

Sr. No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.1	<b>Acid Mixing Section.</b>		
8.2.1.1	Acid Mixer, Vertical, Cylindrical, 3000 Ø x 3400 H, Capacity 18,700 ltrs. along with Agitator and accessories.	SS 316	1
8.2.1.2	MCB Tank, Vertical, Cylindrical, 3000 Ø x 3400 ht x 6 mm with flat bottom, Capacity 24,000 ltrs.	MS	1
8.2.1.3	Conc. Sulphuric Acid Storage Tank, Vertical, Cylindrical, 3300 Ø x 3950 H, Capacity 33,000 ltrs.	MS	2
8.2.1.4	Conc. Nitric Acid Storage Tank, Vertical, Cylindrical, 4000 Ø x 4,800 H, Capacity 60,000 ltrs.	SS 304 L	1
8.2.1.5	Spent Acid Storage Tank, Vertical, Cylindrical, 3300 Ø x 3950 H, Capacity 33,000 ltrs.	MS	1
8.2.1.6	Conc. sulphuric Acid Measuring Tank, Vertical, Cylindrical, 1300 Ø x 2250 H, Capacity 3,000 ltrs	MS	1



Sr. No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.1.7	Conc. Nitric Acid Measuring Tank, Vertical, Cylindrical, 1500 Ø x 2750 H, Capacity 4,800 ltrs.	SS 316	1
8.2.1.8	Spent acid Measuring Tank, Capacity 12,000 ltrs.	MS	1
8.2.1.9	Cooling Water Spray Tank, Square type, Capacity 2000 ltrs	MS	1
8.2.2	<b>Nitration Section</b>		
8.2.2.01	Nitrator, Capacity 6,000 Ltrs. along with Agitator, 20 HP FLP Motor with cooling Coils having HTA 37M <sup>2</sup> and accessories.	SS 316L	4
8.2.2.02	Washer, Capacity 5,000 Ltrs. along with Agitator, 5 HP FLP Motor and accessories.	SS 316	4
8.2.2.03	Alkali Solution preparation Tank, Capacity 1,000 Ltrs. along with Agitator, 1 HP FLP Motor and accessories.	MS	1
8.2.2.04	Mixed Acid Measuring Tank, Vertical, Cylindrical with flat top & conical bottom, Capacity 5,000 Ltrs.	SS 316	4
8.2.2.05	MCB Measuring Tank, Vertical, Cylindrical with flat top & conical bottom, Capacity 3,000 Ltrs.	MS	2
8.2.2.06	Dryer with coil, Vertical, Cylindrical with Conical bottom, Capacity 3400 Ltrs. and provided with S.S. Coils HTA- 4 M <sup>2</sup> .	SS 316	4



No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.2.07	Spent Acid Intermediate Tank, Vertical, Cylindrical, Capacity 7,000 Ltrs.	SS 316	2
8.2.2.08	Wash Water settling Tank, Rectangular, size 3230 x 2230 x 1400 x 6 mm, Capacity 8,000 Ltrs. provided with heating coil HTA -10 M <sup>2</sup>	SS 316	2
8.2.2.09	Hot Water Tank, Horizontal, Cylindrical, capacity 15000 ltrs., provided with heating coil of U-tube bundle, HTA- 6 m <sup>2</sup> .	SS 304	1
8.2.2.10	Dosing Tank (Soda Ash), Vertical, Cylindrical with flat top, Capacity 1,000 Ltrs.	MS	1
8.2.2.11	Absorption Column, size 12 mtr. ht x 250 Ø, Capacity 2,700 Ltrs.	SS 316	1
8.2.2.12	Blower, Capacity 1800 NM <sup>3</sup> /hr	SS 316	1
8.2.2.13	Alkali Solution Tank for NOX gases	HDPE	1

8.2.3. **Crystallization Section**

8.2.3.01	Crystallizer Rectangular in sections, size 3500 x 2500 x 2710 ht, Capacity 18,700 Ltrs, provided with 42 nos. of 3 mm thick plates for chilling / cooling / heating and steam heating coils from outside.	SS 304 L	4
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No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.3.02	PNCB Product Tank, Horizontal, Cylindrical, having size 2500 Ø x 3500 L x 10 mm Capacity 10,000 Ltrs. along with U-Tube heating Coil, HTA- 5 M <sup>2</sup> .	MS	4
8.2.3.03	Eutectic Oil Tank having size 2050 Ø x 4500 L x 10 mm, Capacity 15,000 Ltrs. and provided with U-Tube Heating Coil HTA -6 M <sup>2</sup>	MS	4
8.2.3.04	Methanol Recovery Tank size 2050 Ø x 4500 L x 10 mm, Capacity 15,000 Ltrs. and provided with U-Tube Chilling Coil HTA - 5 M <sup>2</sup> .	MS	4
8.2.3.05	Heat Exchanger, Shell & Tube type, Shell size 300 Ø x 3000 L, HTA - 10 M <sup>2</sup> .	MS	4
8.2.3.06	Heat Exchanger, Shell & Tube type, HTA- 4 M <sup>2</sup> .	MS	4
8.2.3.07	Condenser, Shell & Tube type, having size 300 Ø x 3000 L, HTA 10- M <sup>2</sup>	MS	4
8.2.3.08	Condenser, Shell & Tube type, having size 400 Ø x 3000 L, HTA- 20 M <sup>2</sup> .	MS	4
8.2.3.09	Expansion Tank, Vertical, Cylindrical, having size 500 Ø x 500 ht x 6 mm, Capacity 100 ltrs	MS	4



Sr. No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.3.10	Dry Methanol Tank, Vertical, Cylindrical, having size 2100 Ø x 3500 ht, Capacity 12,000 Ltrs. along with U-tube bundle for chilling, HTA – 2 M <sup>2</sup>	MS	1
8.2.3.11	Flaker Feed Vessel, having size 2500 Ø x 3500 L x 10 mm thick, Capacity 10,000 Ltrs. along with U-tube bundle for heating, HTA – 5 M <sup>2</sup>	MS	1
8.2.3.12	Flaker having Drum, size 1120 Ø x 2700 L, surface area 8.4 M <sup>2</sup> Capacity 1200 kg/hr. along with accessories.	SS 316	1
8.2.3.13	Blower for Flaker, Capacity 10,000 M <sup>3</sup> /hr	MS	2
8.2.3.14	Dust Collection System	MS	1
8.2.3.15	Return Cooling Water Collection Tank with Pump, Capacity 1500 Ltrs.	MS	1
8.2.4.	<b>Distillation Section.</b>		
8.2.4.01	Distillation Column-I, having size 1220 Ø x 32922 ht x 8 mm packed with sulzer packing and accessories	SS 316	1
8.2.4.02	Distillation Column-II, having size 600 Ø x 26500 ht. x 8 mm packed with sulzer packing and accessories.	SS 316	1



Sr. No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.4.03	Distillation Column-III, having size 680 Ø x 11660 ht. x 8 mm, packed with sulzer packing and accessories.	SS 316	1
8.2.4.04	Filter – Duplex.	MS	2
8.2.4.05	Feed Pre-heater, having size 291 Ø x 3000 L, HTA - 5.75 M <sup>2</sup> .	MS	1
8.2.4.06	Bottom Product Cooler, HTA – 10 M <sup>2</sup> .	SS	1
8.2.4.07	Top Product Cooler	MS	1
8.2.4.08	Re-boiler, having size 1220 ID x 2950 L x 8 mm, HTA 133 M <sup>2</sup> along with expansion bellow.	MS	1
8.2.4.09	Re-boiler, having size 650 ID x 3040 L x 8 mm, HTA 32 M <sup>2</sup> along with expansion bellow	MS	1
8.2.4.10	Re-boiler, having size 1910 ID x 1940 L x 8 mm, HTA 17.5 M <sup>2</sup>	MS	1
8.2.4.11	Top Condenser, having size 1220 ID x 2610 L x 8, HTA - 96 M <sup>2</sup>	SS 316	1
8.2.4.12	Top Condenser, having size 620 ID X 2554 L X 6 mm, HTA- 24 M <sup>2</sup>	SS 316	1
8.2.4.13	Top Condenser, having size 480 ID x 2500 L x 5, HTA - 13 M <sup>2</sup>	SS 316	1



No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.4.14	Steam Generation Drum 2000 Ø x 4128 ht x 10 mm thick, capacity 11,800 ltrs.	MS	1
8.2.4.15	Cold Traps for column – I, HTA - 9 M <sup>2</sup>	SS 316	2
8.2.4.16	Cold Traps for Column – II, HTA - 2.5 M <sup>2</sup>	SS 316	2
8.2.4.17	Entertainment Trap having size 500Ø x 900 ht x 5 mm thick with MS Jacket	SS	3
8.2.4.18	Condenser, HTA – 7.6 M <sup>2</sup>	SS 316	1
8.2.4.19	Ejector System along with cooler.	Graphite	4
8.2.4.20	ONCB Tank, Capacity 15,000 Ltrs.	MS	1
8.2.4.21	Residue Tank, Vertical, Cylindrical provided with Jacket, Capacity 6,000 Ltrs.	MS	1
8.2.4.22	S.W. make up Tank, Capacity 3,500 Ltrs.	MS	1
8.2.5	<b>Tank Farm Area</b>		
8.2.5.01	Crude NCB Storage Tank, 3500 Ø x 4000 x 6 mm, Capacity 38,000 Ltrs. along with external heating coil, HTA – 5 M <sup>2</sup> .	MS	1

Sr. No	Name of the Equipment	Material of Construction	Qty. Nos.
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8.2.5.02	MCB Storage Tank, 5000Ø x 6500 x 6 mm, Capacity 127,000 Ltrs	MS	2
8.2.5.03	Nitric Acid Storage Tank, size 4000 Ø x 4800 x 5 mm, Capacity 75,000 Ltrs.	SS 304 L	1
8.2.5.04	Spent Acid Storage Tank, 4000 Ø x 4800 ht x 6mm along with 8 mm bottom, Capacity 75,000 Ltrs.	MS	2
8.2.5.05	E/O Storage Tank, 4000 Ø x 4800 ht x 6 mm with external heating coil, Capacity 75,000 Ltrs	MS	2
8.2.5.06	ONCB / PNCB / MNCB Storage Tank, 3500 Ø x 4000 ht X 6 MM along with external heating coil, HTA - 6 M <sup>2</sup>	MS	3
8.5.07	PNCB / ONCB Fraction Tank, 3500 Ø x 4000 ht x 6mm., along with external heating coil HTA - 6 M <sup>2</sup> .	MS	2
8.2.5.08	MNCB Fraction Tank having size 3500 Ø x 4000 L.	MS	1
8.2.5.09	Methanol Storage Tank, 2100 Ø x 3500 ht with flat top & bottom., Capacity 10,000 ltrs.	MS	1
8.2.6	<b>Equipment for MCB Plant.</b>		
8.2.6.01	Chlorine Header 3" NB Sch 80 Seamless MS Pipe with 8 nos. of Phosphor Bronze Needle valve.		Set





No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.6.02	Sludge Separator – Jacketed, size 350 NB x Sch. 80.	MS	1
8.2.6.03	Chlorine Evaporator, Bayonet Type size 450mm Ø x Sch 80 x 3048 mm long, Bayonet size 300mmØ x Sch 40 x 1834 long with 9.5 mm thick monel lining up to 762 length.		1
8.2.6.04	E.O.T. Crane, Capacity 2 Ton, Safex Electro Mech. Pvt. Ltd. make, Span 20 Mtr. with non flame proof 3 HP / 1440 rpm motors along with accessories.		1
8.2.6.05	Caustic Scrubber having size 450 mm Ø x 12 Mtr. lg x 5 mm thick packed with 20 mm ceramic interlox saddle up to 7 mtr. length along with accessories.	FRP	1
8.2.6.06	Caustic Storage Tank, Vertical, Cylindrical, size 2000 Ø x 3000 st. ht x 10 mm, capacity 10,000 ltrs.	HDPE	1
8.2.6.07	Blower for fume extraction system, Capacity 750 CFM along with 3 HP/1440 rpm motor, belt drive & accessories.	FRP	2
8.2.6.08	Chlorine Cylinder supports 300 x 900 x 16 mm thick.	MS	40




No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.6.09	Benzene Underground Tank, Horizontal, size 2500 Ø x 15000 lg. x 10 mm, Capacity 80,000 Ltrs, along with accessories.	MS	4
8.2.6.10	Benzene Day Tank, Horizontal, dished ends, capacity 36000 ltrs, with MS supports, size 2550 Ø x 8100 lg. x 8 mm along with accessories.	MS	1
8.2.6.11	Benzene drying System consisting of packed Tower, size 750 Ø x 3200 ht x 10 mm thick, packed with molecular sieve type 4A, 1.5 mm Ø, along with <ul style="list-style-type: none"> <li>• Steam Heater,</li> <li>• Nitrogen Chiller HAT 28.5 M<sup>2</sup>,</li> <li>• Nitrogen Cooler HTA 28M<sup>3</sup>.</li> <li>• Separator size 346 ID x 1090 ht 5 mm thick,</li> <li>• Electrical Heater, 9 KW Coil</li> <li>• Dump Tank, size 600 Ø x 1500 L</li> <li>• Twin Lobe Rotary Compressor, Capacity 110.27 CFM.</li> </ul>	MS	2
8.2.6.12	Benzene Feed Tank, Horizontal, size 1137 Ø x 2250 L x 6 mm, Capacity 2,000 Ltrs.	MS	1
8.2.6.13	Benzene Cooler, HTA - 5.8 M <sup>2</sup> ,	Graphite	1
8.2.6.14	Benzene Gas Liquid Separator, Capacity 1,600 Ltrs.	MS/ Lead lined	2



No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.6.15	Chlorinator having size 1200 Ø x 10,500 ht in 3 segments, with packing of rasching ring, Capacity 9,000 Ltrs.	MS/ Lead lined	2
8.2.6.16	Benzene Gas Liquid Separator, Capacity 532 Ltrs.	MS/ Lead lined	2
8.2.6.17	Chlorinator Bottom Cooler, HTA- 30.4 M <sup>2</sup> .	Graphite	2
8.2.6.18	Chlorinator Gases Condenser, HTA - 5.8 M <sup>2</sup>	Graphite	2
8.2.6.19	DCB Circulation Tank, Capacity 2,500 Ltrs.	MS/ Lead lined	1
8.2.6.20	HCL Benzene Scrubber in two segments, Capacity 635 Ltrs. size 450 Ø x 5000 L x 8 mm thick, packed with Ceramic saddles 20 mm size.	MS/ Lead lined	1
8.2.6.21	Crude MCB Storage Tank, Horizontal, size 7076 Lx 2116 Ø x 8 mm, Capacity 24,000 Ltrs.	MS / Carbon Lined	2
8.2.6.22	HCL Stripping column, size 524 ID x 8000 L. x 6 mm thick, capacity 1360 ltrs, having 7 segments, packed with ceramic saddles	MS / Carbon Lined.	2




Sr. No	Name of the Equipment	Material of Construction	Total Value in Rs.
8.2.6.23	HCL Stripper Re-boiler, size 500 Ø x 6 mm with outside U-tube bundle, HTA - 5 M <sup>2</sup> .	MS	2
8.2.6.24	HCL Reflux Condenser along with Glass Separator. HTA - 24.32 m <sup>2</sup>	Graphite	2
8.2.6.25	Benzene Distillation Column, size 1100 x 18,892 L x 10 mm thick, packed with bubble cup trays - 25 nos.	MS	1
8.2.6.26	Benzene Distillation Reboiler, shell 1000 Ø x 1950 L x 6 mm with U-tube bundle, HTA - 22 M <sup>2</sup>	MS	1
8.2.6.27	Benzene Condenser, HTA-26.2 M <sup>2</sup>	MS	1
8.2.6.28	Benzene Vent Condenser, HTA - 0.98 M <sup>2</sup>	Graphite	1
8.2.6.29	Benzene Product Cooler, HTA 5.8 M <sup>2</sup>	Graphite	1
8.2.6.30	Benzene Accumulator, Capacity 200 Ltrs.	MS	1
8.2.6.31	MCB Distillation Column, size 700 Ø x 21110 L x 8 mm with six segments packed with bubble cap trays.	MS	1
8.2.6.32	MCB Distillation Reboiler, shell 800 Ø x 1950 L x 6 mm along with U-tube bundle, HTA 14 M <sup>2</sup>	MS	1



No	Name of the Equipment	Material of Construction	Total Value in Rs.
8.2.6.33	MCB Condenser, shell 300 NB Sch 40 x 2986 L along with U-tube bundle, HTA 10 M <sup>2</sup>	MS	1
8.2.6.34	MCB Vent Condenser, HTA -1 M <sup>2</sup>	MS	1
8.2.6.35	MCB Product Cooler, Shell 300 Ø x 2948 L x Sch. 40 pipe along with tube bundle, HTA - 5.7 M <sup>2</sup>	MS	1
8.2.6.36	MCB Accumulator, Capacity 200 Ltrs.	MS	1
8.2.6.37	MCB Storage Tanks, Vertical, Cylindrical, 3000 Ø x 4500 ht x 6 mm, with flat bottom and conical top, Capacity 31,800 Ltrs..	MS	2
8.2.6.38	Pure DCB Storage Tank, Vertical, Cylindrical, 2900 Ø x 3625 ht x 6 mm, Capacity 24,000 Ltrs. along with U-tube bundle for heating, HTA -5 M <sup>2</sup> .	MS	1
8.2.6.39	Crude DCB Tank, Vertical, Cylindrical, 2650 Ø x 3300 L x 6 mm thick, Capacity 18,000 Ltrs.	MS	1
8.2.6.40	DCB Distillation Column, 350 Ø x 10860 ht x 8 mm, shell packed with ceramic saddles.	MS	1
8.2.6.41	DCB Distillation Re-boiler, Shell 2200 Ø x 8 mm with U-tube bundle for heating HTA -5 M <sup>2</sup> .	MS	1

*[Handwritten Signature]*



No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.6.42	DCB Condenser, HTA - 5 M <sup>2</sup> .	MS	1
8.2.6.43	DCB Accumulator, Capacity 200 Ltrs.	MS	1
8.2.6.44	MCB Distillation Holding Tank, Capacity 200 Ltrs.	MS	1
8.2.6.45	MCB +DCB Cooler, HTA - 5 M <sup>2</sup>	MS	1
8.2.6.46	HCL Absorption System	Graphite	1
8.2.6.47	Ejector System.	Graphite	1
8.2.6.48	Water Circulation Tank, Capacity 5,000 Ltrs.	HDPE	1
8.2.6.49	Bottom Benzene HCL Separator, Capacity 200 Ltrs.	Glass	2
8.2.6.50	Benzene Accumulator, Capacity 1,000 Ltrs.	HDPE	1
8.2.6.51	Liquid - Liquid Separator, Capacity 200 Ltrs.	Glass	2
8.2.6.52	Caustic Dryer	MS	2
8.2.6.53	HCL Holding Vessel, Capacity 2,000 Ltrs.	HDPE/ FRP	1
8.2.6.54	HCL Storage Tanks, Capacity 15,000 Ltrs.	HDPE	1
8.2.6.55	HCL Storage Tanks, Capacity 25,000 Ltrs.	HDPE	1



Sr. No	Name of the Equipment	Material of Construction	Total Value in Rs.
8.2.6.56	HCL Storage Tanks, Capacity 40,000 Ltrs.	PP/ FRP	2
8.2.6.57	Lye Storage Tank, Vertical, Cylindrical, with flat bottom and conical top, size 2920 Ø x 3380 ht x 6 mm, Capacity 20,000 ltrs	MS	1
8.2.6.58	Benzene underground Storage Tank, Capacity 80,000 Ltrs.	MS	4
8.2.7	<b>ONCB Recovery Plant.</b>		
8.2.7.1	DNCB Measuring / Holding Tank, having size 1300 ID x 1500 ht x 12 mm thick, Capacity 2,500 Ltrs..	MS	1
8.2.7.2	DNCB Reactor with Agitator, having size 2000 ID x 1600 ht x 12 mm, Jacketed, Capacity 5,000 Ltrs.	MS	1
8.2.7.3	Receiver having size 1300 ID x 1600 L x 8 mm, Capacity 2,500 Ltrs.	MS	1
8.2.7.4	Nutsch Filter, having size 2533 Ø x 500 x 8 mm, Capacity 2,500 Ltrs.	MS	1
8.2.8	<b>Utility Equipment.</b>		
8.2.8.01	Oil Fired Boiler, Capacity 3 Ton/hr., MR 12050/51, along with accessories. Supplied by Nestler Boilers		2



No	Name of the Equipment	Material of Construction	Qty. Nos.
8.2.8.02	Oil Fired Boiler, Capacity 5 Ton/hr, MR – 12048/49, along with accessories. Supplied by Nestler Boilers		2
8.2.8.03	Softeners, Capacity 35 M <sup>3</sup> /hr (max), Model S- 10015/D, along with accessories. Supplied by ION Exchange		2
8.2.8.04	Furnace Oil Storage Tank, Vertical with Flat Bottom & Conical Top, having size 4000 mm ID x 4800 ht x 6mm shell x 8 mm, bottom, Capacity 60,000 ltrs, provided with heating U-tube coil HTA 5 M <sup>2</sup> and coils at bottom.	MS	1
8.2.8.05	LDO Storage Tank, Vertical with Flat Bottom & Conical Top, having size 2250 mm ID x 3100 ht x 6mm shell x 8 mm bottom, Capacity 12,300 Ltrs.	MS	1
8.2.8.06	Furnace Oil Day Tank, Vertical in Square Section, having U-tube heating coil HTA 6 M <sup>2</sup> , size 2000 mm x 2000 x 1500 ht x 6mm, Capacity 6,000 ltrs.	MS	1
8.2.8.07	LDO Day Tank, vertical in square section, size 1000 x 1000 x 1200 mm x 6 mm plate, Capacity 1,200 ltrs	MS	1

