

GOVERNMENT OF INDIA  
MINISTRY OF CHEMICALS AND FERTILIZERS  
DEPARTMENT OF CHEMICALS AND PETROCHEMICALS

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 1788**  
TO BE ANSWERED ON 19.12.2023

**PRODUCTION CAPACITY OF MAJOR CHEMICALS**

1788. Shri Rakesh Sinha:  
Shri Iranna Kadadi:  
Shri Dhananjay Bhimrao Mahadik:

Will the Minister of CHEMICALS AND FERTILIZERS be pleased to state:

- (a) the details of expansion in the production capacity of the major chemical industry;
- (b) the current production levels for major chemicals in the country;
- (c) whether Government recognises the importance of advanced technologies such as Artificial Intelligence, Blockchain etc., which can play a major role in boosting our pharmaceutical sector; and
- (d) if so, the steps taken, or proposed to be taken by Government to leverage these technological developments to the sector's advantage?

**ANSWER**

MINISTER OF STATE FOR CHEMICALS AND FERTILIZERS  
(SHRI BHAGWANTH KHUBA)

(a) & (b): Department of Chemicals & Petrochemicals (DCPC) compiles data on production and installed capacity of selected chemical and petrochemical products from certain identified chemical and petrochemical units for assessing the trends of production in the sector. The details of production capacity of the major chemicals in the country during 2018-19 to 2022-23 is given at **Annexure-I**. The production details of the major chemicals in the country during 2018-19 to 2022-23 is given at **Annexure-II**.

(c) & (d): Department of Pharmaceuticals has taken steps to promote R&D in the sector including in the areas of Artificial Intelligence and Machine Learning through the Promotion of Research and Innovation in the Pharma-Medtech Sector (PRIP) Scheme. Further, NIPERs under the aegis of Dept of Pharmaceuticals have introduced topics related to Artificial

Intelligence and Block Chain Technology in their courses and they provide training to students in AI-based tools to build human resource capacities in these areas for the pharmaceutical sector. In addition, the Department of Biotechnology (DBT) also supports Artificial Intelligence-based research activities in the biotech sector, particularly in the healthcare and agriculture areas, in order to leverage emerging technologies for these sectors.

### Annexure-I

Sl.No	NAME OF THE PRODUCT	2018-19	2019-20	2020-21	2021-22	2022-23	CAGR (%) for 2018-19 to 2022-23
<b>A. Installed Capacity of Chemical products from 2018-19 to 2022-23 (Product wise)</b>							
							Figures in MT
Sl.No	NAME OF THE PRODUCT	2018-19	2019-20	2020-21	2021-22	2022-23	CAGR (%) for 2018-19 to 2022-23
<b>A. ALKALI CHEMICALS</b>							
1	SODA ASH	3489000	3614000	3614000	3614000	3714000	1.6
2	CAUSTIC SODA	3397340	3700340	3898200	4150825	4227395	5.6
3	LIQUID CHLORINE	2535254	2774726	2961232	3124413	3158153	5.6
	<b>GROUP TOTAL</b>	<b>9421594</b>	<b>10089066</b>	<b>10473432</b>	<b>10889238</b>	<b>11099548</b>	<b>4.18</b>
<b>B. INORGANIC CHEMICALS</b>							
1	ALUMINIUM FLOURIDE	25600	25600	25600	25600	25600	0.0
2	CALCIUM CARBIDE	112000	112000	112000	112000	112000	0.0
3	CARBON BLACK	696000	696000	696000	696000	696000	0.0
4	POTASSIUM CHLORATE	4600	28600	28600	28600	28600	57.9
5	SODIUM CHLORATE	0	0	22320	22320	22320	
6	TITANIUM DIOXIDE	82500	82500	82500	82500	82500	0.0
7	RED PHOSPHORUS	1680	1680	1680	1680	1680	0.0
8	HYDROXEN PEROXIDE	145850	218626	218626	221766	221266	11.0
9	POTASSIUM IODATE	0	1200	1200	1200	1200	
10	CALCIUM CARBONATE	231545	371545	371545	383545	383545	13.4
	<b>GROUP TOTAL</b>	<b>1299775</b>	<b>1537751</b>	<b>1560071</b>	<b>1575211</b>	<b>1574711</b>	<b>4.91</b>
<b>C. ORGANIC CHEMICALS</b>							
1	ACETIC ACID	141616	142048	142048	142048	165508	4.0
2	ACETIC ANHYDRIDE	113325	119175	119175	119175	124650	2.4
3	ACETONE	47140	47140	47140	47140	47140	0.0
4	PHENOL	76750	76750	76750	76750	76750	0.0
5	METHANOL	474300	474300	474300	474300	474300	0.0
6	FORMALDEHYDE	411300	411300	397800	451776	435276	1.4
7	NITROBENZENE	112050	129450	126450	126450	126450	3.1
8	MALEIC ANHYDRIDE	6400	7660	7660	7660	7660	4.6
9	PENTAERYTHRITOL	15760	15760	15760	17400	17400	2.5

10	ANILINE	54100	54100	54100	54100	54100	0.0
11	CHLORO METHANES	279250	279250	330990	345990	438450	11.9
12	ISOBUTYLBENZENE	13800	16800	16800	16800	16800	5.0
13	ONCB	30000	30000	30000	30000	30000	0.0
14	PNCB	48400	48400	48400	48400	48400	0.0
15	MEK	10000	10000	10000	10000	10000	0.0
16	ACETALDEHYDE	151010	151010	151010	151970	151970	0.2
17	ETHANOLAMINES	17760	17760	27000	27000	27000	11.0
18	ETHYL ACETATE	517828	562060	562060	575060	575060	2.7
19	MENTHOL	33650	33650	33650	33650	33650	0.0
20	ORTHO NITRO TOLUENE	20685	44800	44800	44800	44800	21.3
	<b>GROUP TOTAL</b>	<b>2575124</b>	<b>2671413</b>	<b>2715893</b>	<b>2800469</b>	<b>2905364</b>	<b>3.06</b>
<b>D.</b>	<b>PESTICIDES AND INSECTICIDES</b>						
1	D.D.T.	3144	6344	6344	6344	6344	19.2
2	MALATHION	3200	3800	3800	3800	3800	4.4
3	DIMETHOATE	1450	1450	1450	1450	1450	0.0
4	D.D.V.P.	33620	33620	33620	33620	33620	0.0
5	QUINALPHOS	2200	2200	3400	3400	3400	11.5
6	MONOCROTOPHOS	13840	13940	13940	13940	13940	0.2
7	PHOSPHAMIDON	2000	2000	2000	2000	2000	0.0
8	PHORATE	12400	12400	12400	6600	6600	-14.6
9	ETHION	2200	2800	2800	2800	2800	6.2
10	FENVALERATE	3600	4960	4960	4960	4960	8.3
11	CYPERMETHRIN	25101	23826	23826	24726	26799	1.6
12	ACEPHATE	17500	20500	20500	20500	20500	4.0
13	CHLORPYRIPHOS	18075	13600	13800	13400	13400	-7.2
14	TRIAZOPHOS	3360	3360	3360	3360	3360	0.0
15	TEMEPHOS	250	250	250	250	250	0.0
16	DELTAMETHRIN	731	790	790	850	1020	8.7
17	ALPHAMETHRIN	491	480	500	600	644	7.0
18	PROFENOFOS TECHNICAL	10500	10500	10500	17300	17400	13.5
19	PRETILACHLOR TECHNICAL	4240	4240	4240	4240	4480	1.4
20	PHENTHOATE	900	900	900	900	900	0.0
21	PENDIMETHALIN	4700	6000	5800	6600	7400	12.0
22	PERMETHRIN TECH	1674	1800	1800	1800	1914	3.4
23	LAMBDA CYHALOTHRIN	2600	2850	3200	3150	3766	9.7
24	IMIDACALOPRID TECH	200	150	150	150	150	-6.9
25	CAPTAN & CAPTAFOL	3430	3430	3430	3430	3430	0.0
26	ZIRAM(THIO BARBAMATE)	697	697	697	697	697	0.0
27	CARBENDZIM(BAVISTIN)	980	780	780	780	780	-5.5
28	MANCOZAB	84696	84696	119796	121796	121796	9.5

29	HEXACONAZOLE	1201	1700	1700	2820	3460	30.3
30	BUTACHLOR	500	500	500	500	500	0.0
31	ISOPROTURON	6250	6000	6000	6000	6000	-1.0
32	GLYPHOSATE	12870	12920	12920	12920	12920	0.1
33	ETHOFUMESATE TECHNICAL	1425	1650	1650	1650	1950	8.2
34	METCONAZOLE	750	750	750	500	500	-9.6
35	DIURON	3720	6000	6000	6000	6000	12.7
36	2, 4-D	27000	27000	27000	30000	30000	2.7
37	TRICLOPYR ACID TECH	300	300	300	300	300	0.0
38	THIAMETHOXAM TECHNICAL	3750	4550	5100	5100	6320	13.9
39	ATRAZIN	500	1200	1200	1200	2400	48.0
40	METRIBUZIN	1350	1950	2518	2865	3840	29.9
41	ZINC PHOSPHIDE	1920	1920	1920	1920	1920	0.0
42	ALUMINIUM PHOSPHIDE	4740	4740	4740	4740	4740	0.0
43	DICOFOL	100	150	150	150	150	10.7
	<b>GROUP TOTAL</b>	<b>324155</b>	<b>333693</b>	<b>371481</b>	<b>380108</b>	<b>388600</b>	<b>4.64</b>
<b>E.</b>	<b>DYES AND PIGMENTS</b>						
1	AZO DYES & FOOD COLOURS	21138	21138	21138	21138	18897	-2.8
2	ACID DIRECT DYES(OTHER THAN AZO)	40900	40900	40900	40900	46000	3.0
3	DISPERSE DYES	67209	75009	77925	77925	92267	8.2
4	OIL SOLUBLE (SOLVENT DYES)	3600	3600	3600	3600	1200	-24.0
5	OPTICAL WHITENING AGENTS	41160	67680	67680	67680	67680	13.2
6	ORGANIC PIGMENTS	87035	88355	88355	88355	89015	0.6
7	PIGMENT EMULSION	5414	5414	5414	5414	3770	-8.7
8	REACTIVE DYES	194691	195731	196331	197531	216531	2.7
9	SULPHUR DYES (SULPHUR BLACK)	8247	8247	8247	8247	13200	12.5
10	VAT DYES	3040	2860	2860	2860	3340	2.4
11	SOLUBILISED VAT DYES	132	132	132	132	0	-100.0
12	NAPTHOLS	900	900	900	900	0	-100.0
13	INORGANIC PIGMENTS	18054	18054	18054	18054	18054	0.0
	<b>GROUP TOTAL</b>	<b>491520</b>	<b>528020</b>	<b>531536</b>	<b>532736</b>	<b>569954</b>	<b>3.77</b>
	<b>TOTAL Chemical</b>	<b>14112168</b>	<b>15159943</b>	<b>15652413</b>	<b>16177762</b>	<b>16538177</b>	<b>4.05</b>

Sl.No	GROUP / PRODUCT	2018-19	2019-20	2020-21	2021-22	2022-23	CAGR (%) for 2018-19 to 2022- 23
	<b>B. Installed Capacity of Petrochemical products from 2018-19 to 2022-23 (Product wise)</b>						
	<b>Figures in MT</b>						
<b>A</b>	<b>SYNTHETIC FIBRES</b>						

1	ACRYLIC FIBRE (AF)	107000	107000	107000	107000	108000	0.2
2	POLYESTER STAPLE FIBREFILL	69000	69000	69000	69000	69000	0.0
3	NYLON FILAMENT YARN	24616	58516	58516	66582	66582	28.2
4	NYLON INDUSTRIAL YARN/TYRE CORD	90500	152015	152015	165703	165703	16.3
5	POLYESTER FILAMENT YARN	2827423	2719791	2727365	2661147	2661147	-1.5
6	POLYESTER STAPLE FIBRE	1256562	1350462	1350462	1350462	1350462	1.8
7	POLYPROPYLENE FILAMENT YARN	3600	3600	3600	3600	3600	0.0
8	POLYPROPYLENE STAPLE FIBRE	30925	30925	30925	29725	29725	-1.0
9	POLYSTER INDUSTRIAL YARN	21500	21500	21500	21500	21500	0.0
10	Elastomeric/Spandex Filament Yarn	8500	8500	8500	8500	20000	23.9
	<b>Group Total</b>	<b>4439626</b>	<b>4521309</b>	<b>4528883</b>	<b>4483219</b>	<b>4495719</b>	<b>0.31</b>
<b>B</b>	<b>FIBRE INTERMEDIATES</b>						
1	ACRYLONITRILE (ACN)	41000	24000	24000	24000	24000	-12.5
2	CAPROLACTUM	120000	120000	120000	120000	120000	0.0
3	MONO ETHYLENE GLYCOL (MEG)	1153400	1868100	2210600	2210600	2210600	17.7
4	PURIFIED TEREPHTHALIC ACID (PTA)	3873000	3873000	3873000	3873000	3873000	0.0
	<b>Group Total</b>	<b>5187400</b>	<b>5885100</b>	<b>6227600</b>	<b>6227600</b>	<b>6227600</b>	<b>4.67</b>
<b>C</b>	<b>POLYMERS</b>						
1	LOW DENSITY POLYETHYLENE (LDPE)	160000	560000	610000	610000	610000	39.7
2	HIGH DENSITY POLYETHYLENE (HDPE)/LLDPE	3348100	5158100	5158100	5158100	5158100	11.4
3	POLYSTYRENE (PS)	471000	471000	471000	471000	499000	1.5
4	POLYPROPYLENE(PP)	4514000	4933800	4933800	4933800	4933800	2.2
5	EXPANDABLE POLYSTYRENE (EXPS)	128700	133300	133300	147100	193000	10.7
6	POLY VINYL CHLORIDE PVC)	1493000	1498000	1493000	1500000	1500000	0.1
	<b>Group Total</b>	<b>10114800</b>	<b>12754200</b>	<b>12799200</b>	<b>12820000</b>	<b>12893900</b>	<b>6.26</b>
<b>D</b>	<b>SYNETHETIC RUBBER ( ELASTOMERS)</b>						
1	STYRENE BUTADIENE RUBBER (SBR)	271000	271000	277000	271000	271000	0.0
2	POLY BUTADIENE RUBBER (PBR)	114000	100000	100000	100000	100000	-3.2
3	ETHYL VINYL ACETATE (EVA)	15000	15000	15000	15000	15000	0.0
4	NITRILE BUTADIENE RUBBER (NBR)	25300	25300	13700	13700	15500	-11.5
	<b>Group Total</b>	<b>425300</b>	<b>411300</b>	<b>405700</b>	<b>399700</b>	<b>401500</b>	<b>-1.43</b>
<b>E</b>	<b>SYNTH. DETERGENT INTERMEDIATE</b>						
1	LINEAR ALKYL BENZENE (LAB)	547400	544790	544790	544790	544790	-0.1

2	ETHYLENE OXIDE (EO)	140000	135000	135000	135000	135000	-0.9
	<b>Group Total</b>	<b>687400</b>	<b>679790</b>	<b>679790</b>	<b>679790</b>	<b>679790</b>	<b>-0.28</b>
<b>F</b>	<b>PERFORMANCE PLASTICS</b>						
1.	ABS RESINS	156000	210000	213000	199000	199000	6.3
2.	NYLON-6/ NYLON 6,6	28200	68500	83500	83500	83500	31.2
3.	POLYMETHYL METHACRYLATE (PMMA)	3500	3900	3900	3900	3900	2.7
4.	STYRENE ACRYLONITRILE (SAN)	148000	148000	167000	167000	167000	3.1
5.	PET Chips/Polyester Chips	2607660	2468500	2558550	2558550	2622550	0.1
	PTFE (TEFLON)	19800	20300	20300	20300	20300	0.6
	<b>Group Total</b>	<b>2963160</b>	<b>2919200</b>	<b>3046250</b>	<b>3032250</b>	<b>3096250</b>	<b>1.10</b>
<b>G</b>	<b>OLEFINS</b>						
1	BUTADIENE	433000	552000	552000	552000	552000	6.3
2	ETHYLENE	4446500	7147300	7147300	7147300	7147300	12.6
3	PROPYLENE	4803378	5190378	5190378	5190378	5190378	2.0
	<b>Group Total</b>	<b>9682878</b>	<b>12889678</b>	<b>12889678</b>	<b>12889678</b>	<b>12889678</b>	<b>7.41</b>
<b>H</b>	<b>AROMATICS</b>						
1	BENZENE	1566346	1721346	1884346	1884346	1884346	4.7
2	MIXED XYLENE	898333	898333	898333	898333	898333	0.0
3	ORTHOXYLENE	420000	420000	511000	511000	511000	5.0
4	TOLUENE	288268	288268	288268	288268	288268	0.0
5	PARAXYLENE (PX)	3131700	3131700	3821700	3821700	3821700	5.1
	<b>Group Total</b>	<b>6304647</b>	<b>6459647</b>	<b>7403647</b>	<b>7403647</b>	<b>7403647</b>	<b>4.10</b>
<b>I</b>	<b>OTHER PETRO-BASED CHEMICALS</b>						
1	DIETHYLENE GLYCOL	83304	132904	170904	170904	170904	19.7
2	DIACETONE ALCOHOL	9500	9500	9500	9500	9500	0.0
3	ETHYLENE DICHLORIDE	593200	593200	593200	593200	593200	0.0
4	BUTANOL	26000	26000	26000	176000	176000	61.3
5	2-ETHYL HEXANOL	55200	55200	55200	110200	110200	18.9
6	VINYL CHLORIDE MONOMER	541300	541300	541300	541300	541300	0.0
10	PROPYLENE OXIDE	36000	36000	51000	51000	51000	9.1
11	PROPYLENE GLYCOL	20000	20000	22000	22000	22000	2.4
12	POLYVINYL ACETATE RESIN	17340	17340	12000	12000	12000	-8.8
13	UNSATURATED POLYESTER RESIN	0	34000	34000	34000	34000	-
14	METHYL METHACRYLATE	4375	4375	4375	4375	4375	0.0
15	ISO-BUTANOL	2800	2800	2800	9800	9800	36.8
16	C4-RAFFINATE	291600	291600	291600	291600	291600	0.0

17	PHTHALIC ANHYDRIDE	349046	401906	401906	401906	401906	3.6
18	VINYL ACTATE MONOMER	30000	30000	30000	30000	30000	0.0
19	ISOPROPANOL	70200	70200	70200	70200	70200	0.0
20	POLYOL	141628	146762	142027	148527	163027	3.6
21	<b>Group Total</b>	<b>2271493</b>	<b>2413087</b>	<b>2458012</b>	<b>2676512</b>	<b>2691012</b>	<b>4.33</b>
	<b>TOTAL PC (In MT)</b>	<b>42076704</b>	<b>48933311</b>	<b>50438760</b>	<b>50612396</b>	<b>50779096</b>	<b>4.81</b>

## Annexure-II

	Product	2018-19	2019-20	2020-21	2021-22	2022-23
<i>Figures in MT</i>						
<b>A : Production of major Chemicals products (Product-wise) from 2018-19 to 2022-23</b>						
<b>ALKALI CHEMICALS</b>						
1.	SODA ASH	3048187	3069431	2638117	3078901	3219315
2.	CAUSTIC SODA	2925352	3136937	2964078	3462771	3604471
3.	LIQUID CHLORINE	2069111	2250429	2174264	2499329	2668849
	<b>Total</b>	<b>8042650</b>	<b>8456797</b>	<b>7776459</b>	<b>9041001</b>	<b>9492635</b>
<b>INORGANIC CHEMICALS</b>						
1.	ALUMINIUM FLUORIDE	5697	5050	3698	8909	5307
2.	CALCIUM CARBIDE	83170	81339	86778	98618	83437
3.	CARBON BLACK	546390	500146	384780	456487	447003
4.	POTASSIUM CHLORATE	703	16178	17079	17678	14233
5.	SODIUM CHLORATE	0	0	17917	21144	23210
6.	TITANIUM DIOXIDE	57059	49487	51222	56957	46811
7.	RED PHOSPHORUS	1029	1030	1066	1146	1170
8.	HYDROGEN PEROXIDE	156453	122839	139904	143488	184366
9.	POTASSIUM IODATE	0	564	542	579	507
10.	CALCIUM CARBONATE	213329	286833	274791	246775	252382
	<b>Total</b>	<b>1063830</b>	<b>1063466</b>	<b>977777</b>	<b>1051781</b>	<b>1058426</b>
<b>ORGANIC CHEMICALS</b>						

1.	ACETIC ACID	153801	167856	154755	166590	165488
2.	ACETIC ANHYDRIDE	95471	74149	75088	78425	97851
3.	ACETONE	40740	36268	39034	36115	33987
4.	PHENOL	65394	57850	61272	58156	54980
5.	METHANOL	271929	176046	234026	167714	69268
6.	FORMALDEHYDE	226610	260413	244660	293071	301056
7.	NITROBENZENE	68804	61138	76092	82846	64466
8.	MALEIC ANHYDRIDE	4557	5024	5382	6328	6905
9.	PENTAERYTHRITOL	14990	15210	11652	16334	15594
10.	ANILINE	37852	25437	33529	39662	22165
11.	CHLORO METHANES	285531	296909	326952	340820	411558
12.	ISOBUTYLBENZENE	9699	9441	12719	8520	9603
13.	ONCB	23696	19836	23269	26686	27076
14.	PNCB	36073	31903	38885	43710	46193
15.	MEK	6995	9834	8001	8850	8348
16.	ACETALDEHYDE	61890	77102	55965	72512	77697
17.	ETHANOLAMINES	16703	15390	16703	20976	19685
18.	ETHYL ACETATE	440563	473392	453127	445434	438343
19.	MENTHOL	6239	7444	7482	10299	6357
20.	ORTHO NITRO TOLUENE	16886	25975	27672	29948	34895
	<b>Total</b>	<b>1884423</b>	<b>1846617</b>	<b>1906265</b>	<b>1952996</b>	<b>1911515</b>
<b>PESTICIDES AND INSECTICIDES</b>						
1.	D.D.T.	1366	1103	569	658	279
2.	MALATHION	4390	3793	3838	3286	2837
3.	DIMETHOATE	1257	1446	1452	1391	1014



4.	D.D.V.P.	9136	0	935	422	42
5.	QUINALPHOS	885	856	1056	2454	601
6.	MONOCROTOPHOS	5298	5817	7917	7487	5100
7.	PHORATE	5847	0	0	0	0
8.	ETHION	1318	2127	2220	2794	2333
9.	FENVALERATE	695	670	493	678	502
10.	CYPERMETHRIN	10952	10865	12291	16480	10883
11.	ACEPHATE	19633	21081	29588	29556	33387
12.	CHLORPYRIPHOS	7143	6496	8529	7620	8454
13.	TRIAZOPHOS	886	0	0	0	0
14.	TEMEPHOS	77	148	148	0	64
15.	DELTAMETHRIN	682	685	590	707	740
16.	ALPHAMETHRIN	344	438	536	506	488
17.	PROFENOFOS TECHNICAL	12452	12361	16080	16247	16099
18.	PRETILACHLOR TECHNICAL	3626	3066	3587	3218	3455
19.	LAMBDA CYHALOTHRIN	622	2297	1677	2696	3099
20.	PHENTHOATE	1534	1408	1349	1830	1797
21.	PERMETHRIN TECH	1860	1222	1656	2485	3584
22.	IMIDACALOPRID TECH	100	20	29	26	1
23.	CAPTAN & CAPTAFOL	1931	1462	1463	1897	1634
24.	ZIRAM(THIO BARBAMATE)	763	634	881	673	587
25.	CARBENDZIM(BAVISTIN)	21	0	0	0	0
26.	MANCOZAB	69331	60880	97428	118667	83615
27.	HEXACONAZOLE	501	753	809	1279	614

28.	METCONAZOLE	336	207	200	190	347
29.	2, 4-D	24236	22555	27050	39996	41962
30.	ETHOFUMESATE TECHNICAL	1042	792	433	732	892
31.	THIAMETHOXAM TECHNICAL	5569	6152	5211	6562	6425
32.	PENDIMETHALIN	2822	2753	3639	4764	4674
33.	METRIBUZIN	1919	2648	3191	1999	2336
34.	TRICLOPYR ACID TECH	125	132	0	380	169
35.	GLYPHOSATE	6684	5911	6129	5722	4697
36.	DIURON	3618	3397	3423	2325	3501
37.	ATRAZIN	1477	1730	1611	1689	3063
38.	ZINC PHOSPHIDE	1260	1316	1468	2019	1488
39.	ALUMINIUM PHOSPHIDE	4913	4914	7614	9904	7367
40.	DICOFOL	52	10	0	0	0
41.	Total	216703	192145	255090	299339	258130
<b>DYES AND PIGMENTS</b>						
1.	AZO DYES	9049	8540	6624	9146	7646
2.	ACID DIRECT DYES(OTHER THAN AZO)	24126	22748	20224	23973	21161
3.	DISPERSE DYES	55242	61942	51790	65940	60431
4.	OIL SOLUBLE (SOLVENT DYES)	2291	2413	441	673	473
5.	OPTICAL WHITENING AGENTS	29303	20741	18175	22544	16767
6.	ORGANIC PIGMENT	73935	75082	67274	74335	55595
7.	PIGMENT EMULSION	9777	9685	8596	9310	8320
8.	REACTIVE DYES	151384	156710	132127	161940	117213
9.	SULPHUR DYES (SULPHUR BLACK)	7541	7445	5094	8583	10683
10.	VAT DYES	1779	2126	1986	2320	2442

11.	SOLUBILISED VAT DYES	4	0	0	0	0
12.	FOOD COLOURS	786	671	493	705	919
13.	OTHER DYES	0	0	0	0	0
14.	INORGANIC PIGMENTS	16288	16121	14637	18551	16408
	<b>Total</b>	<b>381505</b>	<b>384224</b>	<b>327461</b>	<b>398020</b>	<b>318058</b>
	<b>Total production of chemicals</b>	<b>11589111</b>	<b>11943249</b>	<b>11243052</b>	<b>12743137</b>	<b>13038764</b>

SYNTHETIC FIBRE						
	Product	2018-19	2019-20	2020-21	2021-22	2022-23
<b>B: Production of major Petro chemicals products (Product-wise) from 2018-19 to 2022-23</b>						
<b>Figures in MT</b>						
1.	ACRYLIC FIBRE	99454	102904	77016	66683	96154
2.	POLYESTER STAPLE FIBREFILL	52993	49888	40296	39041	34134
3.	NYLON FILAMENT YARN	46615	48290	33270	46189	44111
4.	NYLON INDUSTRIAL YARN/TYRE CORD	109545	99749	90289	115474	100607
5.	POLYESTER FILAMENT YARN	2316430	2520331	1997927	2560793	2486480
6.	POLYESTER STAPLE FIBRE	931440	1027492	909382	1160484	1161022
7.	POLYPROPYLENE FILAMENT YARN	2356	2516	2168	2805	1923
8.	POLYPROPYLENE STAPLE FIBRE	20744	18815	15336	21246	22231
9.	POLYSTER INDUSTRIAL YARN	14826	14730	12361	14387	13557
10.	Elastomeric/Spandex Filament Yarn	7077	8063	6600	12904	12330
	<b>Total</b>	<b>3601480</b>	<b>3892778</b>	<b>3184645</b>	<b>4040006</b>	<b>3972549</b>
FIBRE INTERMEDIATE						
	Product	2018-19	2019-20	2020-21	2021-22	2022-23
1.	CAPROLACTUM	92561	84062	80405	108166	129636
2.	MONO EHYLENE GLYCOL	1159759	2007778	1981983	1990162	1656197
3.	PURIFIED TEREPHTHALIC ACID	3404929	3267071	2996760	3383342	3202201
	<b>Total</b>	<b>4657249</b>	<b>5358911</b>	<b>5059148</b>	<b>5481670</b>	<b>4988034</b>
POLYMERS						

	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	LOW DENSITY POLYETHYLENE	193051	613287	616613	583038	625090
2.	HIGH DENSITY POLYTHYLENE	1597676	1897566	1910043	1915766	1717898
3.	POLYESTYRENE	292857	291720	217447	247944	271678
4.	POLYPROPYLENE (INC. CO-POLYMER)	4779021	4982815	4919100	5240698	4773513
5.	EXPANDABLE POLYESTYRENE	108266	110683	87387	97220	108424
6.	POLY VINYL CHLORIDE	1488404	1513592	1434119	1471868	1565591
7.	LINEAR LOW DENSITY POLYTHYLENE	1581224	2994026	2958915	2914119	2424421
	<b>Total</b>	<b>10040499</b>	<b>12403689</b>	<b>12143624</b>	<b>12470653</b>	<b>11486615</b>
<b>SYNTHETIC RUBBER</b>						
	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	STYRENE BUTADIENE RUBBER	228641	227829	212909	237471	205389
2.	POLY BUTADIENE RUBBER	122226	130251	128547	132821	126109
3.	NITRILE BUTADIENE RUBBER	0	0	11881	12340	13358
	<b>Total</b>	<b>350867</b>	<b>358080</b>	<b>353337</b>	<b>382632</b>	<b>344856</b>
<b>SYNTHETIC DETERGENT INTERMEDIATES</b>						
	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	LINEAR ALKYL BENZENE	454822	413502	457072	462302	413161
2.	ETHYLENE OXIDE	232336	301181	279365	318086	289862
	<b>Total</b>	<b>687158</b>	<b>714683</b>	<b>736437</b>	<b>780388</b>	<b>703023</b>
<b>PERFORMANCE PLASTICS</b>						
	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	ABS RESIN	148181	136464	121939	122783	148937
2.	NYLON-6	20502	40844	55385	68332	68733
3.	STYRENE ACRYLONITRILE	131758	133785	118613	121747	139067
4.	NYLON 6,6	1022	728	0	0	0
5.	POLYESTER CHIPS/PET CHIPS	1271087	1344698	1208990	1365925	1254304
6.	POLYTETRAFLUOROETHYLENE(PTFE)	16236	15109	14638	18897	17324
	<b>Total</b>	<b>1588786</b>	<b>1671628</b>	<b>1519565</b>	<b>1697684</b>	<b>1628365</b>

**OLEFINS**

	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	BUTADIENE	385759	481014	458799	477402	429432
2.	ETHYLENE	3831890	6466753	6364888	6414520	5802613
3.	PROPYLENE	4639531	4887618	5215758	5635102	5064000
	<b>Total</b>	<b>8857180</b>	<b>11835385</b>	<b>12039445</b>	<b>12527024</b>	<b>11296045</b>

**AROMATICS**

	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	BENZENE	1414563	1346237	1407866	1427550	1156599
2.	MIXED XYLENE	249050	269626	146683	160867	45434
3.	ORTHO-XYLENE	406302	386391	522116	511150	408368
4.	TOLUENE	141139	140160	113985	115656	112502
5.	PARAXYLENE	3331811	2782330	2614213	2461944	1638872
	<b>Total</b>	<b>5542865</b>	<b>4924744</b>	<b>4804863</b>	<b>4677167</b>	<b>3361775</b>

**OTHER PETROCHEMICALS**

	<b>Product</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
1.	DIETHYLENE GLYCOL	107407	167735	172326	173713	141759
2.	DIACETONE ALCOHOL	4072	6042	2927	5660	3169
3.	ETHYLENE DICHLORIDE	339204	345294	326242	366955	398623
4.	BUTANOL	21693	16440	20285	38286	42426
5.	2-ETHYL HEXANOL	58892	48748	49672	91261	90221
6.	VINYL CHLORIDE MONOMER	803618	874468	799219	813082	849305
7.	PBT	1292	6245	6086	7546	7927
8.	POLYCARBONATE	115	107	0	0	0
9.	PROPYLENE OXIDE	35122	34563	44416	49923	49233
10.	PROPYLENE GLYCOL	19129	19508	19705	20543	21323
11.	POLYVINYL ACETATE RESIN	0	0	2961	7345	9539
12.	UNSATURATED POLYESTER RESIN	0	16435	12879	16547	19007

13.	METHYL METHACRYLATE	3994	1707	0	0	0
14.	ISO-BUTANOL	2206	1712	2071	3969	5784
15.	C4-RAFFINATE	380257	413331	433417	444565	393521
16.	PHTHALIC ANHYDRIDE	275068	269641	292964	339617	330155
17.	ISOPROPANOL	58266	60505	55314	65127	48781
18.	POLYOL	82129	81752	77831	87154	99834
	Total	2192464	2364233	2318315	2531293	2510607
	<b>Total production of Petro chemical</b>	<b>37518548</b>	<b>43524131</b>	<b>42159379</b>	<b>44588517</b>	<b>40291869</b>

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