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 **Carbonates & Seeds of Anise, Badian, Coriander, Cumin etc** and imports of **Nickel Plates, Sheets, Strips, Foils etc. and Aircraft Parts** 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-2836 & 0909 for export and 7506 & 8803 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 April 2023. So, trends from 2018 to 2021 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 Carbonates & Seeds of Anise, Badian, Coriander, Cumin etc and imports of Nickel Plates, Sheets, Strips, Foils etc. and Aircraft Parts**.** 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 Carbonates with their shares in percentage.
- Table 2 : World's top 10 Exporters of Carbonates with their shares in percentage.
- Table 3 : World's top 10 Importers of Carbonates with their shares in percentage.
- Annex- I : Top 3 sources of Carbonates of World's top 3 Importers.
- Table 4 : India's top 10 Export destination of Seeds of Anise, Badian, Coriander, Cumin etc with their shares in percentage.
- Table 5 : World's top 10 Exporters of Seeds of Anise, Badian, Coriander, Cumin etc with their shares in percentage.
- Table 6 : World's top 10 Importers of Seeds of Anise, Badian, Coriander, Cumin etc with their shares in percentage.
- Annex-II : Top 3 sources of Seeds of Anise, Badian, Coriander, Cumin etc of World's top 3 Importers.
- Table 7 : India's top10 Sources of Nickel Plates, Sheets, Strips, Foils etc. with their shares in percentage.
- Table 8 : World's top 10 Importers Nickel Plates, Sheets, Strips, Foils etc. with their shares in percentage.
- Table 9 : India's top 10 Sources of Aircraft Parts with their shares in percentage.
- Table 10 : World's top 10 Importers of Aircraft Parts with their shares in percentage.

EXPORT

Carbonate

A **carbonate** is a salt of carbonic acid (H_2CO_3), characterized by the presence of the carbonate ion, a polyatomic ion with the formula $CO2{-}3$. The word *carbonate* may also refer to a carbonate ester, an organic compound containing the carbonate group $C(=O)(O–)_2$.

The term is also used as a verb, to describe carbonation: the process of raising the concentrations of carbonate and bicarbonate ions in water to produce carbonated water and other carbonated beverages – either by the addition of carbon dioxide gas under pressure or by dissolving carbonate or bicarbonate salts into the water.

In geology and mineralogy, the term "carbonate" can refer both to carbonate minerals and carbonate rock (which is made of chiefly carbonate minerals), and both are dominated by the carbonate ion, $CO2{-}3$. Carbonate minerals are extremely varied and ubiquitous in chemically precipitated sedimentary rock. The most common are calcite or calcium carbonate, $CaCO_3$, the chief constituent of limestone (as well as the main component of mollusc shells and coral skeletons); dolomite, a calcium-magnesium carbonate $CaMg(CO_3)_2$; and siderite, or iron(II) carbonate, $FeCO_3$, an important iron ore. Sodium carbonate ("soda" or "natron") and potassium carbonate ("potash") have been used since antiquity for cleaning and preservation, as well as for the manufacture of glass. Carbonates are widely used in industry, such as in iron smelting, as a raw material for Portland cement and lime manufacture, in the composition of ceramic glazes, and more.

The carbonate ion is the simplest Oxo carbon anion. It consists of one carbon atom surrounded by three oxygen atoms, in a trigonal planar arrangement, with D_{3h} molecular symmetry. It has a molecular mass of 60.01 g/mol and carries a total formal charge of −2. It is the conjugate base of the hydrogen carbonate (bicarbonate)[3] ion, $HCO{-}3$, which is the conjugate base of H_2CO_3, carbonic acid.

Most carbonate salts are insoluble in water at standard temperature and pressure, with solubility constants of less than 1×10^{-8}. Exceptions include lithium, sodium, potassium, rubidium, caesium, and ammonium carbonates, as well as many uranium carbonates.

In aqueous solution, carbonate, bicarbonate, carbon dioxide, and carbonic acid exist together in a dynamic equilibrium. In strongly basic conditions, the carbonate ion predominates, while in weakly basic conditions, the bicarbonate ion is prevalent. In more acid conditions, aqueous carbon dioxide, $CO_2(aq)$, is the main form, which, with water, H_2O, is in equilibrium with carbonic acid – the equilibrium lies strongly towards carbon dioxide. Thus sodium carbonate is basic, sodium bicarbonate is weakly basic, while carbon dioxide itself is a weak acid.

Carbonated water is formed by dissolving CO_2 in water under pressure. When the partial pressure of CO_2 is reduced, for example when a can of soda is opened, the equilibrium for each of the forms of carbonate (carbonate, bicarbonate, carbon dioxide, and carbonic acid) shifts until the concentration of CO_2 in the solution is equal to the solubility of CO_2 at that temperature and pressure. In living systems an enzyme, carbonic anhydrase, speeds the interconversion of CO_2 and carbonic acid.

Although the carbonate salts of most metals are insoluble in water, the same is not true of the bicarbonate salts. In solution this equilibrium between carbonate, bicarbonate, carbon dioxide and carbonic acid changes constantly to the changing temperature and pressure conditions. In the case of metal ions with insoluble carbonates, such as $CaCO_3$, formation of insoluble compounds results. This is an explanation for the build up of scale inside pipes caused by hard water.

Systematic additive IUPAC name for carbonate anion is trioxidocarbonate Similarly, cyanide anion CN^- is named nitridocarbonate. However, following the same logic for carbonate (orthocarbonic acid), by similitude to silicate (orthosilicic acid), in the systematic additive nomenclature makes no sense as this species has never been identified under normal conditions of temperature and pressure. Orthocarbonic acid is energetically much less stable than orthosilicic acid and cannot exist under normal conditions because of the energetically unfavourable orbital configuration of a single central carbon atom bound to four oxygen atoms.

These are broadly classified under **H.S. Code-2836**

Table - 1

India's Top 10 destination of Carbonate (H.S Code-2836)

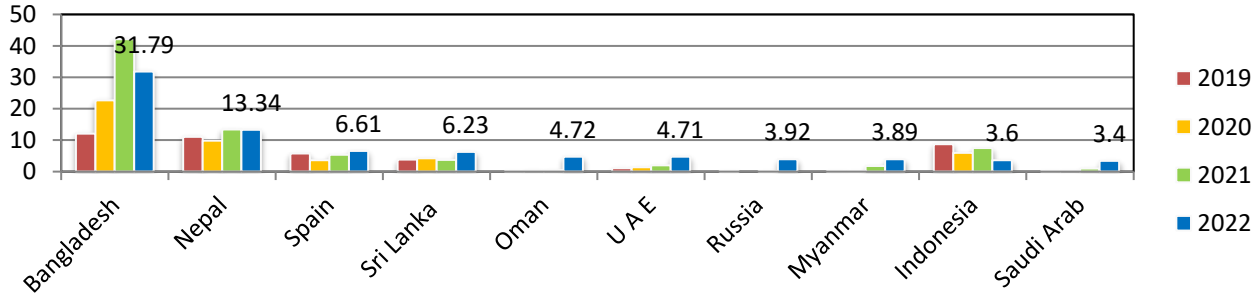
Rank	Countries	2019		2020		2021		2022	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	Bangladesh	12.10	16.89	22.65	28.64	42.13	33.73	31.79	25.81
2.	Nepal	11.02	15.38	9.87	12.48	13.40	10.73	13.34	10.83
3.	Spain	5.76	8.04	3.62	4.58	5.32	4.26	6.61	5.36
4.	Sri Lanka	3.84	5.36	4.28	5.41	3.76	3.01	6.23	5.06
5.	Oman	0.20	0.29	0.36	0.46	0.49	0.40	4.72	3.83
6.	U A E	1.10	1.53	1.35	1.71	1.98	1.59	4.71	3.83
7.	Russia	0.08	0.11	0.00	0.00	0.02	0.02	3.92	3.18
8.	Myanmar	0.02	0.03	0.04	0.05	1.83	1.47	3.89	3.15
9.	Indonesia	8.72	12.17	5.97	7.55	7.50	6.00	3.60	2.92
10.	Saudi Arab	0.13	0.18	0.25	0.31	0.93	0.75	3.40	2.76
	Others	28.68	40.03	30.70	38.82	47.55	38.06	40.97	33.26
	Total	71.64	100	79.09	100	124.91	100	123.19	100

Source: DGCI&S.

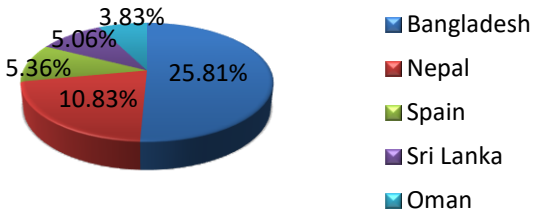
Note : India's Export including re-export

Leading importers of Carbonate from India for 2019-2022**(in million USD)**

Data label given on the basis of 2022



India's top 5 destinations of Carbonate by percentage India in 2022:



The total value of Carbonate export from India to around the world in year 2022 was almost US $ 123.19 Million, which was the 2nd highest export value of Carbonate from India during the review period and and it has decreased almost 1.38% than the year 2021.Bangladesh was the largest market for Carbonate export from India. In 2022, Bangladesh imported US $ 31.79 million worth Carbonate from India which was accounted 25.91% share of India's total export in 2022. It was followed by Nepal (10.83%), Spain(5.36%), Sri Lanka (5.06%) and Oman (3.83%). These top 5 countries account for over 50.89% of the total Carbonate export from India.

Table-2

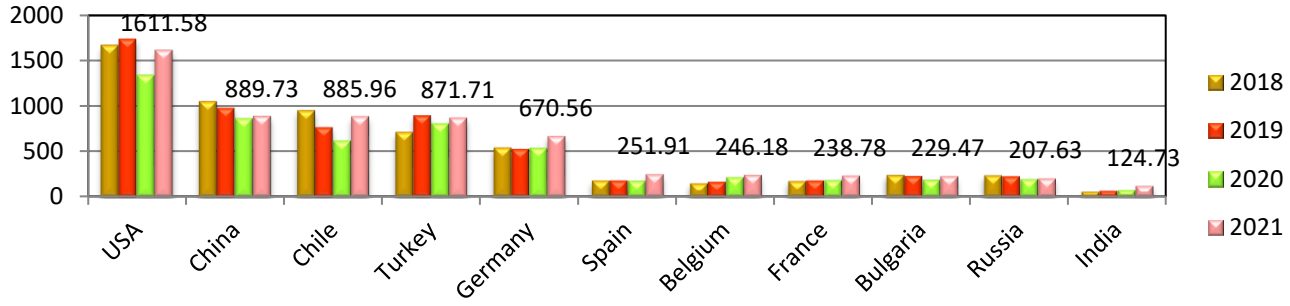
World's Top 10 exporter of Carbonate (H.S Code-2836)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	1668.16	22.16	1738.43	23.70	1337.72	20.56	1611.58	20.93
2.	China	1053.89	14.00	980.68	13.37	864.75	13.29	889.73	11.55
3.	Chile	953.22	12.66	770.77	10.51	618.81	9.51	885.96	11.50
4.	Turkey	715.89	9.51	899.26	12.26	809.15	12.44	871.71	11.32
5.	Germany	547.33	7.27	531.15	7.24	543.70	8.36	670.56	8.71
6.	Spain	185.10	2.46	184.92	2.52	181.27	2.79	251.91	3.27
7.	Belgium	152.90	2.03	169.89	2.32	220.39	3.39	246.18	3.20
8.	France	178.24	2.37	185.35	2.53	187.71	2.89	238.78	3.10
9.	Bulgaria	245.99	3.27	233.89	3.19	191.15	2.94	229.47	2.98
10.	Russia	242.60	3.22	231.52	3.16	198.69	3.05	207.63	2.70
13.	**India**	**62.69**	**0.83**	**71.47**	**0.97**	**78.78**	**1.21**	**124.73**	**1.62**
	Others	1521.53	20.21	1338.76	18.25	1272.83	19.57	1473.29	19.13
	Total	7527.55	100	7336.09	100	6504.96	100	7701.53	100

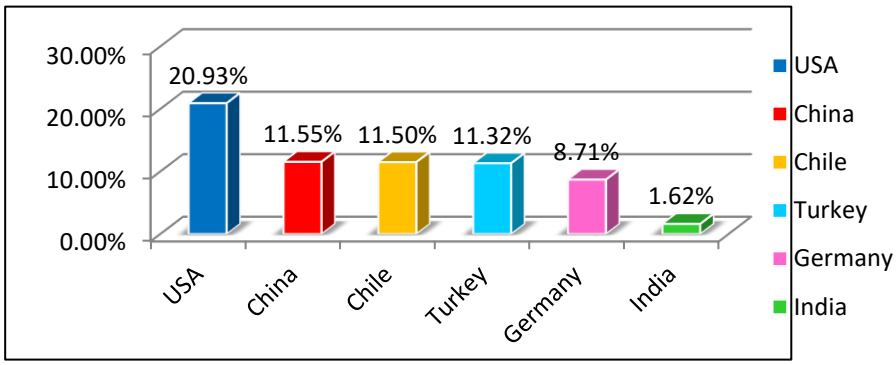
Source: UN Comtrade

Leading exporters of Carbonate of world from 2018 to 2021 **(Values in million USD)**

Data label given on the basis of 2021



Country wise world's leading exporter of Carbonate by percentage in 2021



In 2021, the world exports of carbonate exceeded 1.20 billion. It was 6.50 billion in the year 2020. USA has the highest export volume of Carbonates of any country, at about US $ 1.61 Billion, accounted 20.93% share of world export. The second largest Carbonates exporter**,** China, exported the same in that year at about US $ 889.73Million, which was accounted 11.55% of world export. Chile was the 3rd largest exporter of Carbonates in the world with 11.50% share. In that year **India** stood at 13th largest exporter of Carbonates in the world with 1.62 % share of world export.

Table-3

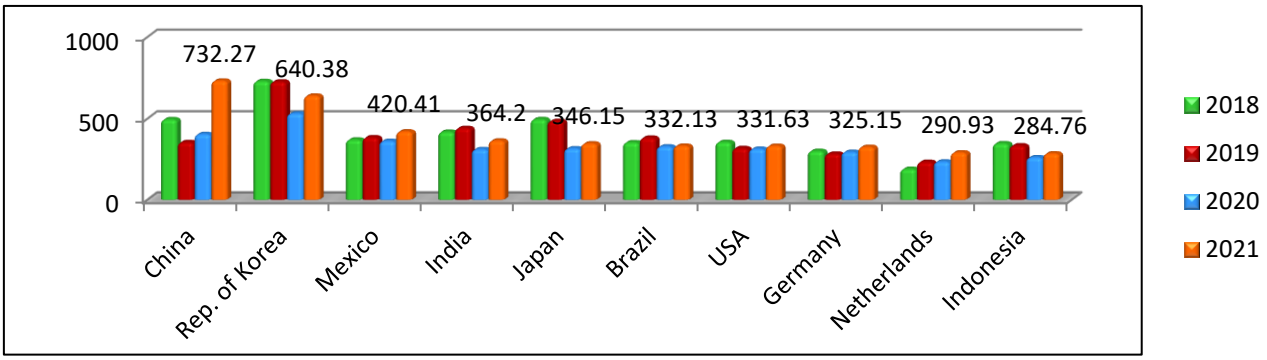
World's top 10 Importers of Carbonate (H.S Code-2836)

Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	495.79	5.66	354.18	4.19	403.95	5.37	732.27	8.62
2.	Rep. of Korea	729.87	8.33	727.10	8.60	531.75	7.07	640.38	7.54
3.	Mexico	369.94	4.22	384.35	4.55	361.79	4.81	420.41	4.95
4.	**India**	**418.48**	**4.78**	**441.66**	**5.23**	**310.71**	**4.13**	**364.20**	**4.29**
5.	Japan	496.19	5.66	485.05	5.74	316.00	4.20	346.15	4.08
6.	Brazil	353.12	4.03	381.67	4.52	328.01	4.36	332.13	3.91
7.	USA	355.27	4.06	317.75	3.76	313.52	4.17	331.63	3.90
8.	Germany	300.18	3.43	283.40	3.35	294.07	3.91	325.15	3.83
9.	Netherlands	189.43	2.16	232.55	2.75	234.66	3.12	290.93	3.42
10.	Indonesia	347.22	3.96	334.34	3.96	260.96	3.47	284.76	3.35
	Others	4704.79	53.71	4508.03	53.35	4167.12	55.40	4426.42	52.11
	Total	8760.29	100	8450.07	100	7522.54	100	8494.43	100

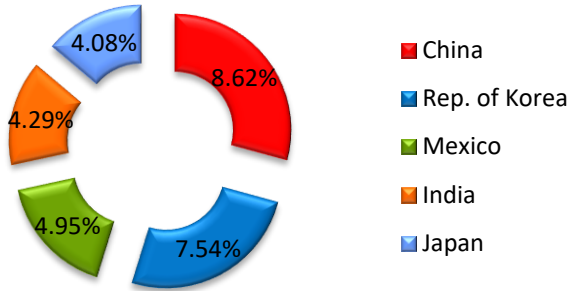
Source : UN Comtrade

Leading Carbonate importers of world from 2018 to 2021**(in million USD)**

Data label given on the basis of 2021



Country wise world's leading importers of Carbonate by percentage in 2021

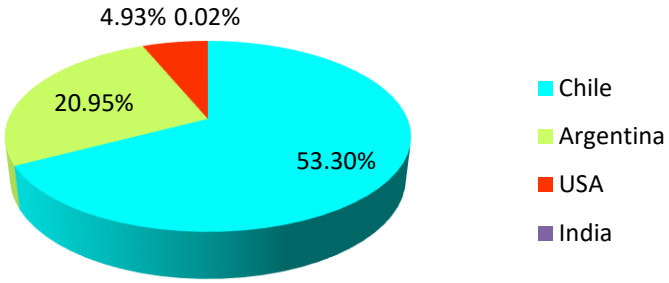


Global purchases of imported Carbonates cost a total US $ 8.49 billion in 2021. In that year, imported Carbonates appreciated by an 12.91% from US $ 7.52 billion during 2020. From a major importing countries perspective, China consumed the highest dollar worth of imported Carbonates during 2021 with purchases valued at US $ 732.27 million or 8.62% of the world total. In second and third place were Rep of Korea and Mexico at 7.54% and 4.95% of globally imported Carbonates in 2021. In that year India stood at 4th largest importer of Carbonates in the world with 4.29% share of world import. It is noticeable over the review period that Rep. of Korea was the largest importer of Carbonates in the world for three consecutive years from 2018 to 2020.

Annexure-1

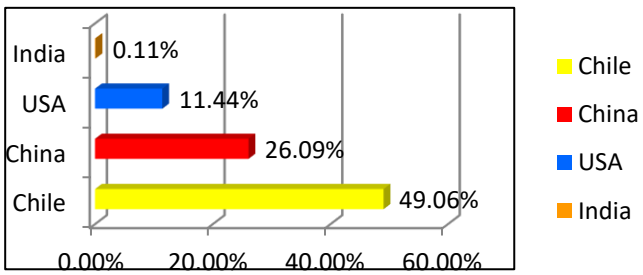
Top sources of world's top three importers of Carbonate(H.S Code-2836)

Top 3 Sources of Carbonate to China in 2021 by percentage:



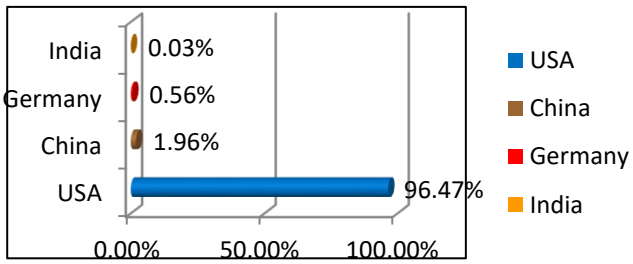
In 2021, China imported 53.30% share of Carbonates from Chile. Argentina was the 2nd major source country of Carbonates to China, exported 20.95% share of China's total import of Carbonates. It was followed by USA exported 4.93% share of Carbonates to China in that year. In 2021 **India's** account only 0.02% share. **Source : UN Comtrade)**

ii) Top 3 Sources of Carbonate to Rep. of Korea in 2021 by percentage*:*



In 2021 Rep of Korea imports most of its requirements of Carbonates from Chile with a share of 49.06% , 2nd and 3rd largest exporter of the commodity to Rep. of Korea were China with a share of 26.09% and USA with a share of 11.44%. India's account only 0.11%. **Source: UN Comtrade)**

iii) Top 3 Sources of Carbonate to Mexico in 2021 by percentage*:*



Mexico's 3 major source countries of Carbonates in 2021 were USA (96.47%), China (1.96%) and Germany (0.56%). In that year India's export of Carbonates to was only 0.03% of Mexico's total import. **(Source: UN Comtrade)**

Seeds of Anise, Coriander, Cumin etc

Indian spices include a variety of spices grown across the Indian subcontinent (a sub-region of South Asia). With different climates in different parts of the country, India produces a variety of spices, many of which are native to the subcontinent. Others were imported from similar climates and have since been cultivated locally for centuries. Anise, Badian, Fennel, Coriander Cumin and so many are some examples of Indian spices.

Anise seeds can be used to cook both savoury and sweet dishes. It can also be used whole, crushed or in powdered form.

Whole seeds can be used for tempering in warm oil for making stir-fries and curries.

You can also use fennel seeds for making drinks such as **fennel tea**, smoothie, soft drinks and liquor.

Use a mortar and pestle to lightly crush the seeds to release the oils and add it at the end of cooking as a herb to add fresh flavours like in soups, broths, sauces or salad dressings.

Powdered seeds are mostly used to make spice blends and mixes with other spices such as cumin seeds, coriander seeds etc. The spice blends can be used as rubs and marinate for fish or meat.

Badian is the second name of the star anise, the very plant whose fruits are widely used and used for various purposes. They have their own useful properties and contraindications. Why star anise is useful, how to use it and what harm, in addition to benefits, it can cause if used improperly, is especially well known in his homeland – in the East.

In general, star anise is a type of anise, which has a bright and especially tart taste. It grows in Southeast Asia – in the southwest of China and in Indochina. Star anise has such a name because of the characteristic shape of the fruit, which is a six-, seven- or eight-pointed multileaf of dark brown color. It has the shape of a star, with one seed in each of its rays.

The fruits of this plant are a source of vitamins A, C and PP, vitamins of group B. Of the minerals they contain potassium, magnesium, calcium, zinc, copper, manganese, sodium, phosphorus, iron and selenium.

It has a high calorie content – 337 kcal per 100 g. However, given the fact that you use star anise in very small quantities or not at all, and only to add flavor to dishes and drinks, you should not be afraid that this seasoning can harm figure.

Cumin (jeera) is an important ingredient in the seasoning or tempering of foods. It is commonly used across cuisines worldwide due to its medicinal value.

An essential ingredient in many mixed spices, chutneys, and chili and curry powders, cumin is especially popular in Asian, North African, and Latin American cuisines. The seedlike fruits can be used whole or ground as a spice. Their distinctive aroma is heavy and strong, and their taste is warm and reminiscent of caraway.

At one time cumin was widely used as a home medicinal and is still of local importance in traditional medicine in some places. The oil is used in perfumery, for flavouring a variety of liquors, and for medicinal and veterinary purposes.

The word **coriander** refers to a plant, *Coriandrum sativum*, of which both the leaves and the seeds are used in the culinary arts.

When the coriander leaves are used, they are considered an herb. Coriander leaves, also known as cilantro, have a bright, almost citrus-like flavor. Coriander leaves are used in all sorts of cuisines, from Latin American to Asian. In Mexico and the United States, fresh coriander leaves are frequently used as a garnish for salsas and spicy soups.

Coriander seed, which are actually the dried fruit of the coriander plant, is used as a spice. Typically used ground, coriander seed has a spicy, citrus flavor. Coriander seed is used extensively in Indian, Middle Eastern and Asian cuisines. Whole coriander seed is sometimes used in pickling and brining.

These are broadly classified under **H.S. Code-0909**.

Table - 4

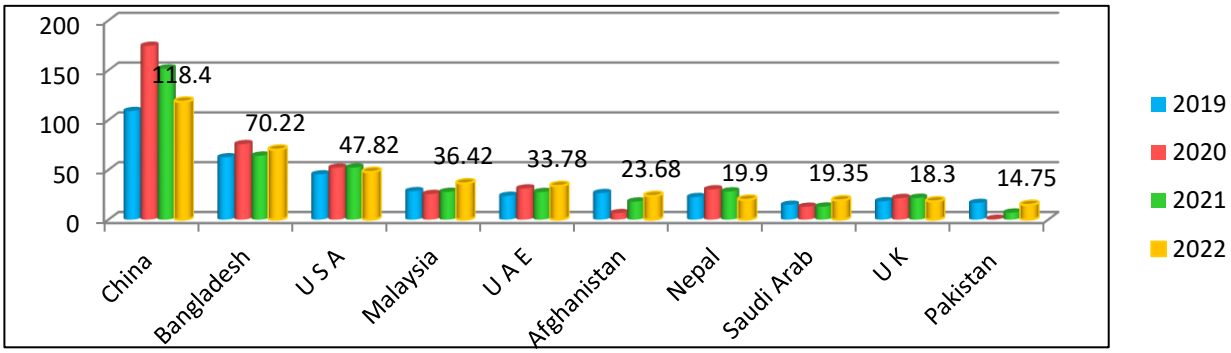
India's Top 10 destination of Seeds of Anise, Coriander, Cumin etc.. (HS Code –0909)

Rank	Countries	2019		2020		2021		2022	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	109.00	19.15	174.50	27.68	151.67	24.75	118.40	19.46
2.	Bangladesh	62.52	10.98	75.78	12.02	64.20	10.48	70.22	11.54
3.	U S A	45.37	7.97	52.09	8.26	52.24	8.52	47.82	7.86
4.	Malaysia	28.51	5.01	25.70	4.08	27.84	4.54	36.42	5.98
5.	U A E	23.84	4.19	31.25	4.96	27.67	4.52	33.78	5.55
6.	Afghanistan	26.62	4.68	6.48	1.03	18.10	2.95	23.68	3.89
7.	Nepal	22.60	3.97	30.37	4.82	28.27	4.61	19.90	3.27
8.	Saudi Arab	14.83	2.61	12.86	2.04	13.05	2.13	19.35	3.18
9.	U K	18.34	3.22	21.66	3.44	21.84	3.56	18.30	3.01
10.	Pakistan	16.70	2.93	0.75	0.12	7.02	1.15	14.75	2.42
	Others	200.86	35.29	198.97	31.56	200.93	32.79	205.90	33.84
	Total	569.19	100	630.42	100	612.83	100	608.51	100

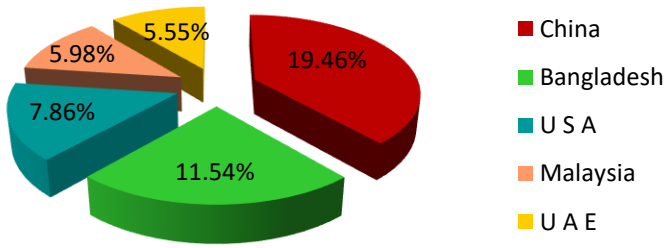
Source: DGCI&S

Note : India's Export including re-export

Destinations of Indian Seeds of Anise,Coriander, Cumin etc from 2019-2022**(Values in million USD)**
Data label given on the basis of 2022



India's top 5 major destinations of Seeds of Anise, Coriander, Cumin etc., by percentage in 2022:



In the year 2022, The total export value of Seeds of Anise, Coriander, Cumin etc.. from India was US $ 608.51 Million and riches pick in the year 2020. China was the largest destination of Seeds of Anise, Coriander, Cumin etc.. from India in 2022. It has imported US $ 118.40 Million in 2022, accounted 19.46% share of India's total export. Bangladesh and USA stood at 2nd and 3rd largest destination of Seeds of Anise, Coriander, Cumin etc.. form India with 11.54% and 7.86% share respectively of India's total export of the same in the same year.

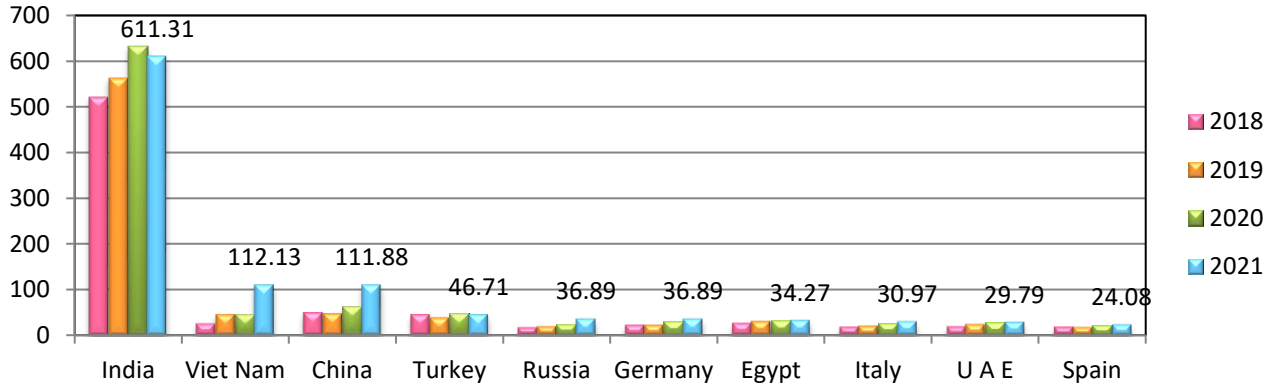
Table - 5

World's Top 10 exporters of Seeds of Anise, Coriander, Cumin etc.. (HS Code –0909)

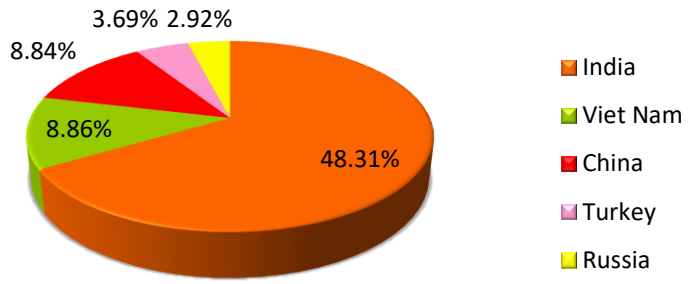
Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	**India**	**521.58**	**55.64**	**563.55**	**56.25**	**633.18**	**56.75**	**611.31**	**48.31**
2.	Viet Nam	26.67	2.84	46.62	4.65	46.33	4.15	112.13	8.86
3.	China	50.83	5.42	49.11	4.90	63.48	5.69	111.88	8.84
4.	Turkey	46.72	4.98	39.36	3.93	47.79	4.28	46.71	3.69
5.	Russia	17.73	1.89	19.69	1.96	23.12	2.07	36.89	2.92
6.	Germany	23.66	2.52	23.36	2.33	30.66	2.75	36.89	2.92
7.	Egypt	27.46	2.93	32.29	3.22	32.44	2.91	34.27	2.71
8.	Italy	19.09	2.04	21.55	2.15	26.72	2.39	30.97	2.45
9.	U A E	20.13	2.15	25.27	2.52	28.54	2.56	29.79	2.35
10.	Spain	19.03	2.03	18.45	1.84	22.26	2.00	24.08	1.90
	Others	164.44	17.54	162.66	16.24	161.15	14.44	190.48	15.05
	Total	937.34	100	1001.89	100	1115.67	100	1265.40	100

Source: UN Comtrade

Seeds of Anise, Coriander, Cumin etc.. exporters of world from 2018 to 2021 **(Values in million $)**
Data label given on the basis of 2021



Country wise export trends of Seeds of Anise, Coriander, Cumin etc.. by percentage in 2021:



In 2021, the world imports of Seeds of Anise, Coriander, Cumin etc.. was US $1.26 billion. It was US $ 1.11 billion in 2020, shows the rise of 13.42% from 2020. **India** was the world's largest exporter of Seeds of Anise, Coriander, Cumin etc.. in the world over the review period, it has exported US $ 611.31 Million of the commodity, which was accounted 48.31% share of world export in 2021t. Which was distantly followed by followed by Viet Nam (8.86%) and China (8.84%).

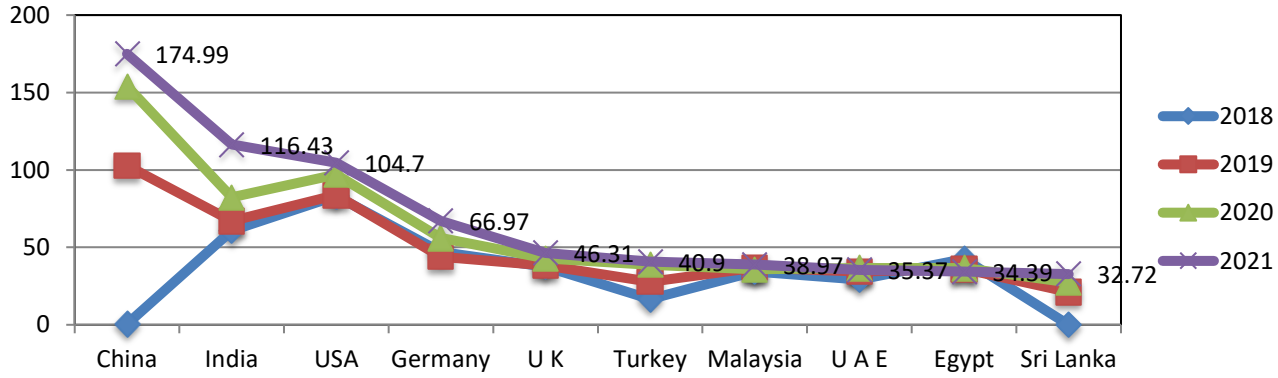
Table - 6

World's Top 10 Importers of Seeds of Anise, Coriander, Cumin etc.. (HS Code –0909)

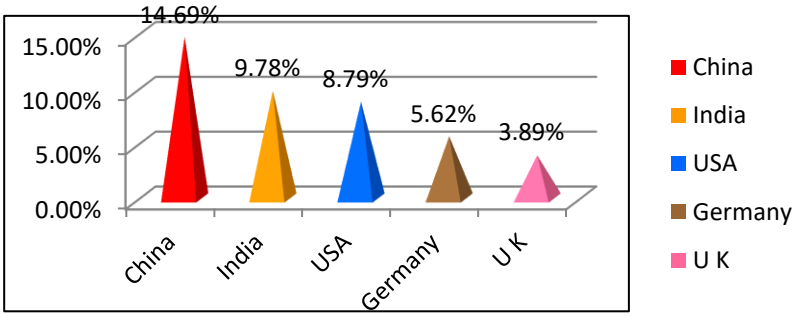
Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	0.54	0.07	102.84	11.46	154.04	14.45	174.99	14.69
2.	**India**	**60.79**	**8.42**	**67.09**	**7.48**	**82.36**	**7.73**	**116.43**	**9.78**
3.	USA	83.20	11.53	83.82	9.34	97.13	9.12	104.70	8.79
4.	Germany	47.01	6.51	43.86	4.89	56.12	5.27	66.97	5.62
5.	U K	37.53	5.20	38.33	4.27	42.88	4.02	46.31	3.89
6.	Turkey	16.57	2.30	27.76	3.09	38.80	3.64	40.90	3.43
7.	Malaysia	34.40	4.77	36.85	4.11	35.86	3.37	38.97	3.27
8.	U A E	29.26	4.06	34.42	3.84	36.63	3.44	35.37	2.97
9.	Egypt	42.46	5.88	36.06	4.02	36.67	3.44	34.39	2.89
10.	Sri Lanka	0.00	0.00	21.18	2.36	27.34	2.57	32.72	2.75
	Others	369.93	51.26	405.09	45.14	457.83	42.96	499.19	41.92
	Total	721.70	100	897.30	100	1065.66	100	1190.94	100

Source :UNComtrade

Seeds of Anise, Coriander, Cumin etc importers of world from 2018 to 2021 **(Values in million USD)**
Data label given on the basis of 2021



Country wise import trends of Seeds of Anise, Coriander, Cumin etc.. by percentage in 2021

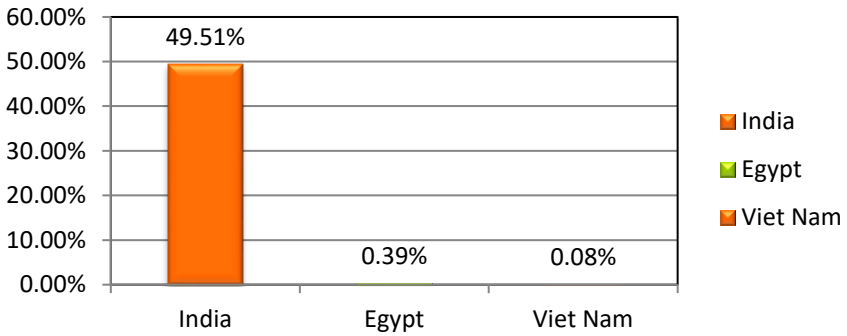


The value of global imports of Seeds of Anise, Coriander, Cumin etc.. totalled US $ 1.19 Billion in 2021. Which was increased by nearly 9.43% in value terms compared to 2020 it reaches picked in this year. China represented the major importer of Seeds of Anise, Coriander, Cumin etc.. in the world, recording US $ 175 Million, which was 14.69% of total global imports in 2021. **India** represented the 2nd largest importer of Seeds of Anise, Coriander, Cumin etc.. in the world in 2021 with 9.78% share of world import which was followed by USA (8.79%).

Annexure-II

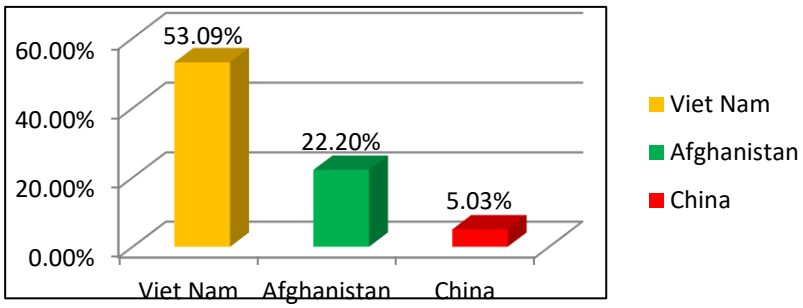
Major sources of world's top three importers of Seeds of Anise, Coriander, Cumin etc.. (HS Code –0909)

(i) Top 3 Sources of Seeds of Anise, Coriander, Cumin etc..to China in 2021 by percentage:



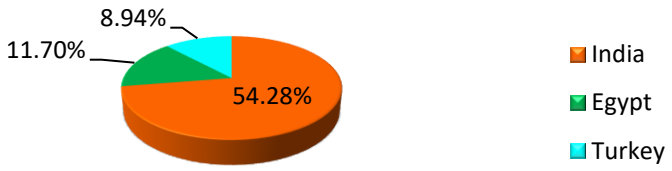
India was the principle source country of Seeds of Anise, Coriander, Cumin etc.. to China in 2021. China imported over 49.51% of the commodity from India, it was distantly followed by Egypt (0.39%) and Viet Nam (0.08%). **(Source: UN Comtrade)** India

(ii) Top 3 Sources of Seeds of Anise, Coriander, Cumin etc..to India in 2021 by percentage**:**



India's 3 major source countries of Seeds of Anise, Coriander, Cumin etc.. in 2021 were Viet Nam (53.09%), Afghanistan (22.20%) and China(5.03%) in 2021 **(Source: UN Comtrade)**

(iii) Top 3 Sources of Seeds of Anise, Coriander, Cumin etc..to USA in 2021 by percentage**:**



Almost 54.28% of Seeds of Anise, Coriander, Cumin etc... imports of USA comes from India in 2021 which was followed by Egypt (11.70 %) and Turkey (8.94%). **(Source : UN Comtrade).-**

IMPORT

Nickel Plates, Sheets, Strip and Foils

It's a subtly golden hue of silver-white metallic element. It is one of the transition metals that is ductile and rigid. The reactive surface of pure nickel powdering shows significant chemical activity but sections that are larger react gradually with the air under standard conditions as an oxide surface layer is formed, thereby preventing increased corrosion.

Nevertheless, in the earth's crust pure nickel is present only in small quantities, typically in the ultramafic rocks and inside the large meteorites of iron-nickel which, outside the atmosphere of the planet, were not exposed to oxygen. Nickel foil a very thin sheet of nickel typically made with a machine that is used for rolling mills. It is usually reduced into leaf-like substance by beating or rolling it mechanically. Nickel had varieties of industrial applications which include: Production of batteries, production of cell phones, production of electric bikes, production of bicycles, production of telecommunication gadgets, etc. This article describes the background, property, and application of Nickel.

Nickel is a smooth, mixable, and ductile alloy, that is silver-grey. It conducts electricity greatly and conducts heat as well. The formation of various **corrosion-resistant alloys** is incredibly useful. It also has battery and electroplating applications in its metallic form. The nickel plate is employed, especially in coinage, as a protective cover for other metals. Nickel is can be in different forms such as foil, wire, mesh, and rod by Advent Testing Materials Ltd. Foil, board, tube, isolated cable, and rock form are also provided with the nickel alloys.

Nickel is applicable in the production of Security tags, Aerospace industry, Industries whose operation involves heating of elements, the printing of resistors, and circuit boards. It is also used in the production of hydride batteries of nickel-metal, lithium batteries, the power tool of poles, batteries of polymer, electronic industries, computers industries, cordless electric tool, bicycles (electric type), bikes (electric type), telecommunication industries, electric vacuums, unique lights.

Nickels are generally used for the following in synthetic chemistry: Graphene foil of high quality can be produced with a fast deposition of the thermal chemicals by nickel foil; a nickel foil can be used as a substrate for the manufacture of piezoelectric thin foils of Pb (Zr, Ti)O3; and nickel oxide nanowires synthesized with nickel foils after being immersed in a lithium-hydroxide solution. Manganese dioxide is usually also used by electrodepositing it on a nickel foil for thin ultra capacitor film fabrication.

Nickel is corrosion resistant and is used to shield other metals by plating them. It is, though, mostly utilised in the production of alloys such as stainless steel. **Nickel plate i**s used for Manufacture and handling of sodium hydroxide, Marine and offshore engineering, Reactors and vessels in which fluorine is generated and reacted with hydrocarbons, Food processing equipment, Salt production, Caustic handling equipment etc. **Nickel coils,** sheets and plates are available with us in bulk which are offered in reasonable prices.

Nickel Strips have a poor annealed rigidity and a very low work-toughening quality. It is used in food handling machinery, general corrosion – resistant structures and parts, caustic solutions, etc. **Nickel alloy sheets are** perfect for fabrication processes like cold working, welding and casting. Also called German Silver, **Nickel Silver plate** metal is actually an alloy of copper, zinc, and nickel. Both sheets are 12" x 12" in size and come in a number of thicknesses. **Nickel sheets** are useful for industries like power generation, petrochemicals, gas processing, pharmaceutical, heat exchangers, pulp and paper industry etc.

These are broadly classified under **H. S. Code- 7506**.

Table - 9

India's Top 10 Sources of Nickel Plates, Sheets, Foils etc. (HS Code : 7506)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	U S A	60.55	23.19	87.53	29.52	118.65	44.69	109.18	29.91
2.	Germany	33.02	12.65	56.89	19.18	45.67	17.20	84.29	23.09
3.	Japan	116.49	44.61	84.93	28.64	46.77	17.62	68.62	18.80
4.	China	13.85	5.30	14.33	4.83	12.19	4.59	33.18	9.09
5.	Belgium	4.96	1.90	12.88	4.34	5.81	2.19	12.56	3.44
6.	Netherland	3.32	1.27	5.57	1.88	2.11	0.79	10.48	2.87
7.	France	6.47	2.48	13.38	4.51	7.75	2.92	8.08	2.21
8.	U K	4.79	1.83	3.32	1.12	3.77	1.42	7.46	2.04
9.	U A E	2.06	0.79	2.19	0.74	2.02	0.76	6.82	1.87
10.	Sweden	3.52	1.35	2.98	1.01	5.82	2.19	5.12	1.40
	Others	12.08	4.63	12.52	4.22	14.96	5.64	19.28	5.28
	Total	261.10	100	296.54	100	265.52	100	365.07	100

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

The above data indicates that India's import of Nickel Plates, Sheets, Strep, Foils etc has decreased to US $ 99.55 million in 2022 from US $ 265.22 million in 2021,which shows a positive growth of 37.49% from the previous year's import i.e. in 2021. In the year 2022 India's major sources of Nickel Plates, Sheets, Strep, Foils etc were USA (US $ 109.18 Million), Germany (US $ 84.29 Million) and Japan (Us $ 68.62 Million) value of Nickel Plates, Sheets, Strep, Foils etc import into India Which shows nearly 71.80% of total import value of Nickel Plates, Sheets, Strep, Foils etc imported by India from these 3 countries in 2022.

Table - 10

World Top 10 Importer of Nickel Plates, Sheets, Foils etc. (HS Code : 7506)

Rank	Countries	2018		2019		2020		2021	
		Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	China	167.90	11.21	186.16	12.24	226.18	17.15	260.67	17.84
2.	USA	109.18	7.29	142.08	9.34	107.73	8.17	131.64	9.01
3.	Rep. of Korea	71.87	4.80	85.18	5.60	77.31	5.86	91.90	6.29
4.	Austria	149.92	10.01	62.45	4.11	56.38	4.27	91.19	6.24
5.	Italy	82.65	5.52	79.79	5.25	90.52	6.86	88.42	6.05
6.	**India**	**42.16**	**2.81**	**87.16**	**5.73**	**98.68**	**7.48**	**88.40**	**6.05**
7.	Germany	98.20	6.55	107.14	7.05	76.45	5.80	79.13	5.41
8.	France	139.08	9.28	129.16	8.49	70.82	5.37	75.42	5.16
9.	U K	92.83	6.20	95.27	6.27	63.62	4.82	61.27	4.19
10.	Japan	79.39	5.30	67.10	4.41	64.79	4.91	57.90	3.96
	Others	464.96	31.04	479.14	31.51	386.53	29.30	435.57	29.80
	Total	1498.15	100	1520.64	100	1319.02	100	1461.53	100

Source :UN Comtrade

The worth value of Global import of Nickel Plates, Sheets, Strep, Foils etc. was nearly US $ 1.46 Billion in 2021 which was rose at 10.80% from the year 2020. China has became the world's largest importer of Nickel Plates, Sheets, Strep, Foils etc among world's largest importers. Imports 17.84% share of world's import of Nickel Plates, Sheets, Strep, Foils etc in 2021 followed by USA and Rep. of Korea. In the same year India's imports of Nickel Plates, Sheets, Strep, Foils etc have hit an all-time high and its share in the world-wide export market of this product was 6.05 % of total world import trade value of Nickel Plates, Sheets, Strep, Foils etc and ranked in 6th position in the world.

Parts of Aircraft

An **aircraft part** is an article or component approved for installation on a type-certificated aircraft. Approval for these parts is derived from the jurisdictions of the countries that an aircraft is based. In the United States, the Federal Aviation Administration oversees the approval for these parts under Federal Aviation Regulation

The FAA permits the aircraft owner or operator to produce replacement parts from scratch (using the original as a template and using the same dimensions and materials), and document it in the logbooks as an "owner-produced part" in accordance with FAR §21.9(a)(5). In doing this, the owner could enlist the aid of an A&P, a machine shop, or anyone certified or uncertified personnel and the part would still qualify as an owner-produced part. This ability is granted by the FAA to aircraft owners/operators, so long as the parts they produce are for installation on their own aircraft and not for sale or for installation on an aircraft they do not own (which would require PMA approval instead). All owner-produced parts must still be considered airworthy, by conforming to the aircraft's type design. An A&P that agrees the owner-produced part is airworthy and that the installation is a considered a "minor repair" can approve the aircraft for return to service.

The FAA will consider a part to be owner-produced (and therefore legal) if the owner is meaningfully involved in its production in any of the following ways:

- Provides the specifications or the part to be duplicated;
- Provides the materials to make the part;
- Provides manufacturing techniques or assembly methods;
- Provides quality assurance; or
- Supervises the manufacture of the part.

Some high value aircraft parts can be repaired using various re-manufacturing processes such as machining, welding, plating, etc. The techniques described in Advisory Circular 43.13-1B are generally used as guidance for repair processes that are not specifically described by the manufacturer.

Low jet fuel prices and new programs delays lead to keeping airliners in service for longer, relying increasingly on used parts: their market will grow from $4.5 billion in 2016 to $7.7 billion in 2026. Demand for aircraft recycling is thus growing with 9,300 retirements in the decade including 4,000 narrow bodies. The most prized are life limited parts from CFM56s and less from IAE V2500s.

Suspected unapproved parts are those aeronautical parts that should be deemed airworthy and are therefore not eligible for installation on an aircraft or another aeronautical product because their design, manufacture or distribution is in conflict with aviation regulations. This means that such a part may not have an approved design, may be manufactured by an unapproved manufacturer, distributed by an unapproved distributor, possibly even taken from scrap aircraft while bypassing mandatory and costly shop inspection and recertification processes. Indicators for an unapproved or bogus part may reach from missing, incomplete or counterfeit certification, missing or manipulated identification plates, physical aspects like surface grain structure, shape, colour, or weight deviating from the removal part, to any indicators of poor workmanship as well as a suspiciously low purchase price. Suspected unapproved parts shall be reported to the national aviation authority.

Aircraft parts are produced by manufacturers. FAA approved aircraft and aircraft parts manufacturers are represented by the Aerospace Industries Association (commercial aircraft manufacturers), General Aviation Manufacturers Association (general aviation aircraft manufacturers) and Modification and Replacement Parts Association (MARPA) (aircraft parts manufacturers).

The Aeronautical Repair Station Association represents organizations which repair aircraft and aircraft components (including aircraft parts).

Some aircraft parts are sold by distributors. Distributors of aircraft parts are represented by the Aviation Suppliers Association

These are broadly classified under **H. S. Code 8803.**

Table - 7

India's Top 10 Sources of Parts of Aircraft (HS Code :8803)

Rank	Countries	2019		2020		2021		2022	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	U S A	127.20	15.43	58.93	21.60	66.43	22.74	14.00	42.49
2.	France	170.66	20.70	48.13	17.64	56.77	19.43	7.60	23.07
3.	U K	93.84	11.38	47.71	17.49	69.63	23.83	4.11	12.46
4.	Malaysia	36.97	4.48	14.88	5.45	20.33	6.96	2.63	7.98
5.	Singapore	28.62	3.47	15.92	5.84	18.28	6.26	1.90	5.75
6.	Germany	233.46	28.32	10.97	4.02	14.48	4.96	0.98	2.97
7.	Turkey	3.63	0.44	4.52	1.66	3.93	1.35	0.51	1.54
8.	China	12.45	1.51	2.78	1.02	1.74	0.60	0.32	0.98
9.	Austria	0.35	0.04	1.47	0.54	0.33	0.11	0.13	0.40
10.	Netherland	1.42	0.17	0.98	0.36	1.22	0.42	0.10	0.31
	Others	115.79	14.05	66.51	24.38	39.02	13.36	0.67	2.05
	Total	824.39	100	272.81	100	292.15	100	32.95	100

Source: **DGCI&S**

Note : India's Import including re-import

There 78 countries India imports Aircraft Parts from. The Aircraft Parts import in 2022 stood at US $ 32.95 Million only and US $ 824.39 Million in 2019, which shows a negative growth of more than 25 times from the 2019 of India's import value of Aircraft Parts. Major three source countries of Aircraft Parts to India in 2022 were USA (14 Million), France (US $ 7.60 Million) and UK (US $ 4.11 Million). These 3 countries in total sold US $ 25.71 Million value of Aircraft Parts to India which rounds up to 78.02% of the total Aircraft Parts import into India.

Table - 8

World Top 10 Importer of Parts of Aircraft (HS Code :8803)

Rank	Countries	2018		2019		2020		2021	
		Value (million $)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)	Value (million$)	Share (%)
1.	USA	19299.14	19.31	20361.54	19.95	14262.14	19.27	12190.88	16.74
2.	France	16228.46	16.24	15201.52	14.90	9866.50	13.33	9610.52	13.19
3.	Germany	9296.77	9.30	8442.36	8.27	7558.95	10.22	6503.62	8.93
4.	Singapore	7210.95	7.22	7764.53	7.61	5143.14	6.95	4859.22	6.67
5.	U K	5468.03	5.47	5564.27	5.45	3737.83	5.05	4071.92	5.59
6.	Canada	4620.93	4.62	5366.49	5.26	3958.54	5.35	3967.47	5.45
7.	Italy	2140.35	2.14	2443.49	2.39	2659.64	3.59	2626.65	3.61
8.	China	2633.34	2.63	3087.82	3.03	2106.41	2.85	2510.64	3.45
9.	Saudi Arabia	2430.17	2.43	2595.38	2.54	1944.93	2.63	2370.07	3.25
10.	U A E	3381.51	3.38	2663.65	2.61	1728.87	2.34	2340.47	3.21
31.	**India**	**546.47**	**0.55**	**401.40**	**0.39**	**272.81**	**0.37**	**292.56**	**0.40**
	Others	26682.19	26.70	28147.42	27.58	20755.82	28.05	21500.88	29.52
	Total	99938.32	100	102039.88	100	73995.58	100	72844.91	100

Source :**UNComtrade**

Global Imports of Aircraft Parts, the top five importers of Aircraft Parts in 2021 were U S A (US $ 12.19 B), France (US $ 9.61 B), Germany (US $ 6.50 B), Singapore (US $ 4.86 B) and UK (US $ 4.07 B), accounted for 16.74%, 13.19%, 8.93%, 6.67 % and 5.59% respectively of world import value of Aircraft Parts. The import value of Aircraft Parts into **India** amounted to US $ 292.56 million in the year 2021 and ranked in 31st position in the world with the share of 0.40% of total Global import value of Aircraft Parts.