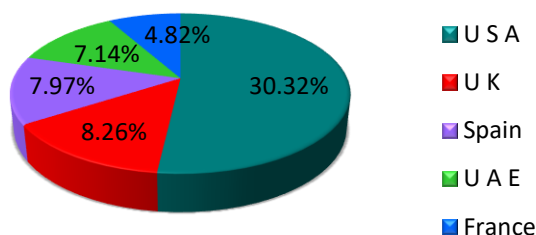
Note : India's Export including re-export

**Major destinations of Imitation Jewellery (Values in million USD)**

Data label given on the basis of 2022



India's top 5 major destinations of Imitation Jewellery by percentage in 2022:



In the year 2022, India has exported Imitation Jewellery worth of US \$ 157.14 million, which was fall by 5.17% from 2021. USA was the largest market for Imitation Jewellery export from India. In 2022, USA imported US \$ 47.65 million worth of Imitation Jewellery, from India, or 30.32 % of India's total export, followed by UK (US \$ 12.98 M) and Spain (US \$ 12.53 M) with 8.26 % and 7.97% share of India's total export in 2022 respectively. The top 10 countries in total shared the share of 71.15% of the Imitation Jewellery export value from India in that year.



Table - 5

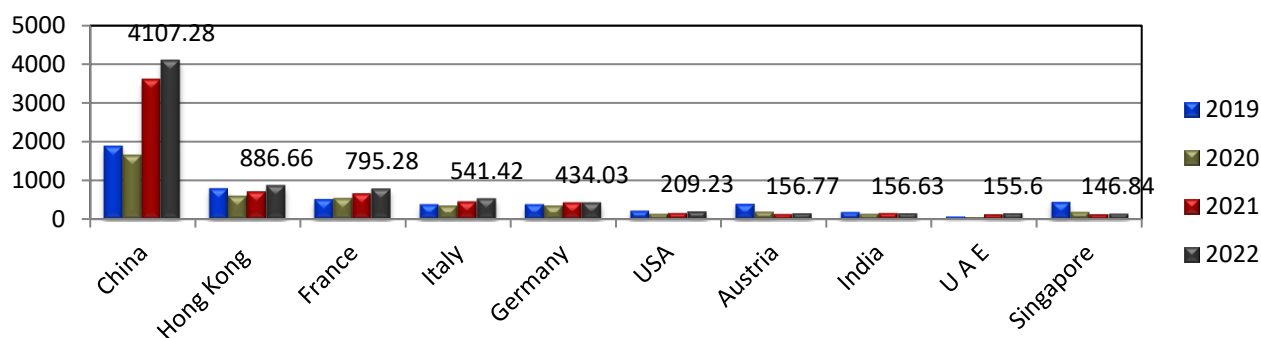
**World's Top 10 exporters of Imitation Jewellery (HS Code –7117)**

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	1876.53	26.48	1647.18	29.28	3610.89	43.42	4107.28	47.15
2.	Hong Kong	795.44	11.23	602.16	10.70	722.68	8.69	886.66	10.18
3.	France	519.58	7.33	548.79	9.75	672.77	8.09	795.28	9.13
4.	Italy	385.20	5.44	357.12	6.35	460.36	5.54	541.42	6.22
5.	Germany	390.66	5.51	357.44	6.35	435.17	5.23	434.03	4.98
6.	USA	220.53	3.11	137.56	2.45	166.17	2.00	209.23	2.40
7.	Austria	394.77	5.57	200.07	3.56	140.69	1.69	156.77	1.80
<b>8.</b>	<b>India</b>	<b>189.24</b>	<b>2.67</b>	<b>140.93</b>	<b>2.51</b>	<b>165.59</b>	<b>1.99</b>	<b>156.63</b>	<b>1.80</b>
9.	U A E	71.11	1.00	58.17	1.03	131.58	1.58	155.60	1.79
10.	Singapore	443.78	6.26	187.72	3.34	132.35	1.59	146.84	1.69
	Others	1798.49	25.38	1388.70	24.68	1678.87	20.19	1121.51	12.87
	<b>Total</b>	<b>7085.33</b>	<b>100</b>	<b>5625.83</b>	<b>100</b>	<b>8317.12</b>	<b>100</b>	<b>8711.25</b>	<b>100</b>

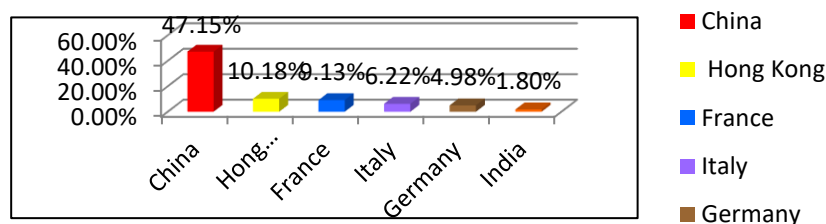
Source: UN Comtrade

Leading Imitation Jewellery exporters of world from 2019 to 2022 (Values in million \$)

Data label given on the basis of 2022



Country wise export trends of Imitation Jewellery by percentage in 2022:



The total global export value of Imitation Jewellery was US \$ 8.71 Billion in 2022 which was briefly rise by 4.74% from the year 2021. China was the largest exporter of Imitation Jewellery in the world in 2022. China exported US \$ 4.11 Million or 47.15% share of World export of the commodity in that year. Hong Kong became the 2<sup>nd</sup> largest exporter of it with export worth value of US \$ 886.66 million or 10.18% of world export in the same year. Which was followed by France with the shipment value US \$ 795.28 Million which was accounted 9.13% share of world export. In the year 2022 **India** became the 8<sup>th</sup> largest exporter in the world with share of US \$ 156.63 million or 1.80% share of world export of Imitation Jewellery.

Table - 6

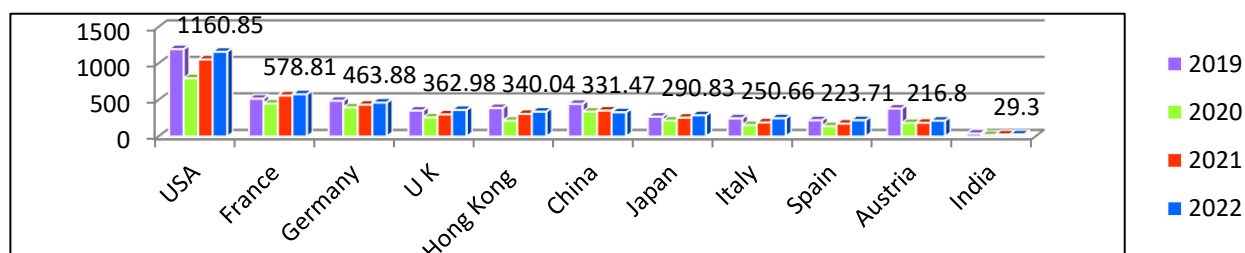
**World's Top 10 Importers of Imitation Jewellery (HS Code –7117)**

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$ )	Share ( % )	Value (million\$)	Share ( % )	Value (million\$)	Share ( % )	Value (million\$)	Share ( % )
1.	USA	1196.44	16.64	797.60	15.75	1055.19	16.81	1160.85	17.80
2.	France	517.63	7.20	450.57	8.90	561.45	8.94	578.81	8.88
3.	Germany	488.50	6.79	398.12	7.86	435.97	6.95	463.88	7.11
4.	U K	355.28	4.94	261.88	5.17	302.79	4.82	362.98	5.57
5.	Hong Kong	390.09	5.43	217.41	4.29	309.37	4.93	340.04	5.21
6.	China	445.27	6.19	339.84	6.71	354.98	5.66	331.47	5.08
7.	Japan	271.82	3.78	218.15	4.31	259.00	4.13	290.83	4.46
8.	Italy	249.06	3.46	156.73	3.10	192.83	3.07	250.66	3.84
9.	Spain	223.01	3.10	141.42	2.79	176.57	2.81	223.71	3.43
10.	Austria	382.29	5.32	185.16	3.66	188.45	3.00	216.80	3.32
35.	India	40.58	0.56	19.95	0.39	27.81	0.44	29.30	0.45
	Others	2630.69	36.58	1876.18	37.06	2412.52	38.43	2271.57	34.84
	<b>Total</b>	7190.67	100	5063.01	100	6276.94	100	6520.89	100

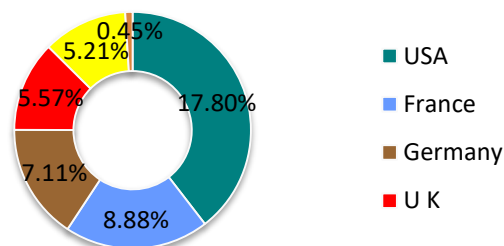
Source :UNComtrade

Imitation Jewellery importers of world from 2019 to 2022 (Values in million USD)

Data label given on the basis of 2022



Country wise import trends of Imitation Jewellery by percentage in 2022

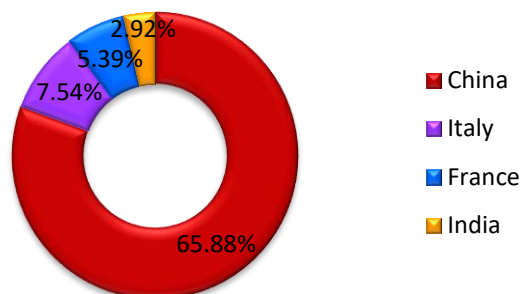


World Import of Imitation Jewellery amounted to US \$ 6.52 Billion in 2022. Overall, it indicated a temperate increase from 2021 to 2022. In 2022 the total imports value increased at 3.88% over the year 2021. Imitation Jewellery imports attained its maximum level of US \$ 7.19 Billion in 2019. USA(US \$ 1.16 B), France (US \$ 578.81 M) and Germany (US \$ 463.88 M), appeared as the countries with the highest levels of imports with 17.80%, 8.88% and 7.11% in 2022 respectively. **India's** import of the commodity was only US \$ 29.30 million or 0.45% share in that year.

## Annexure-II

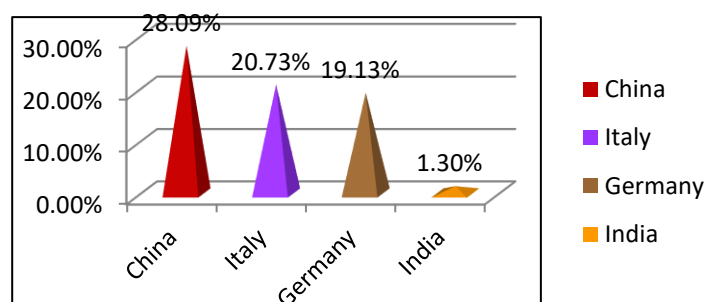
**Top sources of world's top 3 importers of Imitation Jewellery (HS Code –7117)**

Top 3 Sources of Imitation Jewellery to USA in 2022 by percentage:



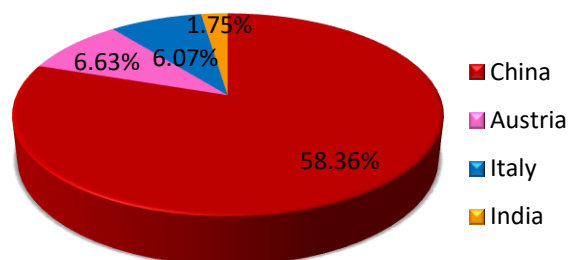
China was the principle source country of Imitation Jewellery to USA in 2022. France imported over 65.88% of the commodity from China, in the same year. Italy (7.54 %) and France(5.39%) were 2<sup>nd</sup> and 3<sup>rd</sup> major source countries of Imitation Jewellery to USA. **India's** share was only 2.92% of Germany's total import of Imitation Jewellery in 2022 (**Source: UN Comtrade**)

(ii) Top 3 Sources of Imitation Jewellery to France in 2022 by percentage:



France's 3 major source countries of Imitation Jewellery in 2022 were China (28.09%), Italy (20.73%) and Germany (19.13%) in 2022. In that **India** supplied only 1.30% share of Imitation Jewellery to Germany (**Source: UN Comtrade**)

(iii) Top 3 Sources of Imitation Jewellery to Germany in 2022 by percentage:



Almost 58.36% of Imitation Jewellery imports of Germany came from China in 2022 which was followed by Austria (6.63 %) and Italy (6.07%). **India** has exported only 1.75% share of Germany's total import of Imitation Jewellery in 2022 (**Source : UN Comtrade**).

## IMPORT

### Electronic Integrated Circuits

An **integrated circuit** (also known as an **IC**, a **chip**, or a **microchip**) is a set of electronic circuits on one small flat piece (or "chip") of semiconductor material, usually silicon. Large numbers of miniaturized transistors and other electronic components are integrated together on the chip. This results in circuits that are orders of magnitude smaller, faster, and less expensive than those constructed of discrete components, allowing a large transistor count. The IC's mass production capability, reliability, and building-block approach to integrated circuit design have ensured the rapid adoption of standardized ICs in place of designs using discrete transistors. ICs are now used in virtually all electronic equipment and have revolutionized the world of electronics. Computers, mobile phones and other home appliances are now essential parts of the structure of modern societies, made possible by the small size and low cost of ICs such as modern computer processors and microcontrollers.

Very-large-scale integration was made practical by technological advancements in semiconductor device fabrication. Since their origins in the 1960s, the size, speed, and capacity of chips have progressed enormously, driven by technical advances that fit more and more transistors on chips of the same size – a modern chip may have many billions of transistors in an area the size of a human fingernail. These advances, roughly following Moore's law, make the computer chips of today possess millions of times the capacity and thousands of times the speed of the computer chips of the early 1970s. ICs have three main advantages over discrete circuits: size, cost and performance. The size and cost is low because the chips, with all their components, are printed as a unit by photolithography rather than being constructed one transistor at a time. Furthermore, packaged ICs use much less material than discrete circuits. Performance is high because the IC's components switch quickly and consume comparatively little power because of their small size and proximity. The main disadvantage of ICs is the high initial cost of designing them and the enormous capital cost of factory construction. This high initial cost means ICs are only commercially viable when high production volumes are anticipated.

An early attempt at combining several components in one device (like modern ICs) was the Loewe 3NF vacuum tube from the 1920s. Unlike ICs, it was designed with the purpose of tax avoidance, as in Germany, radio receivers had a tax that was levied depending on how many tube holders a radio receiver had. It allowed radio receivers to have a single tube holder. Early concepts of an integrated circuit go back to 1949, when German engineer Werner Jacobi<sup>1</sup> (Siemens AG) filed a patent for an integrated-circuit-like semiconductor amplifying device showing five transistors on a common substrate in a three-stage amplifier arrangement. Jacobi disclosed small and cheap hearing aids as typical industrial applications of his patent. The semiconductors of the periodic table of the chemical elements were identified as the most likely materials for a solid-state vacuum tube. Starting with copper oxide, proceeding to germanium, then silicon, the materials were systematically studied in the 1940s and 1950s. Today, monocrystalline silicon is the main substrate used for ICs although some III-V compounds of the periodic table such as gallium arsenide are used for specialized applications like LEDs, lasers, solar cells and the highest-speed integrated circuits. It took decades to perfect methods of creating crystals with minimal defects in semiconducting materials' crystal structure.

The possibility of copying by photographing each layer of an integrated circuit and preparing photomasks for its production on the basis of the photographs obtained is a reason for the introduction of legislation for the protection of layout designs. The US Semiconductor Chip Protection Act of 1984 established intellectual property protection for photomasks used to produce integrated circuits. A diplomatic conference held at Washington, D.C., in 1989 adopted a Treaty on Intellectual Property in Respect of Integrated Circuits, also called the Washington Treaty or IPIC Treaty. The treaty is currently not in force, but was partially integrated into the TRIPS agreement.

These are broadly classified under **H. S. Code- 8542**

Table - 7

**India's Top 10 Sources of Electronic Integrated Circuits (HS Code : 8542)**

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	3593.87	35.33	2914.75	34.59	4523.85	36.55	5077.82	31.46
2.	Hong Kong	3545.18	34.85	2635.18	31.27	3626.78	29.30	3991.15	24.73
3.	Korea RP	1466.37	14.42	873.73	10.37	1170.39	9.46	2252.81	13.96
4.	Singapore	885.67	8.71	863.23	10.24	1175.88	9.50	1559.96	9.67
5.	Taiwan	93.42	0.92	421.11	5.00	557.38	4.50	1001.99	6.21
6.	Ireland	0.49	0.00	0.34	0.00	167.75	1.36	750.54	4.65
7.	U S A	172.43	1.70	139.99	1.66	264.93	2.14	299.99	1.86
8.	Japan	97.61	0.96	100.96	1.20	151.08	1.22	214.57	1.33
9.	Finland	39.33	0.39	71.29	0.85	111.04	0.90	192.69	1.19
10.	Vietnam	25.31	0.25	45.47	0.54	166.57	1.35	138.06	0.86
	Others	251.62	2.47	360.49	4.28	461.80	3.73	659.18	4.08
	<b>Total</b>	10171.29	100	8426.54	100	12377.45	100	16138.76	100

Source: **DGCI&S**

**Note : India's Import including Re-import**

In the year 2022, India imported Electronic Integrated Circuits worth US \$ 16.14 Billion. As compared to the year 2021, which shows a growth of 30.39% from the previous which was US \$ 12.38 Billion in 2021. Among the top importing countries, India imported the highest dollar worth of Electronic Integrated Circuits from China with shipments in 2022 valued at US \$ 5.08 Billion which was 31.46% share of India's total import in 2022. In second place was Hong Kong from which India imported around US \$ 3.99 Billion worth of Electronic Integrated Circuits or 24.73% share of India's total, which was followed Korea RP (US \$ 2.25 B) with 13.96% share of India's total import of Electronic Integrated Circuits in 2022 .

Table - 8

**World Top 10 Importer of Electronic Integrated Circuits (HS Code : 8542)**

Rank	Countries	2019		2020		2021		2022	
		Value (million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	306396.73	36.09	350770.31	37.38	433726.56	36.34	416525.20	40.18
2.	Hong Kong	151292.08	17.82	168918.85	18.00	221168.91	18.53	222209.42	21.44
3.	Singapore	60558.80	7.13	71678.84	7.64	94360.16	7.91	107960.57	10.42
4.	Rep of Korea	35703.24	4.20	40277.15	4.29	50339.78	4.22	62400.26	6.02
5.	USA	33085.05	3.90	31910.04	3.40	41251.25	3.46	43684.95	4.21
6.	Japan	18511.11	2.18	18756.81	2.00	25389.67	2.13	31666.85	3.06
7.	Mexico	21357.30	2.52	18820.46	2.01	21865.04	1.83	26341.94	2.54
8.	Germany	17006.27	2.00	13314.72	1.42	17243.19	1.44	23421.78	2.26
9.	Philippines	13616.66	1.60	13394.53	1.43	15424.70	1.29	17265.73	1.67
10.	<b>India</b>	<b>10172.39</b>	<b>1.20</b>	<b>8417.89</b>	<b>0.90</b>	<b>12391.53</b>	<b>1.04</b>	<b>16122.21</b>	<b>1.56</b>
	Others	181374.67	21.36	202121.01	21.54	260332.04	21.81	68924.93	6.65
	<b>Total</b>	849074.30	100	938380.59	100	1193492.83	100	1036523.83	100

Source :UN Comtrade

In value terms, the global import of Electronic Integrated Circuit amounted to US \$ 1036.52 Billion in 2022. Overall, it indicated a strong increase from 2019. The total import value decreased at 13.16% over the last year's. China (US \$ 416.52 B) was the major importers of integrated circuit in 2022, amounting to approx 40.18%, of total world imports. The Hong Kong (US \$ 222.21 B) held a 21.44% share of global integrated circuit imports, which put it in second place, following Singapore (US \$ 107.96 B) or 10.42% share of world total. In that year **India** imported US \$ 16.12 Billion worth of Electronic Integrated Circuits or accounted 1.56% share of global import of Electronic Integrated Circuits and put it in 10<sup>th</sup> position in the world.

## Synthetic Rubber

A **Synthetic Rubber** is any artificial elastomer. They are polymers synthesized from petroleum products. 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 *Koro-seal*, 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 chlorosulphonated polyethylene. Synthetic rubbers like EPDM 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 2022, Synthetic Rubber were the world's 165th most traded product, with a total import trade of US \$ 26.24 Billion.

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

Table - 9

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

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	Korea RP	199.76	21.99	147.05	20.35	278.87	22.17	313.61	21.99
2.	Japan	127.26	14.01	118.72	16.43	169.53	13.48	185.17	12.98
3.	Singapore	135.15	14.88	83.39	11.54	97.88	7.78	142.79	10.01
4.	China	35.33	3.89	25.11	3.47	46.65	3.71	121.04	8.49
5.	Russia	90.93	10.01	76.82	10.63	150.79	11.99	92.10	6.46
6.	Poland	30.86	3.40	24.42	3.38	64.64	5.14	83.79	5.87
7.	U S A	57.96	6.38	56.40	7.80	86.53	6.88	73.58	5.16
8.	Saudi Arab	16.07	1.77	13.70	1.90	37.67	3.00	68.13	4.78
9.	Germany	21.21	2.34	20.71	2.87	38.99	3.10	54.09	3.79
10.	Taiwan	31.13	3.43	19.09	2.64	37.37	2.97	48.58	3.41
	Others	162.81	17.92	137.34	19.00	248.85	19.78	243.37	17.06
	<b>Total</b>	908.46	100	722.76	100	1257.78	100	1426.24	100

Source: DGCIS&S

Note : India's Import including re-import

There is a total of 65 countries India has imported Synthetic Rubber from in 2022. The Synthetic Rubber import in 2022 stood at US \$ 1.43 Billion and US \$ 1.26 Billion in 2021. The Synthetic Rubber import to India reached pick with worth value of US \$ 1.47 Billion in the year 2022. Major three source countries of Synthetic Rubber to India in 2022 were Korea RP ( US \$ 313.61 Million or 21.99%), Japan (US \$ 185.17 Million or 12.98%), Singapore (US \$ 142.79 Million or 10.01%). These 3 countries in total sold US \$ 641.57 Million value of Synthetic Rubber to India which rounds up to 44.98% of the total Synthetic Rubber import into India.



Table – 8

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

Rank	Countries	2019		2020		2021		2022	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	6676.41	27.57	7514.04	34.29	8269.46	27.33	8927.28	34.02
2.	USA	1601.86	6.61	1168.89	5.33	1644.70	5.44	2103.11	8.01
3.	Germany	1219.49	5.04	952.44	4.35	1312.97	4.34	1487.04	5.67
<b>4.</b>	<b>India</b>	<b>908.08</b>	<b>3.75</b>	<b>723.75</b>	<b>3.30</b>	<b>1258.21</b>	<b>4.16</b>	<b>1428.72</b>	<b>5.44</b>
5.	Türkiye	562.21	2.32	495.29	2.26	795.16	2.63	1063.35	4.05
<b>6.</b>	Brazil	525.58	2.17	496.22	2.26	745.59	2.46	876.50	3.34
7.	Italy	618.99	2.56	492.04	2.25	764.42	2.53	862.69	3.29
8.	Belgium	468.39	1.93	351.61	1.60	541.16	1.79	745.32	2.84
9.	Poland	603.01	2.49	490.80	2.24	730.65	2.41	744.78	2.84
10.	Mexico	463.13	1.91	350.19	1.60	589.67	1.95	701.38	2.67
	Others	10571.80	43.65	8875.48	40.51	13608.77	44.97	7302.55	27.83
	<b>Total</b>	<b>24218.94</b>	<b>100</b>	<b>21910.76</b>	<b>100</b>	<b>30260.76</b>	<b>100</b>	<b>26242.71</b>	<b>100</b>

Source :UNComtrade

Global Imports of Synthetic Rubber, the top 3 importers of Synthetic Rubber in 2022 were China ( US \$ 8.93B), USA (US \$ 2.10 B) and Germany (US \$ 1.49 B), accounted for 34.02%, 8.01% and 5.67% respectively of world import value of Synthetic Rubber. The import value of Synthetic Rubber into **India** amounted to US \$ 1.43 billion in the year 2022, and ranked in 4<sup>th</sup> position in the world with 5.44% share of total Global import value of Synthetic Rubber. This was increased from the previous year.