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 **Sugar Confectionery & Household Articles of Iron or Steel** and imports of **Builders' ware of Plastics and Titanium Oxides** 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-1704 & 7325for export and 3925 & 2823 for import) and the latest finalized data available on the UN Comtrade Database up to year 2021 and on the DGCI&S Database up to Decimber'2022. So, trends from 2018 to 2021 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 Woven fabrics of Sugar Confectionery & Household Articles of Iron or Steel and imports of Builders' ware of Plastics and Titanium Oxides. 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 Sugar Confectionery with their shares in percentage.
- Table 2 : World's top 10 Exporters of Sugar Confectionery with their shares in percentage.
- Table 3 : World's top 10 Importers of Sugar Confectionery with their shares in percentage.
- Annex- I : Top 3 sources of Sugar Confectionery of World's top 3 Importers.
- Table 4 : India's top 10 Export destination of Household Articles of Iron or Steel with their shares in percentage.
- Table 5 : World's top 10 Exporters of Household Articles of Iron or Steel with their shares in percentage.
- Table 6 : World's top 10 Importers of Household Articles of Iron or Steel with their shares in percentage.
- Annex-II : Top 3 sources of Household Articles of Iron or Steel of World's top 3 Importers.
- Table 7 : India's top10 Sources of Builders' ware of Plastics with their shares in percentage.
- Table 8 : World's top 10 Importers of Builders' ware of Plastics with their shares in percentage.
- Table 9 : India's top 10 Sources of Titanium Oxides with their shares in percentage.
- Table 10 : World's top 10 Importers of Titanium Oxides with their shares in percentage.

EXPORT

Sugar Confectionary

Confectionery is an important food item of great popularity among wide range of population. It has been enjoyed as a major food delicacy from ancient times. The term confectionery is ambiguous and describes a spectrum of sweet goods and takes on different meaning depending on the country in which it is used, for example in the United Kingdom the term applies to any sweet product including cakes. In the United States confectionery is candy and includes sugar confectionery and chocolate confectionery. Globally, confectionery foods represent 50% by volume of foods produced and 60% by value. The Indian confectionery market is estimated to be 1,38,000 metric tonnes (in 2005) and is segmented into sugar-boiled confectionery, chocolates, mints and chewing gums.

Sugar confectionery means any food which is ready for consumption without further preparation, of which a characterising ingredient is carbohydrate sweetening matter, and includes sweetened. Sugar confectionery means any foodstuff which is ready for consumption without further preparation and of which carbohydrate sweetening matter is a characteristic ingredient, and includes sweetened liquorice, chewing gum and meringues, but does not include any chocolate or flour confectionery, edible ice, table jellies or sugar, and which may contain non-nutritive sweetening agents; Sample 1 Based on 1 documents

Sugar confectionery includes candies (also called *sweets*, short for *sweetmeats*, in many English-speaking countries), candied nuts, chocolates, chewing gum, bubble gum, pastillage, and other confections that are made primarily of sugar. In some cases, chocolate confections (confections made of chocolate) are treated as a separate category, as are sugar-free versions of sugar confections. The words *candy* (Canada & US), *sweets* (UK, Ireland, and others), and *lollies* (Australia and New Zealand) are common words for some of the most popular varieties of sugar confectionery.

The confectionery industry also includes specialized training schools and extensive historical records. Traditional confectionery goes back to ancient times and continued to be eaten through the Middle Ages and into the modern era.

Before sugar was readily available in the ancient western world, confectionery was based on honey. Honey was used in Ancient China, Ancient India, Ancient Egypt, Ancient Greece and Ancient Rome to coat fruits and flowers to preserve them or to create sweetmeats. Between the 6th and 4th centuries BC, the Persians, followed by the Greeks, made contact with the Indian subcontinent and its "reeds that produce honey without bees". They adopted and then spread sugar and sugarcane agriculture.] Sugarcane is indigenous to tropical Indian subcontinent and Southeast Asia.

Confections are defined by the presence of sweeteners. These are usually sugars, but it is possible to buy sugar-free candies, such as sugar-free peppermints. The most common sweetener for home cooking is table sugar, which is chemically a disaccharide containing both glucose and fructose. Hydrolysis of sucrose gives a mixture called invert sugar, which is sweeter and is also a common commercial ingredient. Finally, confections, especially commercial ones, are sweetened by a variety of syrups obtained by hydrolysis of starch. These sweeteners include all types of corn syrup.

Sugar confectionery items include candies, lollipops, candy bars, chocolate, cotton candy, and other sweet items of snack food.

These are broadly classified under **H.S. Code-1704.**

Table - 1

India's Top 10 destination of Sugar Confectionary (H.S Code-1704)

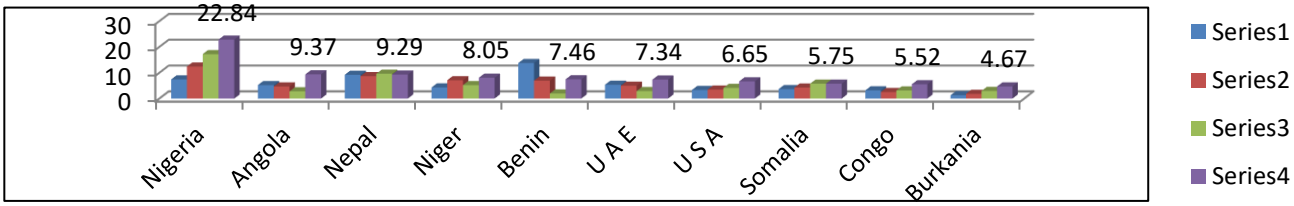
Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Nigeria	7.39	6.19	12.40	10.67	17.21	16.01	22.84	14.57
2.	Angola	5.21	4.36	4.66	4.01	2.78	2.59	9.37	5.98
3.	Nepal	9.21	7.71	8.68	7.47	9.60	8.93	9.29	5.93
4.	Niger	4.30	3.60	7.09	6.11	5.22	4.85	8.05	5.14
5.	Benin	13.76	11.52	6.96	5.99	1.95	1.81	7.46	4.76
6.	U A E	5.35	4.48	4.96	4.27	2.90	2.70	7.34	4.68
7.	U S A	3.30	2.77	3.45	2.97	4.11	3.82	6.65	4.24
8.	Somalia	3.65	3.06	4.27	3.67	5.77	5.37	5.75	3.67
9.	Congo	3.17	2.66	2.53	2.17	3.12	2.91	5.52	3.52
10.	Burkania	1.29	1.08	1.83	1.58	2.96	2.75	4.67	2.98
	Others	62.78	52.58	59.35	51.09	51.84	48.25	69.82	44.54
	Total	119.40	100	116.17	100	107.45	100	156.76	100

Source: DGCI&S.

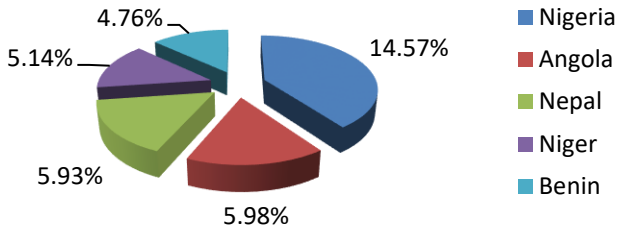
Note : India's Export including re-export

Leading importers of Sugar Confectionary from India from 2018-2021**(Values in million USD)**

Data label given on the basis of 2021



India's top 5 destinations of Woven Sugar Confectionary by percentage India in 2021:



In 2021, India exported US $156.76 million in Sugar Confectionary, making it the 22nd largest exporter of Sugar Confectionary in the world. In that year the major three destination of Sugar Confectionary exports from India were Nigeria (US $ 22.84 M), Angola (US $ 9.37 M) and Nepal (US $ 9.29 M). These three countries together imports more than 26.48% share of Sugar Confectionary from India. Total export of Sugar Confectionary from India has increased by almost 45.89% in 2021 compared to that in the year 2020.

Table-2

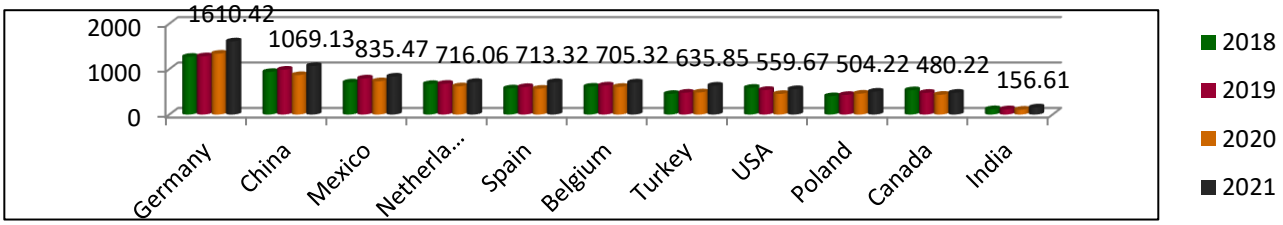
World's Top 10 exporter of Sugar Confectionary (H.S Code-1704)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Germany	1270.87	10.78	1282.88	10.97	1340.32	12.23	1610.42	12.38
2.	China	936.73	7.95	987.84	8.45	868.64	7.92	1069.13	8.22
3.	Mexico	706.41	5.99	794.60	6.79	732.33	6.68	835.47	6.42
4.	Netherlands	672.35	5.70	677.21	5.79	620.66	5.66	716.06	5.50
5.	Spain	575.43	4.88	606.14	5.18	568.64	5.19	713.32	5.48
6.	Belgium	613.86	5.21	639.12	5.46	608.96	5.55	705.32	5.42
7.	Turkey	454.46	3.86	481.42	4.12	487.05	4.44	635.85	4.89
8.	USA	588.90	5.00	541.86	4.63	453.15	4.13	559.67	4.30
9.	Poland	403.75	3.43	431.32	3.69	459.89	4.19	504.22	3.88
10.	Canada	534.83	4.54	478.63	4.09	435.12	3.97	480.22	3.69
22.	**India**	**117.58**	**1.00**	**116.03**	**0.99**	**106.47**	**0.97**	**156.61**	**1.20**
	Others	4911.56	41.67	4657.84	39.83	4282.32	39.06	5022.16	38.61
	Total	11786.72	100	11694.89	100	10963.54	100	13008.46	100

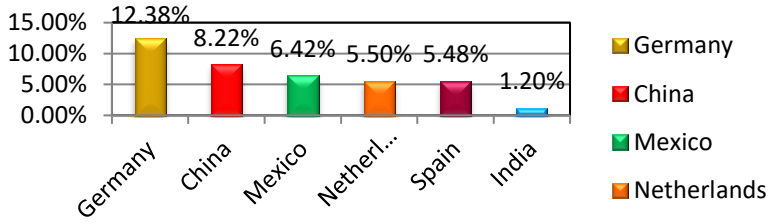
Source: UN Comtrade

Leading Sugar Confectionary of world during the period from 2018 to 2021 **(Values in million USD)**

Data label given on the basis of 2021



Country wise world's leading exporter of Sugar Confectionary by percentage in 2021 :



In 2021, world export of Sugar Confectionary was US $ 13 billion and it was highest worth value of export of Sugar Confectionary during the period. In that year the global exports of Sugar Confectionary increased by 18.66%, from 2020. Germany was the largest exporter of Sugar Confectionary exports structure in the world, which was US $ 1.61 billion or accounted 12.38% of the global total in 2021, followed by China (8.22%) and Mexico (6.42%) globally. **India** stood at 22nd position in ranking in the world leading exporting countries with 1.20% share of global export of Sugar Confectionary in 2021.

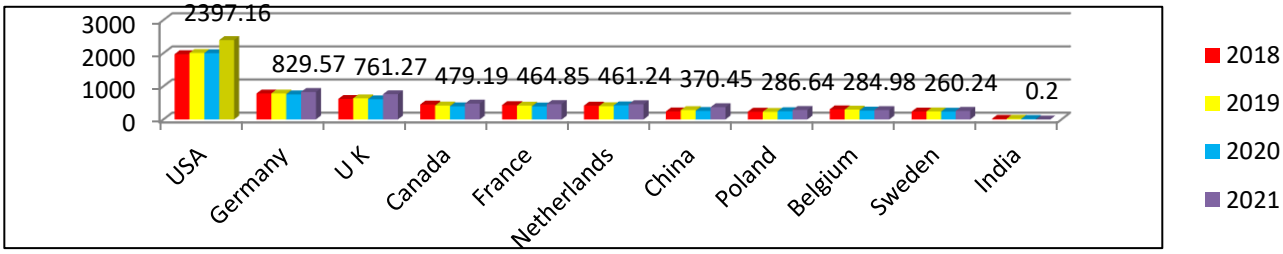
Table-3

World's top 10 Importers of Sugar Confectionary (H.S Code-1704)

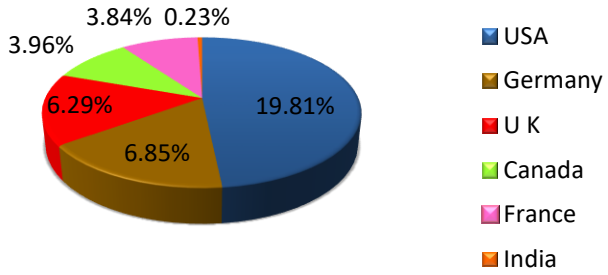
Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	1970.56	17.54	2008.23	17.80	2001.95	19.19	2397.16	19.81
2.	Germany	783.14	6.97	784.56	6.95	757.10	7.26	829.57	6.85
3.	U K	619.54	5.52	637.91	5.65	609.61	5.84	761.27	6.29
4.	Canada	450.97	4.02	421.37	3.73	396.92	3.80	479.19	3.96
5.	France	434.17	3.87	418.91	3.71	394.05	3.78	464.85	3.84
6.	Netherlands	420.32	3.74	400.40	3.55	427.07	4.09	461.24	3.81
7.	China	244.27	2.17	283.29	2.51	259.25	2.49	370.45	3.06
8.	Poland	234.47	2.09	229.76	2.04	249.51	2.39	286.64	2.37
9.	Belgium	306.84	2.73	298.08	2.64	267.11	2.56	284.98	2.35
10.	Sweden	238.93	2.13	243.63	2.16	237.20	2.27	260.24	2.15
65.	**India**	**21.84**	**0.19**	**22.53**	**0.20**	**17.75**	**0.17**	**28.26**	**0.23**
	Others	5506.63	49.03	5534.36	49.05	4815.07	46.15	5478.18	45.27
	Total	11231.68	100	11283.03	100	10432.60	100	12102.03	100

Source : UN Comtrade

Leading Sugar Confectionary importers of world from 2018 to 2021**(Values in million USD)**
Data label given on the basis of 2021



Country wise world's leading importers Sugar Confectionary by percentage in 2021

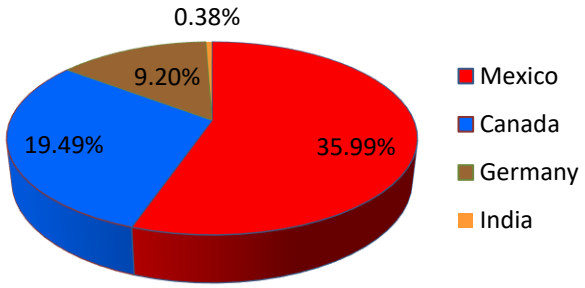


In 2021, USA was the leading Sugar Confectionary importing country in the world, with imports valued at approximately US $ 2.4 billion, accounted for 19.81 % of world import value of it . The Germany ranked in second that year, with a share of 6.85% of global import and UK ranked in 3rd in the world in the same year, with 6.29 % share globally. India ranked in 65th position in the world with the share of only 0.23% of total Global import value of Sugar Confectionary.

Annexure-1

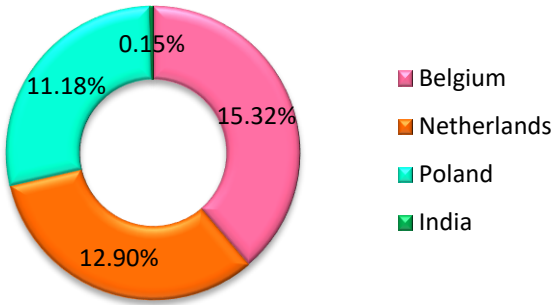
Major sources of world's top three importers of Sugar Confectionary (H.S Code-0806)

i) Top 3 Sources of Sugar Confectionary to USA in 2021 by percentage:



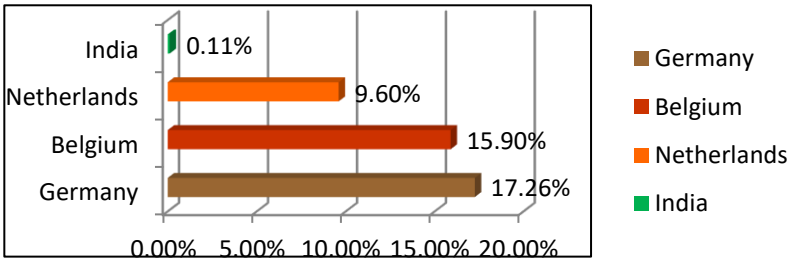
USA imported most of its Sugar Confectionary from Mexico, nearly 36% share of USA's total import value of it came from Mexico in 2021 which was followed by Canada(19.49%) and Germany (9.20%). India exports only 0.38% share in 2021 to USA.**(Source : UN Comtrade)**

ii) Top 3 Sources of Sugar Confectionary to Germany in 2021 by percentage***:***



Germany imports most of its requirements of Sugar Confectionary from Belgium, in 2021 Belgium exported 15.32% share of Sugar Confectionary to Germany, it was followed by Netherlands with a share of 12.90% and Poland with 11.18% share of Germany's total import. India's was share only 0.15% in the same year**. (Source: UN Comtrade)**

iii) Top 3 Sources of Sugar Confectionary to UK in 2021 by percentage***:***



UK's three major source countries of Sugar Confectionary in 2021 were Germany (17.26%), Belgium (15.90%) and Netherlands (9.60%) in 2021. **India** was a very minor source of Sugar Confectionary to UK. In 2021 **India** has exported only 0.11% % share of UK's total import of Sugar Confectionary to Germany. **(Source: UN Comtrade)**

Household Articles of Iron or Steel

Household articles or **kitchen utensil** is a small hand held tool used for food preparation. Common kitchen tasks include cutting food items to size, heating food on an open fire or on a stove, baking, grinding, mixing, blending, and measuring; different utensils are made for each task. A general purpose utensil such as a chef's knife may be used for a variety of foods; other kitchen utensils are highly specialized and may be used only in connection with preparation of a particular type of food, such as an egg separator or an apple corer. Some specialized utensils are used when an operation is to be repeated many times, or when the cook has limited dexterity or mobility. The number of utensils in a household kitchen varies with time and the style of cooking.

A **cooking utensil** is a utensil for cooking. Utensils may be categorized by use with terms derived from the word "ware": **kitchenware**, wares for the kitchen; **ovenware** and **bakeware**, kitchen utensils that are for use inside ovens and for baking; **cookware**, merchandise used for cooking; and so forth.

A partially overlapping category of tools is that of eating utensils, which are tools used for eating (c.f. the more general category of tableware). Some utensils are both kitchen utensils and eating utensils. Cutlery (i.e. knives and other cutting implements) can be used for both food preparation in a kitchen and as eating utensils when dining. Other cutlery such as forks and spoons are both kitchen and eating utensils.

Other names used for various types of kitchen utensils, although not strictly denoting a utensil that is specific to the kitchen, are according to the materials they are made of, again using the "-ware" suffix, rather than their functions: earthenware, utensils made of clay; silverware, utensils (both kitchen and dining) made of silver; glassware, utensils (both kitchen and dining) made of glass; and so forth. These latter categorizations include utensils — made of glass, silver, clay, and so forth — that are not necessary.

Iron is more prone to rusting than (tinned) copper. Cast iron kitchen utensils are less prone to rust by avoiding abrasive scouring and extended soaking in water in order to build up its layer of seasoning. For some iron kitchen utensils, water is a particular problem, since it is very difficult to dry them fully. In particular, iron egg-beaters or ice cream freezers are tricky to dry, and the consequent rust if left wet will roughen them and possibly clog them completely. When storing iron utensils for long periods, van Rensselaer recommended coating them in non-salted (since salt is also an ionic compound) fat or paraffin or Stainless steel finds many applications in the manufacture of kitchen utensils. Stainless steel is considerably less likely to rust in contact with water or food products, and so reduces the effort required to maintain utensils in clean useful condition. Cutting tools made with stainless steel maintain a usable edge while not presenting the risk of rust found with iron or other types of steel.

The "labour-saving" devices didn't necessarily save labour, either. While the advent of mass-produced standardized measuring instruments permitted even householders with little to no cooking skills to follow recipes and end up with the desired result and the advent of many utensils enabled "modern" cooking, on a stove or range rather than at floor level with a hearth, they *also* operated to raise expectations of what families would eat. So while food was easier to prepare and to cook, ordinary householders at the same time were expected to prepare and to cook more complex and harder-to-prepare meals on a regular basis. The labour-saving effect of the tools was cancelled out by the increased labour required for what came to be expected as the culinary norm in the average household.

These are broadly classified under **H.S. Code-7223**.

Table - 4

India's Top 10 destination of House Hold Articles of Iron or Steel (HS Code –7323)

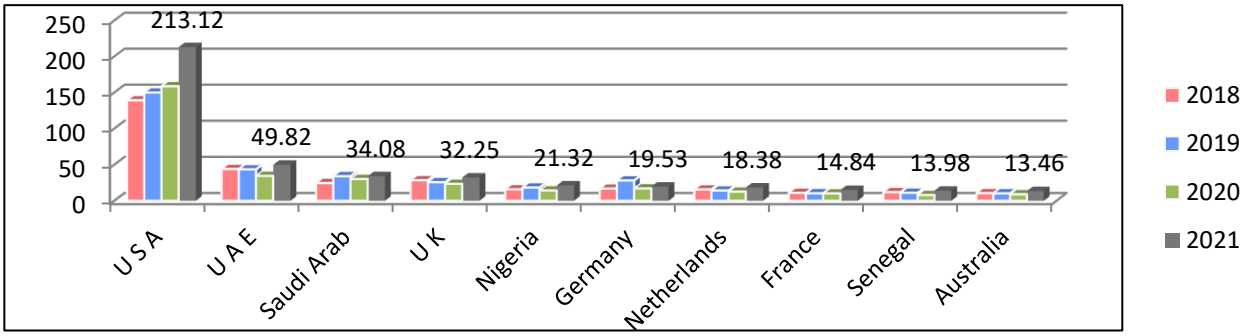
Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	U S A	139.20	26.60	150.00	27.28	158.69	32.61	213.12	32.02
2.	U A E	44.02	8.41	43.52	7.92	34.51	7.09	49.82	7.48
3.	Saudi Arab	24.61	4.70	34.12	6.21	30.19	6.20	34.08	5.12
4.	U K	28.48	5.44	25.78	4.69	23.49	4.83	32.25	4.85
5.	Nigeria	15.86	3.03	18.41	3.35	14.33	2.94	21.32	3.20
6.	Germany	16.90	3.23	28.14	5.12	17.16	3.53	19.53	2.93
7.	Netherlands	15.72	3.00	14.25	2.59	12.75	2.62	18.38	2.76
8.	France	11.00	2.10	10.47	1.91	10.25	2.11	14.84	2.23
9.	Senegal	11.99	2.29	11.15	2.03	8.01	1.65	13.98	2.10
10.	Australia	10.55	2.02	10.28	1.87	9.05	1.86	13.46	2.02
	Others	204.94	39.16	203.68	37.05	168.15	34.56	234.85	35.28
	Total	523.29	100	549.82	100	486.58	100	665.61	100

Source: DGCI&S

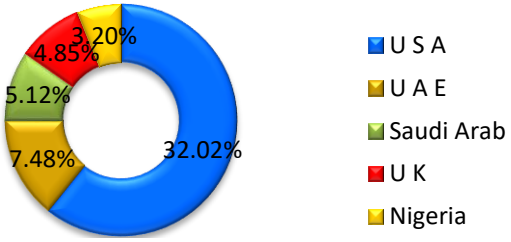
Note : India's Export including re-export

Leading Household Articles of Iron or Steel importers from India from 2018-2021**(in million USD)**

Data label given on the basis of 2021



India's top 5 major destinations of Household Articles of Iron or Steel by percentage India in 2021:



In the year 2021 the export of Household Articles of Iron or Steel from India was US $ 665.61 million and increased to 36.79% than that in the year 2020. USA was the top most destination of Household Articles of Iron or Steel, imports 32.02% share of India's total export value of Household Articles of Iron or Steel from India in 2021, followed by UAE (7.48%) and Saudi Arab (5.12%).

Table - 5

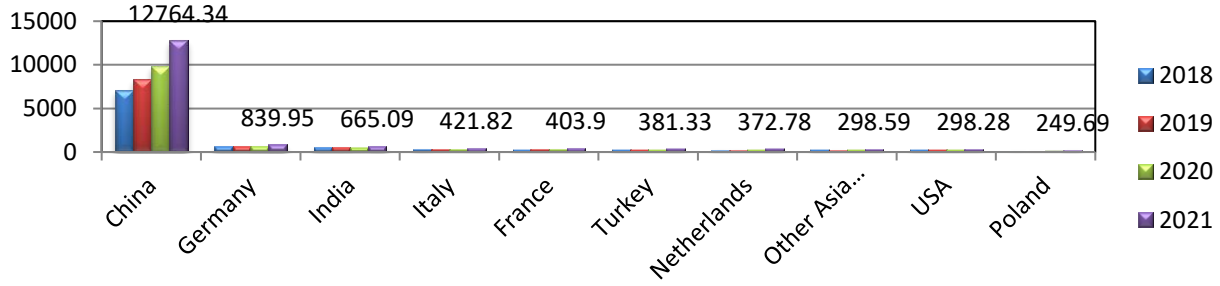
World's Top 10 exporters of Table, Kitchen or other House Hold Articles (HS Code –7323)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	7054.97	58.23	8289.25	62.85	9759.69	66.00	12764.34	67.25
2.	Germany	658.68	5.44	641.97	4.87	690.99	4.67	839.95	4.43
3.	**India**	**523.12**	**4.32**	**550.07**	**4.17**	**484.62**	**3.28**	**665.09**	**3.50**
4.	Italy	337.05	2.78	311.57	2.36	319.48	2.16	421.82	2.22
5.	France	280.61	2.32	307.09	2.33	306.62	2.07	403.90	2.13
6.	Turkey	269.65	2.23	286.79	2.17	277.67	1.88	381.33	2.01
7.	Netherlands	231.68	1.91	234.67	1.78	263.55	1.78	372.78	1.96
8.	Other Asia nes	256.53	2.12	244.49	1.85	252.62	1.71	298.59	1.57
9.	USA	273.63	2.26	274.91	2.08	254.34	1.72	298.28	1.57
10.	Poland	114.46	0.94	121.14	0.92	170.08	1.15	249.69	1.32
	Others	2114.87	17.46	1928.00	14.62	2007.36	13.58	2284.53	12.04
	Total	12115.25	100	13189.96	100	14787.02	100	18980.30	100

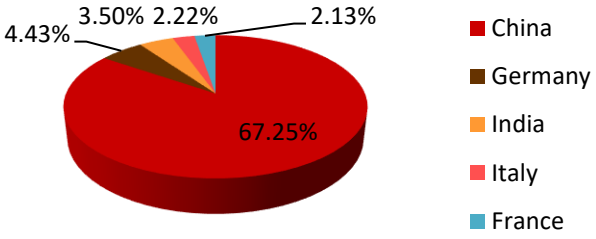
Source: UN Comtrade

Leading Household Articles of Iron or steel exporters of world from 2018 to 2021 **(in million USD)**

Data label given on the basis of 2021



Country wise export of Household Articles of Iron or steel exporters by percentage in 2021:



As China Being the top most exporter of Household Articles of Iron or steel in the world in 2021. China's Export value of Household Articles of Iron or steel was estimated at US $ 12.76 billion. Accounted for 67.25% of global export value of Household Articles of Iron or steel. Germany and India were distatly followed at 4.43% and 3.50% share of world export value of Household Articles of Iron or steel and stood at 2nd 3rd position in the world respectively.

Table - 6

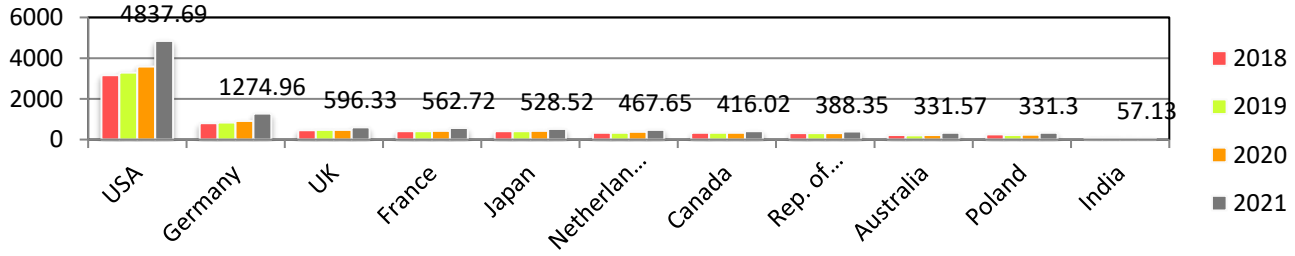
World's Top 10 Importers of Table, Kitchen or other House Hold Articles (HS Code –7323)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	3165.64	28.18	3281.02	28.72	3587.67	31.05	4837.69	32.11
2.	Germany	807.64	7.19	829.03	7.26	907.38	7.85	1274.96	8.46
3.	UK	456.48	4.06	466.74	4.09	467.98	4.05	596.33	3.96
4.	France	408.11	3.63	413.96	3.62	419.61	3.63	562.72	3.73
5.	Japan	415.22	3.70	404.67	3.54	428.18	3.71	528.52	3.51
6.	Netherlands	330.64	2.94	337.81	2.96	378.74	3.28	467.65	3.10
7.	Canada	326.17	2.90	340.02	2.98	336.63	2.91	416.02	2.76
8.	Rep. of Korea	311.37	2.77	308.66	2.70	315.08	2.73	388.35	2.58
9.	Australia	218.70	1.95	204.33	1.79	227.94	1.97	331.57	2.20
10.	Poland	260.55	2.32	219.33	1.92	230.42	1.99	331.30	2.20
45.	**India**	**84.77**	**0.75**	**93.95**	**0.82**	**59.06**	**0.51**	**57.13**	**0.38**
	Others	4449.78	39.61	4523.28	39.60	4194.35	36.31	5273.92	35.01
	Total	11235.06	100	11422.80	100	11553.03	100	15066.16	100

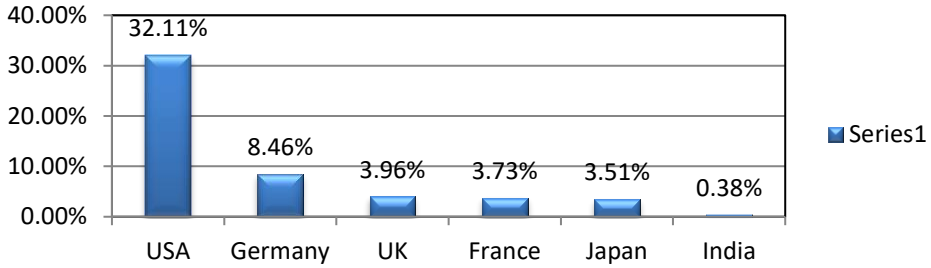
Source :UNComtrade

Leading Household Articles of Iron or steel importers of world from 2018 to 2021 **(in million USD)**

Data label given on the basis of 2021



Country wise import trends of Household Articles of Iron or steel by percentage in 2021 :

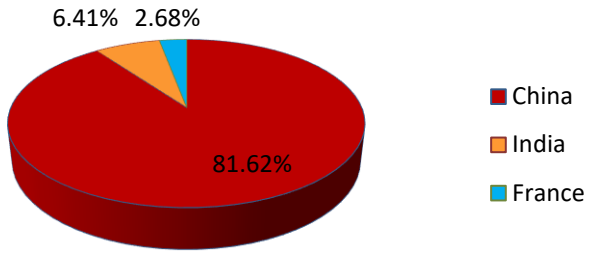


In the year 2021, the main importing countries for Household Articles of Iron or steel were USA (US 4.83 B), Germany (US $ 1.27 B) and U K (US $ 596.33 M). In 2021 these three countries together imported totalled US $ 6.71 Billion of Household Articles of Iron or steel and accounted 44.53% share of total world import value of Household Articles of Iron or steel. There are very little trade data from **India**, **India** imports only 0.38% share of world's total import.

Annexure-II

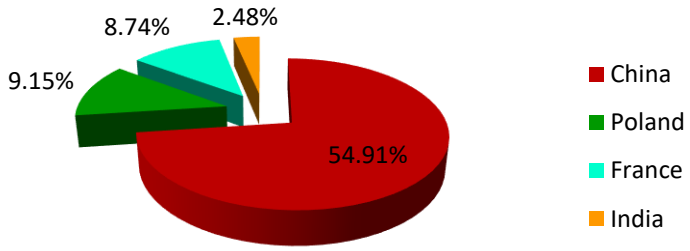
Major sources top three importers of Household Articles of Iron or steel (HS Code –7223).

i) Top 3 Sources of Household Articles of Iron or Steel to USA in 2021 by percentage*:*



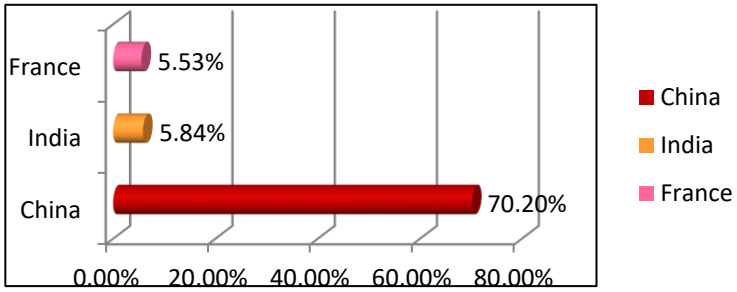
The diagram shows the dependency of USA on China for Household Articles of Iron or Steel . USA imports 81.62 % share of Household Articles of Iron or Steel of its total import from China in 2021. India (6.41%) & Sweden (2.68%) were the 2nd and 3rd major source of the commodity to USA in the same year.**(Source: UN Comtrade)**

ii) Top 3 Sources of Household Articles of Iron or Steel to Germany in 2021 by percentage**:**



54.91% of Household Articles of Iron or Steel imports of Germany comes from China in 2021, it was distantly followed by Poland (9.15%) and France (8.74%). In that year India has exported 2.48% share of Household Articles of Iron or Steel to Germany. **(Source: UN Comtrade)**

iii)Top 3 Sources of Household Articles of Iron or Steel to UK in 2021 by percentage**:**



China was the largest source of Household Articles of Iron or Steel to UK in 2021, 70.20% of total Household Articles of Iron or Steel import by UK from China in 2021. **India** (5.84%) and France (5.53%) were 2nd and 3rd largest source countries of Household Articles of Iron or Steel to UK **(Source : UN Comtrade)**

IMPORT

Builders' Ware of Plastics

Plastics are a wide range of synthetic or semi-synthetic materials that use polymers as a main ingredient. Their plasticity makes it possible for plastics to be moulded, extruded or pressed into solid objects of various shapes. This adaptability, plus a wide range of other properties, such as being lightweight, durable, flexible, and inexpensive to produce, has led to its widespread use. Plastics typically are made through human industrial systems. Most modern plastics are derived from fossil fuel-based chemicals like natural gas or petroleum; however, recent industrial methods use variants made from renewable materials, such as corn or cotton derivatives.

9.2 billion tonnes of plastic are estimated to have been made between 1950 and 2017. More than half this plastic has been produced since 2004. In 2020, 400 million tonnes of plastic were produced.[2] If global trends on plastic demand continue, it is estimated that by 2050 annual global plastic production will reach over 1,100 million tonnes.

The success and dominance of plastics starting in the early 20th century has caused widespread environmental problems, due to their slow decomposition rate in natural ecosystems. Most plastic produced has not been reused, either being captured in landfills or persisting in the environment as plastic pollution. Plastic pollution can be found in all the world's major water bodies, for example, creating garbage patches in all of the world's oceans and contaminating terrestrial ecosystems. Of all the plastic discarded so far, some 14% has been incinerated and less than 10% has been recycled.

In developed economies, about a third of plastic is used in packaging and roughly the same in buildings in applications such as piping, plumbing or vinyl siding. Other uses include automobiles (up to 20% plastic), furniture, and toys. In the developing world, the applications of plastic may differ; 42% of India's consumption is used in packaging. In the medical field, polymer implants and other medical devices are derived at least partially from plastic. Worldwide, about 50 kg of plastic is produced annually per person, with production doubling every ten years.

Plastic is the generic name for a family of synthetic materials derived from petrochemicals. It is often product of two or more components. There are many families of plastics and polymers being used in construction industry

Plastics are strong yet lightweight, and so they are easy to transport & manoeuvre. They are durable, knock-and scratch resistant with excellent weatherability. They do not rot or corrode. Plastics are easy to install; many have a snap-fit kind of jointing procedures. Plastics offer limitless possibilities in design achieved by extrusion, bending, moulding etc. They can be given any range of colours by adding pigments. The plastics are low conductors of heat and thus are used as insulation materials in green building concepts. The plastics products can achieve tight seals. Plastic doesn't break easily. They can be sawn and nailed employing standard carpentry tools and skills. They can be easily removed and recycled. They are poor conductors of electricity.

These are broadly classified under **H. S. Code 3925**.

Table - 9

India's Top 10 Sources of Builders' Ware of Plastics (HS Code : 3925)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	69.92	77.85	58.15	72.35	49.45	76.84	59.61	72.22
2.	Korea RP	2.43	2.70	4.60	5.73	2.90	4.51	3.45	4.19
3.	Germany	3.11	3.46	3.52	4.38	1.73	2.69	2.37	2.87
4.	Bangladesh	1.36	1.51	1.90	2.36	1.67	2.60	2.19	2.66
5.	Turkey	0.21	0.23	0.22	0.28	0.23	0.36	1.69	2.05
6.	U K	0.93	1.04	0.65	0.81	1.43	2.22	1.57	1.90
7.	Belarus	0.00	0.00	0.03	0.04	0.27	0.42	1.53	1.86
8.	U A E	2.11	2.35	0.73	0.91	0.21	0.33	1.43	1.74
9.	France	0.41	0.46	1.13	1.41	0.75	1.17	1.43	1.74
10.	Netherland	0.57	0.63	0.58	0.72	0.40	0.62	0.90	1.09
	Others	8.78	9.77	8.86	11.02	5.30	8.24	6.35	7.69
	Total	89.81	100	80.38	100	64.35	100	82.53	100

Source: DGCI&S

Note : India's Import including Re-import

The above data indicates that India's import of Builders' Ware of Plastics has grown to US $ 82.53 million in 2021 from US $ 64.35 million in 2020, which shows a growth of 28.25 % from the previous year's import i.e. in 2020. In the year 2021 India's major sources of Builders' Ware of Plastics were China (US $ 59.61 Million), Rep. of Korea (US $ 3.45 Million), Germany (Us $ 2.37 Million), Bangladesh (US $ 2.19 Million) and Turkey (US $ 1.69 Million). These 5 countries in total sold US $ 69.31 Million value of Builders' Ware of Plastics import into India Which shows 84% of total world import value of Builders' Ware of Plastics imported by India from these 5 countries in 2021.

Table - 10

World Top 10 Importer of Builders' Ware of Plastics (HS Code : 3925)

Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	1996.87	18.27	2029.37	18.46	2176.87	19.26	2614.63	18.24
2.	Germany	903.86	8.27	902.48	8.21	1002.32	8.87	1163.14	8.12
3.	Netherlands	555.56	5.08	671.21	6.11	778.54	6.89	942.14	6.57
4.	France	715.32	6.54	712.64	6.48	697.63	6.17	922.58	6.44
5.	U K	496.09	4.54	506.87	4.61	486.98	4.31	706.22	4.93
6.	Canada	408.25	3.73	389.94	3.55	407.68	3.61	542.00	3.78
7.	Italy	227.09	2.08	225.80	2.05	184.17	1.63	539.93	3.77
8.	Austria	403.80	3.69	399.61	3.63	403.03	3.57	514.30	3.59
9.	Switzerland	402.85	3.69	374.96	3.41	396.10	3.51	438.20	3.06
10.	Poland	236.60	2.16	239.64	2.18	263.85	2.33	340.35	2.37
33.	**India**	**88.79**	**0.81**	**79.88**	**0.73**	**63.55**	**0.56**	**82.07**	**0.57**
	Others	4496.72	41.13	4461.57	40.58	4438.91	39.28	5526.66	38.56
	Total	10931.78	100	10993.98	100	11299.62	100	14332.21	100

Source :UNComtrade

USA has become the world's largest importer of Builders' Ware of Plastics among the world's largest importers. Imports 18.24% share of world's import of Builders' Ware of Plastics in 2021, followed by Germany(8.12%) and Netherlands(6.57%). India's imports of Builders' Ware of Plastics have hit an all-time high and its share in the world-wide export market of this product was 0.57 % of total world import trade value of Builders' Ware of Plastics and ranked in 33rd position in the world. In the 2021 the worth value of global import of the commodity was US $ 14.33 Billion, which was US $ 11.30 Billion in 2020 and was on the pick level during the review period from 2018 to 2021.

Titanium Oxides

Titanium dioxide, also known as titanium(IV) oxide or titania /taɪˈteɪniə/, is the inorganic compound with the chemical formula TiO_2. When used as a pigment, it is called titanium white, Pigment White 6 (PW6), or CI 77891.[4] It is a white solid that is insoluble to water, although mineral forms can appear black. As a pigment, it has a wide range of applications, including paint, sunscreen, and food coloring. When used as a food coloring, it has E number E171. and all three of its main dioxides, titanium exhibits octahedral geometry, being bonded to six oxide anions. The oxides in turn are bonded to three Ti centers. The overall crystal structure of rutile is tetragonal in symmetry whereas anatase and brookite are orthorhombic. The oxygen substructures are all slight distortions of close packing: in rutile, the oxide anions are arranged in distorted hexagonal close-packing, whereas they are close to cubic close-packing in anatase and to "double hexagonal close-packing" for brookite. The rutile structure is widespread for other metal dioxides and difluorides, e.g. RuO_2 and ZnF.

Molten titanium dioxide has a local structure in which each Ti is coordinated to, on average, about 5 oxygen atoms. This is distinct from the crystalline forms in which Ti coordinates to 6 oxygen atoms.

Synthetic TiO_2 is mainly produced from the mineral ilmenite. Rutile, and anatase, naturally occurring TiO_2, occur widely also, e.g. rutile as a 'heavy mineral' in beach sand. Leucoxene, fine-grained anatase formed by natural alteration of ilmenite, is yet another ore. Star sapphires and rubies get their asterism from oriented inclusions of rutile needles.

The five largest TiO pigment processors are in 2019 Chemours, Cristal Global, Venator, Kronos [de], and Tronox. Major paint and coating company end users for pigment grade titanium dioxide include Akzo Nobel, PPG Industries, Sherwin Williams, BASF, Kansai Paints and Valspar. Global TiO pigment demand for 2010 was 5.3 Mt with annual growth expected to be about 3–4%. The production method depends on the feedstock. In addition to ores, other feedstocks include upgraded slag. Both sulfate and chloride processes produce the titanium dioxide pigment in the rutile crystal form, but the Sulfate Process can be adjusted to produce the anatase form. Anatase, being softer, is used in fiber and paper applications. The Sulfate Process is run as a batch process; the Chloride Process is run as a continuous process.

The most important application areas are paints and varnishes as well as paper and plastics, which account for about 80% of the world's titanium dioxide consumption. Other pigment applications such as printing inks, fibers, rubber, cosmetic products, and food account for another 8%. The rest is used in other applications, for instance the production of technical pure titanium, glass and glass ceramics, electrical ceramics, metal patinas, catalysts, electric conductors, chemical intermediates, or as a substrate for phosphonic acid adsorption.

The European Union removed the authorisation to use titanium dioxide (E 171) in foods, effective 7 February 2022, with a six months grace period. Titanium dioxide dust, when inhaled, has been classified by the International Agency for Research on Cancer (IARC) as an IARC Group 2B carcinogen, meaning it is *possibly carcinogenic to humans*. The US National Institute for Occupational Safety and Health recommends two separate exposure limits. NIOSH recommends that fine TiO particles be set at an exposure limit of 2.4 mg/m^3, while ultrafine TiO be set at an exposure limit of 0.3 mg/m^3, as time-weighted average concentrations up to 10 hours a day for a 40-hour work week.

Companies such as Dunkin' Donuts dropped titanium dioxide from their merchandise in 2015 after public pressure. Andrew Maynard, director of Risk Science Center at the University of Michigan, rejected the supposed danger from use of titanium dioxide in food. He says that the titanium dioxide used by Dunkin' Brands and many other food producers is not a new material, and it is not a nanomaterial either. Nanoparticles are typically smaller than 100 nanometres in diameter, yet most of the particles in food grade titanium dioxide are much larger

These are broadly classified under **H. S. Code 2823**.

Table - 9

India's Top 10 Source Countries of Titanium Oxides (HS Code : 2823)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Korea RP	10.60	24.45	12.78	28.43	12.32	37.83	13.47	30.74
2.	China	15.22	35.12	14.62	32.53	9.55	29.33	12.21	27.86
3.	Japan	3.90	9.00	2.74	6.10	2.65	8.13	5.26	12.01
4.	Netherland	1.83	4.23	6.60	14.68	1.09	3.34	4.30	9.82
5.	Germany	4.48	10.34	1.86	4.14	2.83	8.68	3.14	7.17
6.	Hong Kong	0.08	0.19	0.15	0.33	0.69	2.13	1.60	3.66
7.	Belgium	3.68	8.48	2.32	5.16	1.57	4.81	1.01	2.31
8.	Canada	0.75	1.72	0.55	1.22	0.93	2.84	0.56	1.27
9.	Taiwan	0.00	0.00	0.86	1.91	0.11	0.35	0.40	0.91
10.	U S A	0.64	1.47	0.63	1.41	0.01	0.04	0.31	0.70
	Others	2.17	5.00	1.85	4.11	0.82	2.52	1.56	3.56
	total	43.34	100	44.95	100	32.57	100	43.83	100

Source: DGCI&S

Note : India's Import including Re-import

The value of imports of Titanium Oxides to **India** totalled US $ 43.83 million in 2021. Sales of Titanium Oxides to India increased by 34.57% in value terms compared to 2020. Major five source countries of Titanium Oxides to India in 2021 are Korea RP (US $ 13.47 Million), China (US $ 12.21 Million), Japan (US $ 5.26 Million), Netherlands (US $ 4.30 Million) and Germany (US $ 3.14 Million). These 5 countries in total exported US $ 38.38 Million value of Titanium Oxides to India which rounds up to 87.60% of the total Enzymes import into India.

Table - 10

World Top 10 Importer of Titanium Oxides (HS Code : 2823)

Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Germany	111.60	10.75	85.36	10.09	73.59	10.00	117.80	12.07
2.	USA	106.00	10.21	85.54	10.11	65.44	8.89	82.24	8.43
3.	Brazil	30.93	2.98	29.91	3.54	26.67	3.62	54.62	5.60
4.	Viet Nam	44.50	4.29	39.24	4.64	35.19	4.78	46.26	4.74
5.	Spain	32.33	3.11	25.57	3.02	28.87	3.92	46.26	4.74
6.	**India**	**43.36**	**4.18**	**44.96**	**5.31**	**32.60**	**4.43**	**43.74**	**4.48**
7.	Canada	17.69	1.70	14.51	1.71	13.39	1.82	42.64	4.37
8.	China	30.47	2.93	34.17	4.04	34.78	4.72	38.61	3.96
9.	Japan	34.32	3.31	30.76	3.64	26.86	3.65	36.64	3.75
10.	Rep. of Korea	34.83	3.35	35.47	4.19	26.05	3.54	34.68	3.55
	Others	552.21	53.19	420.45	49.70	372.65	50.63	432.45	44.31
	Total	1038.23	100	845.94	100	736.09	100	975.92	100

Source :UNComtrade

The imports of the Five major importers of Titanium Oxides, namely Germany, USA, Brazil, Viet Nam and Spain. represented more than one- third of total imports in 2021. In value terms, Germany (US $ 117.80 M), USA (US $ 82.24 M), Brazil (US $ 54.62 M), Viet Nam (US $ 46.26 M) and Spain (US $ 46.26 M) constituted the countries with the highest levels of imports in 2021, together accounting for more than 36% share of global imports of Titanium Oxides. India experienced the highest growth rate of the value of imports, among the main importing countries and ranked in 6th position in the world with 4.48% share of Global import of Titanium Oxides in 2021.