

## **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 **Artificial and Prepared Waxes & Butter and Other Fats and Oils** and imports of **Self Adhesive Plastic Materials and Electric Filament** 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-3404 & 0405 for export and 3919 & 8539 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 Artificial and Prepared Waxes & Butter and Other Fats and Oils and imports of Self Adhesive Plastic Materials and Electric Filament. 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 Artificial and prepared Waxes with their shares in percentage.**
- **Table 2 : World's top 10 Exporters of Artificial and prepared Waxes with their shares in percentage.**
- **Table 3 : World's top 10 Importers of Artificial and prepared Waxes with their shares in percentage.**
- **Annex- I : Top 3 sources of Artificial and prepared Waxes of World's top 3 Importers.**
- **Table 4 : India's top 10 Export destination of Butter and Other Fats and Oils with their shares in percentage.**
- **Table 5 : World's top 10 Exporters of Butter and Other Fats and Oils with their shares in percentage.**
- **Table 6 : World's top 10 Importers of Butter and Other Fats and Oils with their shares in percentage.**
- **Annex-II : Top 3 sources of Butter and Other Fats and Oils of World's top 3 Importers.**
- **Table 7 : India's top10 Sources of Self Adhesive Plastic with their shares in percentage.**
- **Table 8 : World's top 10 Importers Self Adhesive Plastic with their shares in percentage.**
- **Table 9 : India's top 10 Sources of Electric Filament with their shares in percentage.**
- **Table 10 : World's top 10 Importers of Electric Filament with their shares in percentage.**

## EXPORT

### Artificial Waxes and Prepared Waxes

**Waxes** are a diverse class of organic compounds that are lipophilic, malleable solids near ambient temperatures. They include higher alkanes and lipids, typically with melting points above about 40 °C (104 °F), melting to give low viscosity liquids. Waxes are insoluble in water but soluble in organic, nonpolar solvents. Natural waxes of different types are produced by plants and animals and occur in petroleum.

Waxes are organic compounds that characteristically consist of long aliphaticalkyl chains, although aromatic compounds may also be present. Natural waxes may contain unsaturated bonds and include various functional groups such as fatty acids, primary and secondary alcohols, ketones, aldehydes and fatty acid esters. Synthetic waxes often consist of homologous series of long-chain aliphatic hydrocarbons (alkanes or paraffins) that lack functional groups.

The best-known animal wax is beeswax used in constructing the honeycombs of beehives, but other insects also secrete waxes. A major component of beeswax is myricylpalmitate which is an ester of triacontanol and palmitic acid. Its melting point is 62-65 °C. Spermaceti occurs in large amounts in the head oil of the sperm whale. One of its main constituents is cetylpalmitate, another ester of a fatty acid and a fatty alcohol. Lanolin is a wax obtained from wool, consisting of esters of sterols.

Plants secrete waxes into and on the surface of their cuticles as a way to control evaporation, wettability and hydration. The epicuticular waxes of plants are mixtures of substituted long-chain aliphatic hydrocarbons, containing alkanes, alkyl esters, fatty acids, primary and secondary alcohols, diols, ketones and aldehydes. From the commercial perspective, the most important plant wax is carnauba wax, a hard wax obtained from the Brazilian palm *Coperniciaprunifera*. Containing the ester myricylcerotate, it has many applications, such as confectionery and other food coatings, car and furniture polish, floss coating, and surfboard wax. Other more specialized vegetable waxes include jojoba oil, candelilla wax and ouricury wax.

Although many natural waxes contain esters, paraffin waxes are hydrocarbons, mixtures of alkanes usually in a homologous series of chain lengths. These materials represent a significant fraction of petroleum. They are refined by vacuum distillation. Paraffin waxes are mixtures of saturated n- and iso- alkanes, naphthenes, and alkyl- and naphthene-substituted aromatic compounds. A typical alkane paraffin wax chemical composition comprises hydrocarbons with the general formula  $C_nH_{2n+2}$ , such as hentriacontane,  $C_{31}H_{64}$ . The degree of branching has an important influence on the properties. Microcrystalline wax is a lesser produced petroleum based wax that contains higher percentage of isoparaffinic (branched) hydrocarbons and naphthenic hydrocarbons.

Millions of tons of paraffin waxes are produced annually. They are used in foods (such as chewing gum and cheese wrapping), in candles and cosmetics, as non-stick and waterproofing coatings and in polishes.

Waxes are mainly consumed industrially as components of complex formulations, often for coatings. The main use of polyethylene and polypropylene waxes is in the formulation of colourants for plastics. Waxes confer matting effects and wear resistance to paints. Polyethylene waxes are incorporated into inks in the form of dispersions to decrease friction. They are employed as release agents, find use as slip agents in furniture, and confer corrosion resistance.

Waxes such as paraffin wax or beeswax, and hard fats such as tallow are used to make candles, used for lighting and decoration. Another fuel type used in candle manufacturing includes soy. Soy wax is made by the hydrogenation process using soybean oil. Waxes are used as finishes and coatings for wood products.<sup>[8]</sup> Beeswax is frequently used as a lubricant on drawer slides where wood to wood contact occurs.

Wax with colourful pigments added has been used as a medium in encaustic painting, and is used today in the manufacture of crayons,

These are broadly classified under **H.S. Code-3404**

Table - 1

**India's Top 10 destination of Artificial Waxes (H.S Code-3404)**

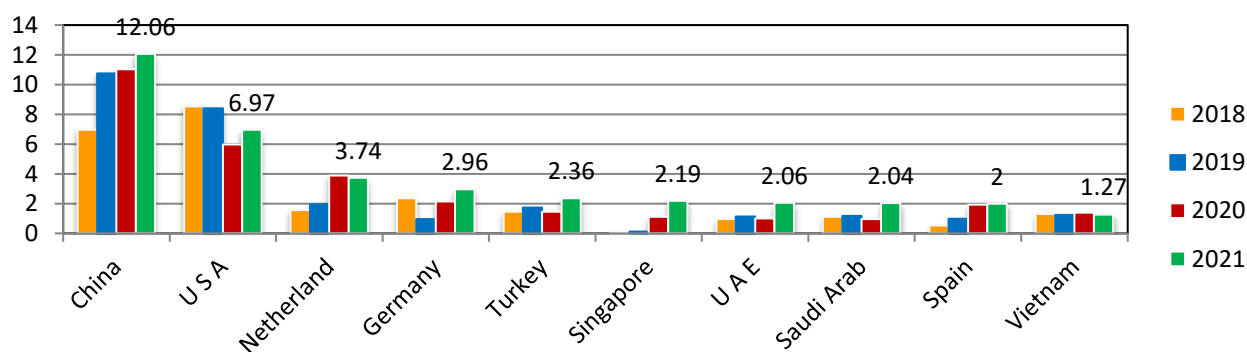
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	6.96	17.05	10.76	22.11	11.02	22.78	12.06	21.06
2.	U S A	8.53	20.90	8.40	17.26	5.97	12.34	6.97	12.17
3.	Netherland	1.57	3.85	1.94	3.99	3.88	8.02	3.74	6.53
4.	Germany	2.35	5.76	0.97	1.99	2.14	4.42	2.96	5.17
5.	Turkey	1.46	3.58	1.73	3.56	1.45	3.00	2.36	4.12
6.	Singapore	0.09	0.22	0.12	0.25	1.12	2.32	2.19	3.82
7.	U A E	0.97	2.38	1.14	2.34	1.00	2.07	2.06	3.60
8.	Saudi Arab	1.11	2.72	1.17	2.40	0.96	1.98	2.04	3.56
9.	Spain	0.54	1.32	0.99	2.03	1.92	3.97	2.00	3.49
10.	Vietnam	1.30	3.18	1.23	2.53	1.40	2.89	1.27	2.22
	Others	15.95	39.07	20.20	41.51	17.51	36.20	19.63	34.28
	<b>Total</b>	40.82	100	48.66	100	48.37	100	57.26	100

Source: DGCI&S.

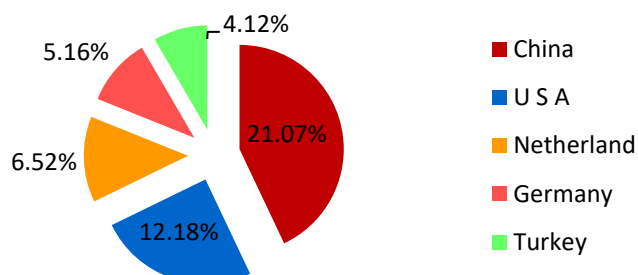
Note : India's Export including re-export

Leading importers of Artificial Waxes from India for 2018-2021 (Values in million US \$ )

Data label given on the basis of 2021



India's top 5 destinations of Artificial Waxes by percentage India in 2021:



In the year 2018 the total value of Artificial and Prepared Waxes export was US \$ 40.82 million. Whereas the data of 2021 states the export value of US \$ 57.26 million, which shows a considerable almost 29.12% export growth has been occurred from 2018 to 2021. In the 2021 India exported highest value worth of Artificial and Prepared Waxes to China with valued at US \$ 12.06 million. In 2<sup>nd</sup> place was USA, where India exported US \$ 6.97 million of Artificial and Prepared Waxes and Netherland was the 3<sup>rd</sup> major destination of the Indian Artificial and Prepared Waxes in the same year with export value of US \$ 3.74 million.

Table-2

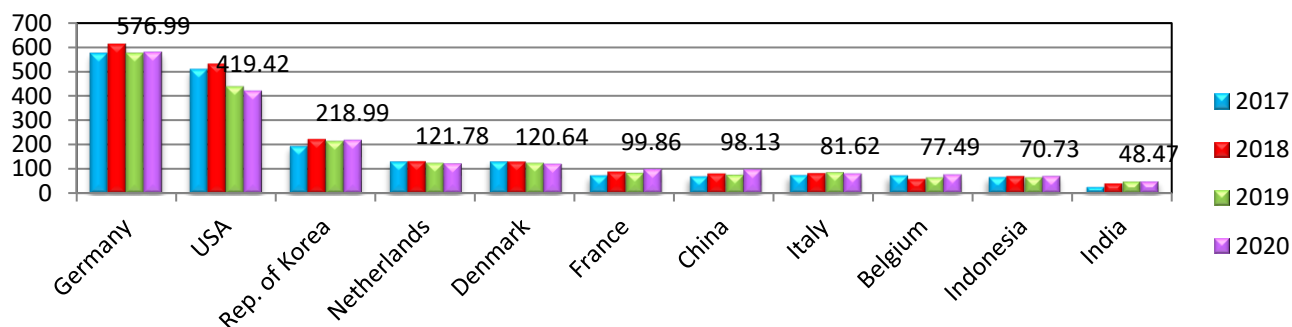
**World's Top 10 exporter of Artificial and Prepared Waxes (H.S Code-3404)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$ )	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	Germany	573.99	22.46	612.87	22.42	576.60	22.43	576.99	22.51
2.	USA	508.23	19.89	530.68	19.42	438.46	17.06	419.42	16.36
3.	Rep. of Korea	193.28	7.56	222.99	8.16	214.03	8.33	218.99	8.54
4.	Netherlands	130.11	5.09	132.08	4.83	124.83	4.86	121.78	4.75
5.	Denmark	130.75	5.12	130.00	4.76	124.58	4.85	120.64	4.71
6.	France	74.14	2.90	89.13	3.26	84.33	3.28	99.86	3.90
7.	China	70.00	2.74	81.23	2.97	76.00	2.96	98.13	3.83
8.	Italy	75.00	2.93	82.27	3.01	87.09	3.39	81.62	3.18
9.	Belgium	73.69	2.88	59.55	2.18	65.03	2.53	77.49	3.02
10.	Indonesia	67.40	2.64	70.68	2.59	65.85	2.56	70.73	2.76
14.	<b>India</b>	<b>26.41</b>	<b>1.03</b>	<b>41.02</b>	<b>1.50</b>	<b>48.61</b>	<b>1.89</b>	<b>48.47</b>	<b>1.89</b>
	Others	632.53	24.75	680.62	24.90	665.37	25.88	629.09	24.54
	<b>Total</b>	<b>2555.53</b>	<b>100</b>	<b>2733.12</b>	<b>100</b>	<b>2570.78</b>	<b>100</b>	<b>2563.21</b>	<b>100</b>

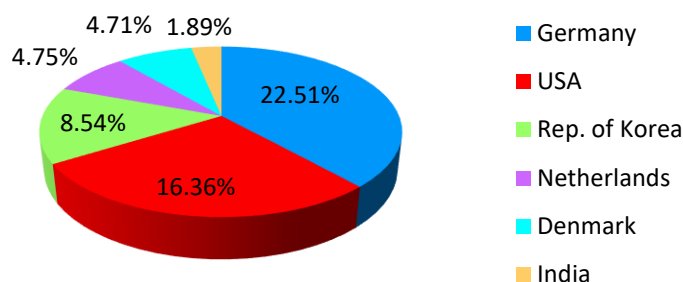
Source: UN Comtrade

Leading exporters of Artificial Waxes of world from 2017 to 2020 (Values in million USD)

Data label given on the basis of 2020



Country wise world's leading exporter of Artificial Waxes by percentage in 2020



In value terms, Artificial Waxes exports declined sharply to US \$ 2.56 B in 2020. The most prominent rate of growth was recorded in 2018 when exports increased by 6.95% against the previous year. Over the period under review, global exports reached the maximum at US \$2.73B in 2018. Germany (US \$ 577M), USA (US \$ 419.42M) and Rep. of Korea (US \$219 M ) were the countries with the highest levels of exports in 2020, with a combined 47.41% share of global exports in 2020. In that year India hold the 14<sup>th</sup> position in the ranking, with 1.89% share of total world exports of Artificial or Prepared Waxes.

Table-3

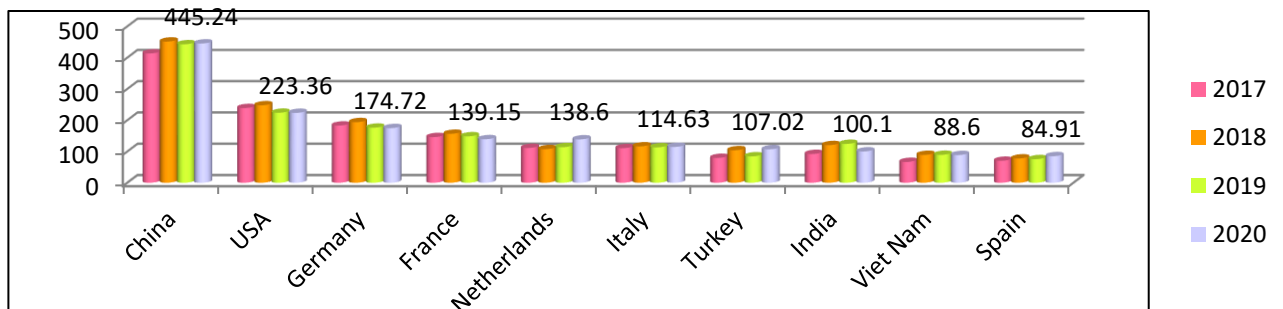
**World's top 10 Importers of Artificial Waxes (H.S Code-3404)**

Rank	Countries	2017		2018		2019		2020	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	413.42	14.64	451.35	14.69	442.67	15.40	445.24	15.59
2.	USA	238.79	8.46	247.70	8.06	223.79	7.79	223.36	7.82
3.	Germany	182.89	6.48	193.81	6.31	176.07	6.13	174.72	6.12
4.	France	145.96	5.17	156.49	5.09	148.47	5.17	139.15	4.87
5.	Netherlands	111.29	3.94	107.37	3.49	113.76	3.96	138.60	4.85
6.	Italy	110.63	3.92	116.30	3.78	113.18	3.94	114.63	4.01
7.	Turkey	79.50	2.82	103.91	3.38	84.43	2.94	107.02	3.75
8.	<b>India</b>	<b>92.04</b>	<b>3.26</b>	<b>120.34</b>	<b>3.92</b>	<b>124.34</b>	<b>4.33</b>	<b>100.10</b>	<b>3.50</b>
9.	Viet Nam	66.59	2.36	89.04	2.90	89.22	3.10	88.60	3.10
10.	Spain	70.29	2.49	77.67	2.53	75.47	2.63	84.91	2.97
	Others	1311.81	46.47	1408.76	45.85	1282.59	44.63	1239.80	43.41
	<b>Total</b>	<b>2823.22</b>	<b>100</b>	<b>3072.74</b>	<b>100</b>	<b>2874.00</b>	<b>100</b>	<b>2856.14</b>	<b>100</b>

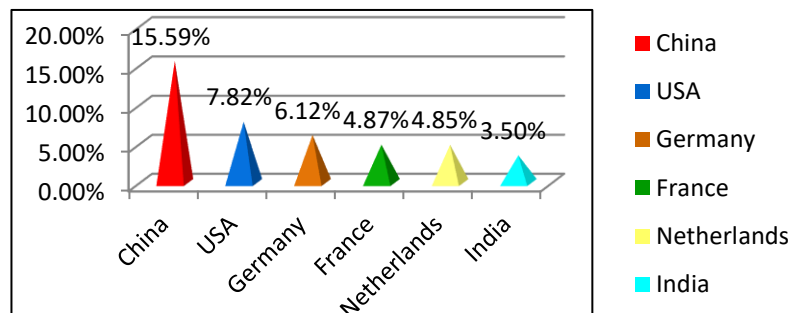
Source : UN Comtrade

Leading Artificial Waxes importers of world from 2017 to 2020(Values in million USD)

Data label given on the basis of 2020



Country wise leading Artificial percentage in



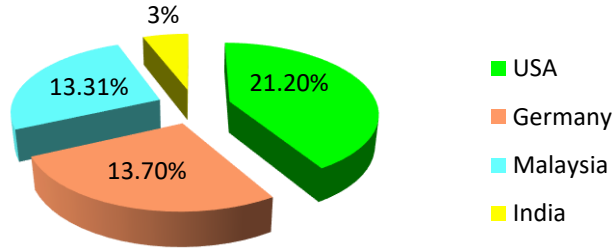
world's importers of Waxes by 2020

In 2020, Global import of Artificial and Prepared Waxes was almost constant with the previous year, Global imports of Artificial and Prepared Waxes peaked at US \$ 3 Billion in 2018. China ( US \$ 445.24M), USA ( US \$ 223.36 M) and Germany (US \$ 174.72 M) were the major importing country of the Artificial and Prepared waxes in 2020, represented roughly 29.53% of total imports of Artificial and Prepared Waxes in 2020. In the same year Artificial and Prepared Waxes import to **India** was US \$ 100 Million, which was accounted 3.50% share of world's total import and holds the 8<sup>th</sup> rank in the world.

## Annexure-1

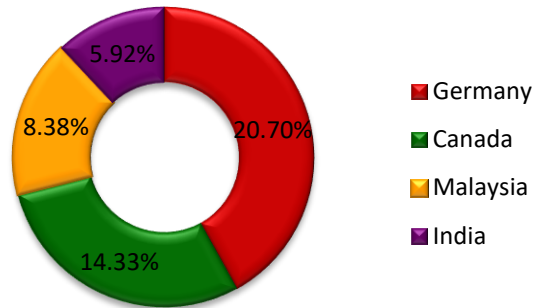
**Major sources of world's top three importers of Artificial Waxes (H.S Code-3404)**

i) Top 3 Sources of Artificial Waxes to China in 2020 by percentage:



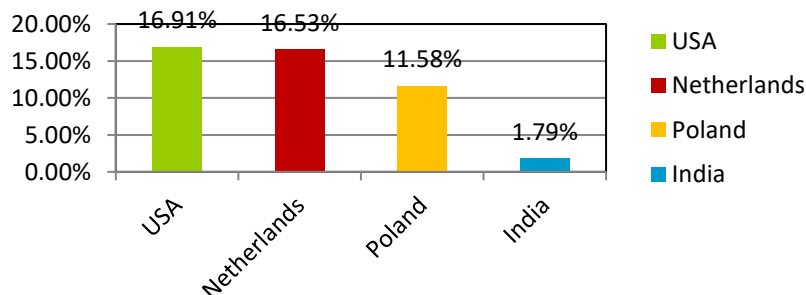
In 2020, China imported 21.20% of Artificial Waxes from USA. Other Major exporter of it to China in that year were Germany and Malaysia with a share of 13.71% and 13.31% respectively of China's total import. In 2020 India exported 3% of Artificial Waxes to China. **Source : UN Comtrade)**

ii) Top 3 Sources of Artificial Waxes to USA in 2020 by percentage:



In 2020 USA imports most of its requirements of Artificial Waxes from Germany with a share of 20.70% ,2<sup>nd</sup> and 3<sup>rd</sup> largest exporter of the commodity to USA were Canada with a share of 14.33% and Malaysia with a share of 8.38% . In that year USA imported Artificial Waxes from **India** with a share of 8.38%. **Source: UN Comtrade)**

iii) Top 3 Sources of Artificial Waxes to Germany in 2020 by percentage:



Germany's 3 major source countries of Artificial Waxes in 2020 were USA (16.91%), Netherlands (16.53%) and Poland (11.58%) in 2020. In that year India's export of Artificial Waxes to Germany was 1.79% of Germany's total import. **(Source: UN Comtrade)**

## Butter and Other Fats and Oils

Butter oil refers to the fat-concentrate obtained mainly from butter or cream by the removal of practically all the water and non-fat solids. The terms “milk fat,” “anhydrous milk fat,” “dry butter fat,” and “dehydrated butter fat” are used synonymously with butter oil. It can be prepared by the following ways (Jana, 1990; Sukumar De, 1991):

**Alfa-Laval process (using cream as raw material):** Cream having 30–40 % of fat is first warmed at 55–58°C and passed through a pre-concentrator. This is, in effect, a hermetic separator, which concentrates the cream up to a fat level of 70–75%. The high-fat cream is then passed into a centrifugator (used for homogenization of the cream), a specially designed paring chamber, for phase inversion into a water-in-oil emulsion. The next concentrator separates out the milk fat, which is washed, re-separated, and then passed into a vacuum chamber at 80–90°C for the removal of residual moisture. It is subsequently cooled to 20–26°C for packaging.

**Using white butter as raw material:** The butter is first melted into a pump able form, at around 50°C, passed through a plate heat exchanger to raise the temperature to 70–80°C, and then held in a sealed tank for a few minutes. This helps the emulsion to break. The butter is then pumped into a separator, where the butter serum is removed and the butterfat is washed with hot water and subsequently re-separated. This fat is then passed through to a vacuum chamber for the removal of the residual moisture. It is then cooled and stored for further use.

Fats such as cooking oils, butter, margarine, meat and other protein-based foods provide energy, essential fatty acids and the fat-soluble vitamins A, D, E and K. They also provide calcium and phosphate. It is recommended that about one-third of the daily calorie intake should come from fats. Eating too much fat can lead to weight gain and increased levels of blood fats. This can increase chances of developing cardiovascular disease and some cancers. There is no increased need for fats for PLHIV.

Milk and Fats and Oils contain butterfat in microscopic globules. These globules are surrounded by membranes made of phospholipids (acid emulsifiers) and proteins, which prevent the fat in milk from pooling together into a single mass. Butter is produced by agitating cream, which damages these membranes and allows the milk fats to conjoin, separating from the other parts of the cream. Variations in the production method will create butters with different consistencies, mostly due to the butterfat composition in the finished product. Butter contains fat in three separate forms: free butterfat, butterfat crystals, and undamaged fat globules. In the finished product, different proportions of these forms result in different consistencies within the butter; butters with many crystals are harder than butters dominated by free fats.

According to Harold McGee the earliest milk production would have been from sheep or goat's milk in the area of Iran and Iraq around 9,000 to 8,000 BCE and butter would have soon been found naturally in milk containers; cattle are not thought to have been domesticated for another thousand years. A later Sumerian tablet, dating to approximately 2,500 BCE, describes the butter making process, from the milking of cattle, while contemporary Sumerian tablets identify butter as a ritual offering.

Butter oil refers to the fat-concentrate obtained mainly from butter or cream by the removal of practically all the water and non-fat solids. The terms “milk fat,” “anhydrous milk fat,” “dry butter fat,” and “dehydrated butter fat” are used synonymously with butter oil. Despite the low water content, both butter oils and ghee products are known to deteriorate during storage as a consequence of oxidation.

Dairy products are often pasteurized during production to kill pathogenic bacteria and other microbes. Butter made from pasteurized fresh cream is called **sweet cream butter**. Production of sweet cream butter first became common in the 19th century, with the development of refrigeration and the mechanical cream separator.

These are broadly classified under **H.S. Code-0405**.

Table - 4

**India's Top 10 destination of Butter and Other Fats and Oils (HS Code -0405)**

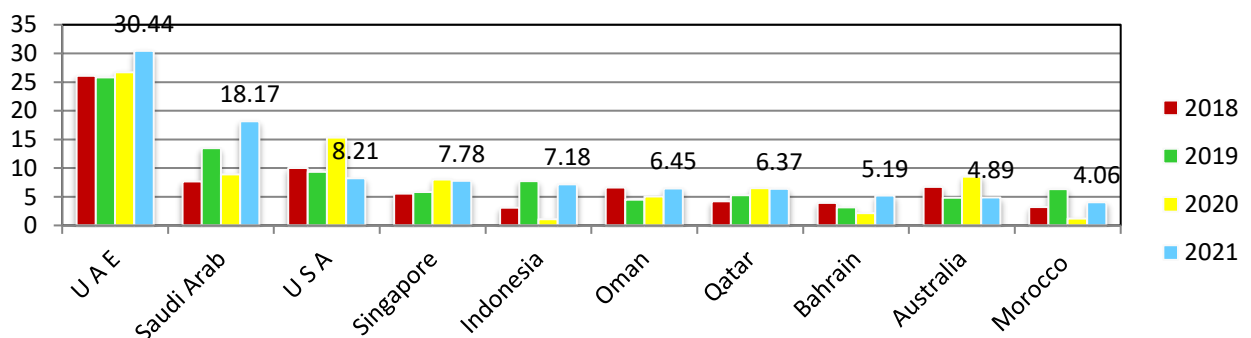
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	U A E	26.07	17.61	25.83	13.60	26.70	25.71	30.44	24.69
2.	Saudi Arab	7.67	5.18	13.49	7.10	8.89	8.56	18.17	14.74
3.	U S A	10.00	6.76	9.34	4.92	15.32	14.75	8.21	6.66
4.	Singapore	5.52	3.73	5.81	3.06	7.98	7.68	7.78	6.31
5.	Indonesia	3.11	2.10	7.71	4.06	1.06	1.02	7.18	5.82
6.	Oman	6.60	4.46	4.49	2.36	5.05	4.86	6.45	5.23
7.	Qatar	4.22	2.85	5.28	2.78	6.48	6.24	6.37	5.17
8.	Bahrain	3.92	2.65	3.13	1.65	2.16	2.08	5.19	4.21
9.	Australia	6.71	4.53	4.81	2.53	8.50	8.18	4.89	3.97
10.	Morocco	3.21	2.17	6.33	3.33	1.19	1.15	4.06	3.29
	Others	3.07	2.07	1.48	0.78	0.43	0.41	3.48	2.82
	<b>Total</b>	148.01	100	189.93	100	103.85	100	123.31	100

Source: DGCI&amp;S

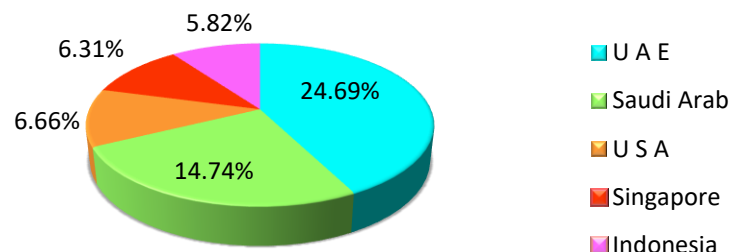
Note : India's Export including re-export

Major destinations of Indian Butter and Other Fats and Oils from 2018-2021(Values in million USD)

Data label given on the basis of 2021



India's top 5 major destinations of Butter and Other Fats and Oils by percentage in 2021:



In the year 2021, India has exported Butter and other fats and Oils worth of US \$ 123.31 million. UAE is the largest market for Butter and other fats and Oils export from India. In 2021, UAE imported US \$ 30.44 million worth Butter and other fats and Oils from India. Which is accounted by 24.69%, followed by Saudi Aran and USA with 14.74% and 6.66% share of world import from India in 2021 respectively. The top 10 countries in total shared the share of 96.52% of the Butter and other fats and Oils export value from India.



Table - 5

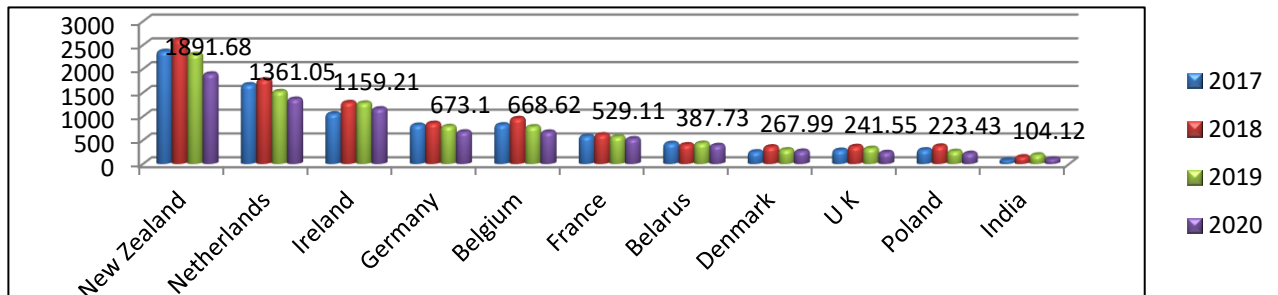
**World's Top 10 exporters of Butter and Other Fats and Oils (HS Code –0405)**

Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	New Zealand	2366.49	23.94	2611.89	23.46	2303.73	22.90	1891.68	21.92
2.	Netherlands	1664.51	16.84	1766.65	15.87	1522.30	15.13	1361.05	15.77
3.	Ireland	1052.34	10.65	1291.12	11.60	1280.14	12.72	1159.21	13.43
4.	Germany	815.10	8.25	854.62	7.68	787.89	7.83	673.10	7.80
5.	Belgium	822.42	8.32	954.89	8.58	782.05	7.77	668.62	7.75
6.	France	582.01	5.89	612.73	5.50	569.13	5.66	529.11	6.13
7.	Belarus	431.66	4.37	403.36	3.62	435.06	4.32	387.73	4.49
8.	Denmark	254.67	2.58	358.44	3.22	296.48	2.95	267.99	3.10
9.	U K	287.94	2.91	366.99	3.30	327.69	3.26	241.55	2.80
10.	Poland	295.62	2.99	375.17	3.37	264.41	2.63	223.43	2.59
12.	<b>India</b>	<b>81.32</b>	<b>0.82</b>	<b>148.77</b>	<b>1.34</b>	<b>189.44</b>	<b>1.88</b>	<b>104.12</b>	<b>1.21</b>
	Others	1231.55	12.46	1387.65	12.47	1302.27	12.94	1123.43	13.02
	<b>Total</b>	9885.62	100	11132.28	100	10060.59	100	8631.04	100

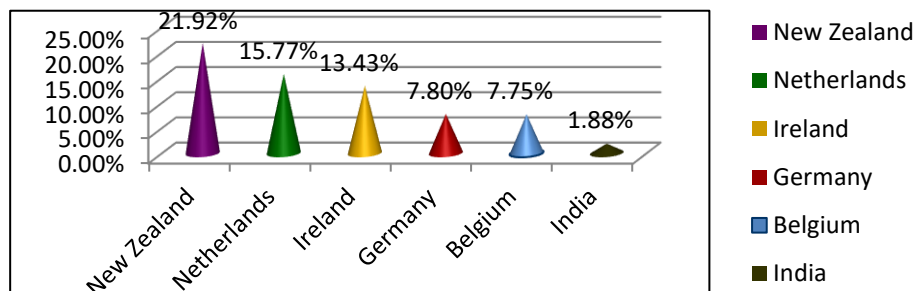
Source: UN Comtrade

Leading Butter and Other Fats and Oils exporters of world from 2017 to 2020 (Values in million \$)

Data label given on the basis of 2020



Country wise export trends of Butter and Other Fats and Oils by percentage in 2020:



Global export of Butter and Other Fats and Oils was totalled US\$ 8.63 billion in 2020. Overall, that dollar amount reflects a negative growth of -14.21% for all exporting countries from 2019 when Butter and Other Fats and Oils shipments was valued at US \$ 10.06 billion. Among the major exporting countries served as the sources for the highest dollar worth of Butter and Other Fats and Oils shipments from New Zealand amounted to US \$ 1.89 billion or 21.92% of the worldwide total in 2020, followed by Netherland 15.77% and Ireland 13.47%. India shipped 1.21% of global total ranked 12<sup>th</sup> in the world export in that year.

Table - 6

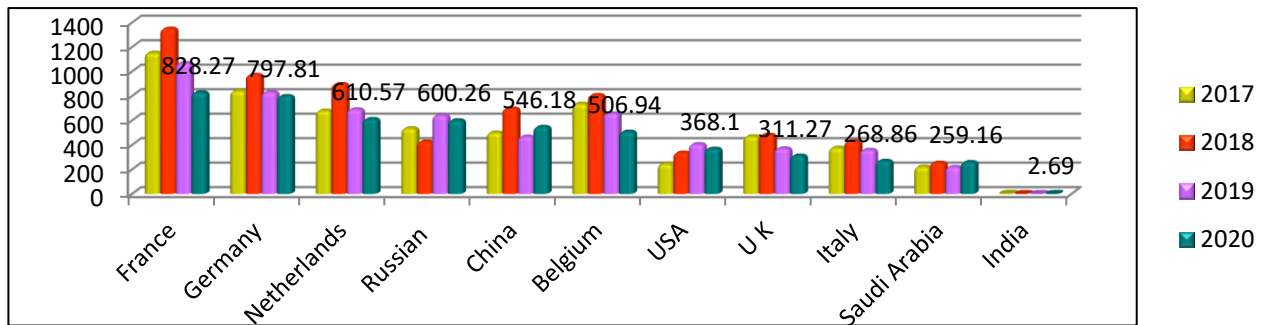
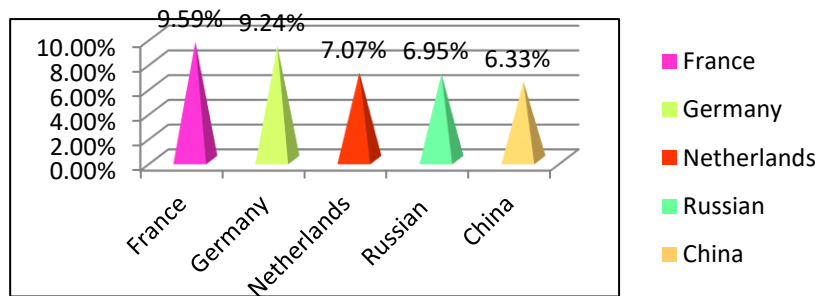
**World's Top 10 Importers of Butter and Other Fats and Oil (HS Code –0405)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	France	1151.99	11.89	1348.47	12.14	1067.58	11.05	828.27	9.59
2.	Germany	840.86	8.68	970.86	8.74	830.00	8.59	797.81	9.24
3.	Netherlands	678.72	7.01	896.40	8.07	689.24	7.13	610.57	7.07
4.	Russian	534.54	5.52	425.90	3.83	640.44	6.63	600.26	6.95
5.	China	499.47	5.16	696.76	6.27	466.43	4.83	546.18	6.33
6.	Belgium	734.97	7.59	806.12	7.26	656.42	6.79	506.94	5.87
7.	USA	244.03	2.52	335.67	3.02	404.95	4.19	368.10	4.26
8.	U K	468.86	4.84	481.85	4.34	370.50	3.83	311.27	3.60
9.	Italy	375.50	3.88	429.87	3.87	358.14	3.71	268.86	3.11
10.	Saudi Arabia	220.91	2.28	253.41	2.28	218.06	2.26	259.16	3.00
<b>92.</b>	<b>India</b>	<b>5.27</b>	<b>0.05</b>	<b>2.22</b>	<b>0.02</b>	<b>2.17</b>	<b>0.02</b>	<b>2.69</b>	<b>0.03</b>
	Others	3929.97	40.58	4462.68	40.17	3957.57	40.96	3534.52	40.93
	<b>Total</b>	<b>9685.08</b>	<b>100</b>	<b>11110.21</b>	<b>100</b>	<b>9661.51</b>	<b>100</b>	<b>8634.61</b>	<b>100</b>

Source :UNComtrade

**Butter and Other fats and Oils importers of world from 2017 to 2020 (Values in million USD)**

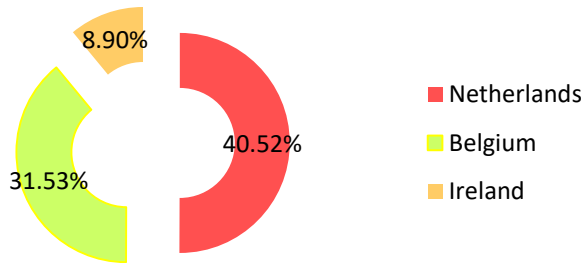
Data label given on the basis of 2020

**Country wise import trends of Butter and Other fats and Oils by percentage in 2020**

World Import of Butter and Other fats and Oils amounted to US \$ 8.63 Billion in 2020. Overall, it indicated a temperate decrease from 2018 to 2020: the total imports value decreased at 10.63% over the year 2019. Butter and Other fats and Oils imports attained its maximum level of US \$ 11.11 Billion in 2018. France (US \$828.27M), Germany (US \$ 797.81M) and Netherlands (US \$ 610.57M) appeared as the countries with the highest levels of imports in 2020, together accounting for 25.90% of global imports. India was the 92<sup>nd</sup> importing country of global import with share of only 0.03% in 2020.

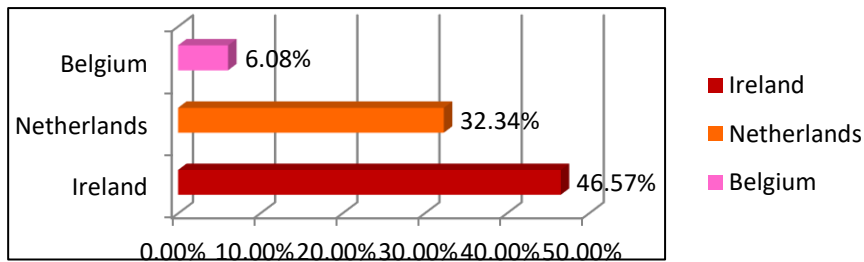
**Major sources of world’s top three importers of Butter and Other Fat Oils (HS Code –0405)**

i) Top 3 Sources of Butter and Other Fats and Oils to France in 2020 by percentage:



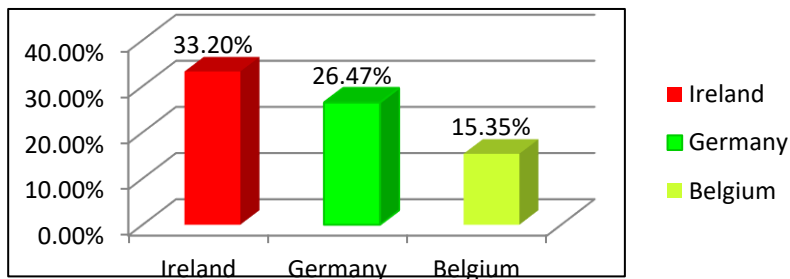
Top 3 sources of Butter and Other Fats and Oils to France were Netherlands (40.52%), Belgium (31.53%) and Ireland (8.90%) in 2021. In the same year there was no shipment of the commodity from India. (Source: UN Comtrade)

ii) Top 3 Sources of Butter and Other Fats and Oils to Germany in 2020 by percentage:



Germany’s 3 major source countries of Butter and Other Fats and Oils in 2020 were Ireland (46.57%), Netherlands (32.34%) and Belgium (6.08%) in 2020. In the same year India exported 194 USD of Butter and Other Fats and Oils to Germany.(Source: UN Comtrade)

iii) Top 3 Sources of Butter and Other Fats and Oils to Netherlands in 2020 by percentage:



Almost 33.20 % of Butter and Other Fats and Oils imports of Netherlands comes from Irelands in 2020, followed by Germany (26.47 %) and Belgium (15.35%). In that Year France imported 572 USD of Butter and Other Fats and Oils from India. (Source : UN Comtrade).

## IMPORT

### Self Adhesive Materials of Plastics

Self-adhesive plastic sheet, known in the United Kingdom as **sticky-backed plastic**, is wide plastic sheet or film with an adhesive layer on one side, used as a surface coating for decorative purposes. It is typically smooth and shiny, but can also come in textured varieties, in which case it can sometimes be used as a cheap alternative to veneer. The plastic is often PVC. The sheeting is typically sold with a removable paper release liner to prevent it from adhering prematurely.

Self-adhesive vinyl sheet was introduced to the UK market in the 1960s under the brand name Fablon. It was extensively used in DIY at the time, and notably featured in children's DIY projects on the British TV show Blue Peter, but always under the generic name "sticky-backed plastic". Smooth self-adhesive plastic sheet is typically used to cover the studio floor for shiny-floor shows, thus giving them their name.

Pressure-sensitive tape, known also in various countries as PSA tape, adhesive tape, self-stick tape, sticky tape, Sellotape, or just tape, is an adhesive tape that will stick with application of pressure, without the need for a solvent (such as water) or heat for activation. It can be used in the home, office, industry, and institutions for a wide variety of purposes.

The tape consists of a pressure-sensitive adhesive coated onto a backing material such as paper, plastic film, cloth, or metal foil. Some have a removable release liner which protects the adhesive until the liner is removed. Some have layers of adhesives, primers, release agents, filaments, printing, etc. made for specific functions.

It will stick without the need for a solvent such as water or heat for activation. By contrast, "gummed" or "water activated" adhesive tapes require warm water for activation and "heat activated" tapes require heat.

Single-sided tapes allow bonding to a surface or joining of two adjacent or overlapping materials. Double-sided tape (adhesive on both sides) allows joining of two items back-to-back. Pressure-sensitive adhesive was first developed in 1845 by Dr. Horace Day, a surgeon. Commercial tapes were introduced in the early twentieth century. Hundreds of patents have since been published on a wide variety of formulations and constructions.

Adhesive transfer tape does not have a backing material. Instead, adhesive is on a double-coated release liner for winding on a roll. Sometimes the adhesive is sandwiched between two liners. Archival tape is similar to transparent office tape, with low-acid adhesives that will not degrade surfaces they are applied to, protecting documents from damage during long-term storage. Archival tape is similar to transparent office tape, with low-acid adhesives that will not degrade surfaces they are applied to, protecting documents from damage during long-term storage. Transparent office tape is used for repairing torn paper products, sealing envelopes, general holding, etc. It is a transparent film of cellophane, cellulose, polypropylene, or other plastic, with an acrylic or synthetic rubber-based adhesive. Clear tape with a matte finish is branded "Scotch Magic Tape" or called "invisible tape". Clear tape is sold in pre-filled single-use tape dispensers and in "refill" rolls for permanent desktop tape dispensers. Famous brands include Sellotape, Scotch Tape, Duck, Tesa, LePage's, Texcel, etc.

The Global import value of self-adhesive plastic was US \$ 21.33 in 2020. The impact of Covid-19 has been unprecedented and staggering, with self adhesive plastic witnessing a negative demand shock across all regions amid the pandemic. The global import of the commodity exhibited a decline of 1.57% in 2020 as compared to the average year-on year growth during 2017-2019.

These are broadly classified under H. S. Code 3919.

Table - 9

**India's Top 10 Sources of Self Adhesive Plastics Materials (HS Code : 3919)**

Rank	Countries	2018		2019		2020		2021	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	129.74	30.91	142.73	31.48	70.20	33.33	176.45	38.09
2.	Korea RP	47.76	11.38	62.36	13.75	26.99	12.82	46.94	10.13
3.	Viet Nam	36.86	8.78	47.54	10.49	11.87	5.64	38.59	8.33
4.	U S A	49.01	11.68	45.31	9.99	19.42	9.22	36.01	7.77
5.	Japan	29.27	6.97	25.98	5.73	12.49	5.93	26.95	5.82
6.	Singapore	20.98	5.00	20.14	4.44	8.79	4.17	23.99	5.18
7.	Germany	19.62	4.67	17.93	3.95	9.33	4.43	22.17	4.79
8.	Hong Kong	9.34	2.23	21.14	4.66	15.66	7.44	20.59	4.44
9.	Taiwan	11.26	2.68	9.36	2.06	4.46	2.12	11.41	2.46
10.	Thailand	12.90	3.07	8.41	1.85	5.48	2.60	10.03	2.16
	Others	52.97	12.62	52.49	11.58	25.93	12.31	50.18	10.83
	<b>Total</b>	419.72	100	453.40	100	210.61	100	463.30	100

Source: **DGCI&S****Note : India's Import including Re-import**

The above data indicates that India's import of self-Adhesive Plastics Materials has grown to US \$ 463.30 million in 2021 from US \$ 210.61 million in 2020, which shows a growth of 120% from the previous year's import i.e. in 2020. In the year 2021 India's major sources of Self Adhesive Plastic Materials are China ( US \$ 176.45 Million), Rep. of Korea (US \$ 49.94 Million), Viet Nam (Us \$ 38.59 Million), USA (US \$ 36.01Million) and Japan ( US \$ 26.95 Million). These 5 countries in total sold US \$ 326 Million value of Self Adhesive Plastic import into India which shows more 70.14% of total world import value of Self Adhesive Plastic imported by India from these 5 countries in 2021.

Table - 10

**World Top 10 Importer of Self Adhesive Materials of Plastics (HS Code :3919)**

Rank	Countries	2017		2018		2019		2020	
		Value (million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	2744.85	12.93	2836.49	12.73	2794.36	13.00	2889.25	13.54
2.	USA	1172.23	5.52	1339.54	6.01	1353.89	6.30	1363.84	6.39
3.	Germany	1220.55	5.75	1297.08	5.82	1260.72	5.86	1258.39	5.90
4.	Mexico	1197.11	5.64	1272.65	5.71	1269.02	5.90	1136.64	5.33
5.	Viet Nam	1137.76	5.36	1162.17	5.22	984.31	4.58	1094.39	5.13
6.	France	726.76	3.42	807.95	3.63	787.09	3.66	747.21	3.50
7.	Hong Kong	820.44	3.86	814.62	3.66	790.62	3.68	645.38	3.03
8.	U K	669.93	3.16	640.41	2.87	653.32	3.04	615.10	2.88
9.	Canada	569.21	2.68	590.24	2.65	576.53	2.68	572.68	2.68
10.	Poland	418.19	1.97	474.01	2.13	169.63	0.79	549.46	2.58
<b>19.</b>	<b>India</b>	<b>327.92</b>	<b>1.54</b>	<b>420.57</b>	<b>1.89</b>	<b>453.68</b>	<b>2.11</b>	<b>348.70</b>	<b>1.63</b>
	Others	10226.59	48.17	10627.60	47.69	10406.33	48.40	10110.72	47.40
	<b>Total</b>	21231.53	100	22283.32	100	21499.50	100	21331.75	100

Source :UNComtrade

China has become the world's largest importer among world's largest importers. Imports 13.54% share of world's import of Self Adhesive materials of Plastic in 2020 followed by USA and Germany. India's imports of Self Adhesive materials of Plastics have hit an all-time high and its share in the world-wide export market of this product was 1.63 % of total world import trade value of Self Adhesive materials of Plastics and ranked in 19<sup>th</sup> position in the world.

## **Electric Filament**

An electrical filament is a thread of metal, usually tungsten, which is used to convert electricity into light in incandescent light bulbs (as developed in 1874 by Alexander Lodygin and in 1878 by Joseph Wilson Swan, among others), and into heat in vacuum tube devices.

The first successful light bulb filaments were made of carbon (from bamboo), later placed with tungsten.

An electrical current travels through the filament and because of the electrical resistance of the filament makes it white-hot and generates light and heat. It is normally in a vacuum or an oblegasor insert gas inside a glass enclosure to stop oxidation. Small amounts of a halogen can be added to facilitate transport of evaporated tungsten atoms back to the filament, resulting insignificantly prolonged lifetime when use the higher temperatures, which is exploited in halogen lamps. Electrical filaments are used in hot cathode so various types of vacuum tubes and electron guns as sources of electrons.

There are several different types of filament configuration available and it all depends on the lamp itself, and what characteristics are required. Some of these include but are not limited to C-6, CC-6, C-2V, CC-2V, C-8, CC-88, C-2F, CC-2F, C-Bar, C-Bar-6, C-8I, C-2R, CC-2R, Axial.

The carbon-filament bulb was actually highly inefficient, but it banished the soot and fire hazards of coal-gas jets and thus soon gained wide acceptance. Indeed, thanks to the incandescent lamp, electric lighting became an accepted part of urban life by 1900. The carbon-filament bulb was eventually succeeded by the more efficient tungsten-filament incandescent bulb, which was developed by George Coolidge of the General Electric Company and first appeared in 1908. In 1911 the drawn tungsten filament was introduced. In 1913 filaments were coiled, and bulbs were filled with inert gas—at first nitrogen alone and later nitrogen and argon in proportions varied to suit the wattage. These steps increased efficiency. Beginning in 1925, bulbs were “frosted” on the inside with hydrofluoric acid to provide a diffused light instead of the glaring brightness of the unconcealed filament. The double-coiled filament used today was introduced about 1930. With these improvements, the filament lamp became the principal form of electric lamp for domestic use until it began to lose favour to the more-efficient fluorescent lamp.

In 2019, Electric Filament were the world's 377th most traded product, with a total trade of \$8.14B. Between 2018 and 2019 the exports of Electric Filament decreased by -12.7%, from \$9.32B to \$8.14B. Trade in Electric Filament represent 0.045% of total world trade.

In 2020 the top exporters of Electric Filament were China (\$2.76B), Germany (\$1.29B), Japan (\$541M), United States (\$446M), and Poland (\$411M). Where as in the same year the top importers of Electric Filament were USA( US \$ 3.1B), Germany (US\$908M), France ( USA \$826M), China ( US \$ 617M).

These are broadly classified under H. S. Code 8539.

Table - 7

**India's Top 10 Sources of Electric Filament (HS Code :8539)**

Rank	Countries	2018		2019		2020		2021	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	125.43	58.83	99.00	54.28	42.40	53.49	89.73	53.34
2.	Germany	32.14	15.07	26.88	14.74	11.43	14.42	18.92	11.25
3.	Korea RP	10.64	4.99	9.54	5.23	5.01	6.32	10.56	6.28
4.	Japan	9.37	4.39	9.06	4.97	3.65	4.61	9.10	5.41
5.	Poland	6.48	3.04	7.80	4.28	4.35	5.49	8.11	4.82
6.	Belgium	0.79	0.37	0.97	0.53	0.76	0.96	5.94	3.53
7.	U S A	6.13	2.88	6.22	3.41	2.29	2.89	5.02	2.98
8.	Singapore	2.45	1.15	3.34	1.83	1.79	2.26	3.17	1.88
9.	Netherland	0.69	0.32	0.56	0.31	0.53	0.67	2.36	1.40
10.	Hong Kong	4.18	1.96	6.89	3.78	1.84	2.32	2.20	1.31
	Others	14.93	7.00	12.14	6.66	5.22	6.59	13.13	7.80
	<b>Total</b>	213.22	100	182.40	100	79.26	100	168.23	100

Source: **DGCI&S**

Note : India's Import including re-import

There is a total of 66 countries India imports Electric Filament, Discharge Lamps from. The Electric Filament, Discharge Lamps import in 2021 stood at US \$ 168.23 Million and US \$ 213.22 Million in 2018, which shows a negative growth of 21.10% from the 2018 of India's import value of Electric Filament. Major three source countries of Electric Filament to India in 2021 are China (4 US \$ 89.73 Million), Germany (US \$ 18.92 Million), Rep. of Korea (US \$ 10.56 Million). These 3 countries in total sold US \$ 119.21 Million value of Electric Filament to India which rounds up to 70.87% of the total Electric Filament import into India.



Table - 8

**World Top 10 Importer of Electric Filament (HS Code :8539)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	USA	1702.20	14.88	3068.11	19.01	3244.19	20.24	3174.82	22.40
2.	Germany	728.72	6.37	1020.75	6.33	1047.46	6.53	908.26	6.41
3.	France	586.46	5.13	800.36	4.96	844.82	5.27	825.67	5.82
4.	China	800.89	7.00	1006.82	6.24	822.83	5.13	617.55	4.36
5.	Japan	223.87	1.96	625.67	3.88	568.33	3.55	493.18	3.48
6.	Netherlands	324.51	2.84	429.28	2.66	573.86	3.58	471.36	3.33
7.	U K	455.49	3.98	465.42	2.88	490.15	3.06	446.99	3.15
8.	Russia	182.94	1.60	388.80	2.41	379.79	2.37	372.71	2.63
9.	Canada	245.84	2.15	469.86	2.91	386.68	2.41	371.51	2.62
10.	Indonesia	220.36	1.93	331.93	2.06	351.54	2.19	339.94	2.40
<b>20.</b>	<b>India</b>	<b>162.45</b>	<b>1.42</b>	<b>177.37</b>	<b>1.10</b>	<b>212.62</b>	<b>1.33</b>	<b>182.41</b>	<b>1.29</b>
	Others	5802.38	50.74	7351.48	45.56	7107.37	44.34	5970.45	42.12
	<b>Total</b>	11436.10	100	16135.84	100	16029.64	100	14174.85	100

Source :UNComtrade

Global Imports of Electric Filament, the top five importers of Electric Filament in 2020 were United States (US \$ 3.17 B), Germany (US \$ 908 M), France (US \$ 826 M)China ( US \$ 617.55 M) and Japan (US \$ 493.18 M), accounted for 22.40%, 6.41%, 5.82%, 4.36% and 3.48% respectively of world import value of Electric Filament. The import value of Electric Filament into India amounted to US \$ 182.41 million in the year 2020 and ranked in 20<sup>th</sup> position in the world with the share of 1.29% of total Global import value of Electric Filament. This was decrease from the previous year.