INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS, NEW DELHI-110016

Ref No:IITD/PLN05/BCHE/ Dated May 10, 2013

NOTICE INVITING QUOTATION

Sub: Purchase of Lab Furniture – Work benches, Sink, Fumehood

Sealed quotations in separate envelop of technical and commercial bid kept in a one sealed outer envelope are invited for purchase of lab furniture **e.g., Work Benches (wall and Island), Sink Table, Fumehood**" as per specifications given below. Your sealed quotation should reach latest by May 31, 2013 to **HOD, Chemical Eng. Dept. (II/278), Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016**. Your quotation should be superscribed 'Quotation for Lab Furniture**'** dated.

Items:

1. 6 numbers of Wall bench table of 750 mm depth x 850/900 mm height x 2000 mm length with reagent rank/SPO, with Ele fitting (With Leg Space, Key Board Drawer, Bench mounted Electrical Duct and Electrical Fittings)
2. 2 numbers of Wall bench table of 750 mm depth x 850/900 mm height x 3000 mm length with reagent rank/SPO, with Ele fitting (With Leg Space, Key Board Drawer, Bench mounted Electrical Duct and Electrical Fittings)
3. 2 numbers of Wall bench table with wall cabinet of 750 mm depth x 850/900 mm height x 3000 mm length with reagent rank/SPO, with Ele fitting (With Leg Space, Key Board Drawer, Bench mounted Electrical Duct and Electrical Fittings)
4. 2 numbers of Island Bench table 1500 mm depth x 850/900 mm height x 3000 mm length with regaent rack/SPO, with Ele fitting (Plinth Mounted System. PENINSULAR / ISLAND BENCH TYPICAL UNIT Without C Frame – with Sink (for one bench), Mixer Valve, Peg board, Service Panel and Electrical Fittings
5. 2 numbers of sink table 750 mm depth x 850/900 mm height x 1000 mm length with PP sink, 1 way water valve
6. One bench type constant exhaust fume hood of 1500 mm length x 950 mm depth x 2250 mm height having 3 services, 3 Ele fitting, granite work surface, damper, 10 m duct and exhaust blower. The unit should be connected to one localised spot fume extractor
7. one standard floor mounted storage for glass wares and chemicals
8. Safety shower for eye wash cum body wash – fitted to one of the sink table.
   Optional item
9. One blue safety cabinet for corrosives

Note the requirement is worked out based on the availability of space in the lab.

Please see detailed specs and vendor qualification in the enclosed pages.

Terms & Conditions:

1. Please see vendor qualification very carefully.
2. The quotations must have validity of at least three months.
3. Quotation must include insurance and freight charges, delivery period of the items addresses to Department of Chemical Engineering, Indian Institute of Technology Delhi, New Delhi -110016, India.
4. The products will be used for educational purposes. Any applicable academic institution discounts should be offered and stated.
5. Detailed Brochures should accompany the offer.
6. If the bidder is an authorized dealer then the authorized Indian dealership certificate from the principles should be enclosed.

7. Warranty details must be given.
8. Payment will be through bank transfer after delivery.
9. In case the items are proprietary products of the company, a proprietary item certificate stating the same must be provided.
10. Institute reserves the right to accept or reject any or all the quotations without assigning reasons thereof

Chairman PFC

VENDOR QUALIFICATIONS IMPORTANT REQUIREMENT

1 This being a prestigious project, we invite the vendors, who are manufacturers of the laboratory furniture and Fume hoods and observing ISO / international standards of Quality for participating the tender.

2 Manufacturer should have ISO-9001-2008, ISO-14001-2004, OHSAS 180012007 certification / certified company and should have SEFA Membership now.

3 Manufacturers should have their own modern and sophisticated manufacturing facility having strict quality checks at every level.

4 Manufacturer should have in house / own Fume Hood Performance Test Lab – ASHRAE-110 [Tested under American Guidelines] and should provide ASHRAE-110 Test Certificate for Fume Hoods.

5 The product shall be tested in the Manufacturer's own test facility for its evaluation and should achieve a rating of 4.0 AM 0.1 PPM when subject to testing as per ASHRAE –110-1995 (USA standards).

6 All metal components / parts are supposed to be pre-treated (with premium chemicals and DM water) and minimum 60 micron Epoxy Polyester Powder Coated with automatic robotic spray gun system.

7 The vendor will be selected on the basis of the credential and eligibility conditions provided in the technical part. Price bids of the successful bidders who have qualified in the Technical part will only be opened.

8 The vendor should be Lab Furniture manufacturing since last 10 Years to prove their standing in the market, experience and quality supply.

9 We reserve the right of selection of party based on the technical credentials and resourcefulness and only being lowest bidder, may not be the absolute criterion for selection. We reserve the right to have our own assessment for their manufacturing facilities, Test Facilities, past executed order performance evaluation to consider the supplier/vendor.

S.N	Supprting Documents to Tech. Bid		Yes / No (requirement)
1	**Tender Documents**	Copy duly signed and stamped by Vendor	yes
2	**PLAN LAYOUT DRGS / Ref Drgs**	Copy duly signed and stamped by Vendor	optional
3	**Itemwise GA Drgs**	Copy duly signed and stamped by Vendor	yes
4	**Tender Tech Specifications**	Copy duly signed and stamped by Vendor	yes
		Specifying deviations if any	
5	**Technical Bid Annexture**	Copy duly signed and stamped by Vendor	yes
6	**Manufacturing License**		yes
7	**Enterpreneurs Memorandum No**		
8	**Sales Tax Registration Certificate**		yes
9	**CST Return Acknowledgement**		yes
	for last one year		
10	**VAT Return Acknowledgement**		yes
	for last one year		
11	**Literature / Catalogues / DVD**		yes
12	**Company Certifications for Vendor Qualifications**		
	A	**ISO 9001-2008 Certificate**	yes
	B	**ISO 14001-2004 Certificate**	yes
	C	**OHSAS 18001-2007 Certificate**	yes
	D	**SEFA Membership Certification**	yes
13	**List of Customers with e-mail/Tel**		yes
	For Vendor Qualification		
14	**Vendor Capabilities for execution of High Value Order**		
	Copy of Single Order of minimum value of Rs. 6 Crore for a period upto 31.12.2012 only for lab Furniture and Fume Hoods		yes
	only for lab Furniture and Fume Hoods List of minimum 3 nos orders of value 2 crore or above each only for lab furniture and fume hoods		yes

15	**Turnover /Capabilities of Organisation**	**P & L A/C Sheet to be attached**	yes
	Turnover of last Three Years	**Minimum 10 Crore for each year**	yes
	A	**Year 2011-12**	
	B	**Year 2010-11**	
	C	**Year 2009-10 Year 2008-09 Year 2007-08**	
16	**Company's PAN No**		yes
17	**Company's TAN No**		yes
18	**IEC Code No**		yes
19	**Service Tax Registation Certificate**		yes
20	**Central Excise Registration Certificate**		yes
21	**Company Profile**		yes
22	**Certificate of Incorporation**		
23	**Memorandum of Articles**		
24	**Any other Certificates / Documents supporting for qualifications**		

SCOPE OF SUPPLY AND TERMINATION POINTS

1. **Power Connection:-**Power supply of suitable capacity will be provided by Customer at the end of each table on which power points / sockets are provided. For fume hoods, power supply will be provided at the top/rear side of hood where junction box is located. Internal wiring within the tables or fume hoods shall be in supplier scope from the junction Box.

2. **Gas distribution system:-** Necessary service lines for GDS will be provided on rear side of the fume hood with suitable outlet fittings. For work benches, the lines shall be extended up to bottom of the work tables by purchaser. Necessary connection with service valves through flexible tubing shall be supplies.

3. **Drain piping:-** Drain outlet shall be provided by customer at each required point (below sink). A flexible connection between sink outlet and drain point will be supplier scope.

4. **Scope of Supply: -** As per BOQ and specifications mentioned in the tender.

5. Civil Works – All civil work shall be in scope of customer

TECHNICAL SPECIFICATIONS FOR LABORATORY FURNITURE, FUME HOOD & ACCESSORIES

GENERAL

The supplier should maintain the following material of construction, manufacturing process, dimensions as per attached GA Drg/ Sketch / Item list for Lab and Office Furniture.

Description:

The laboratory furniture should be modular in design, made of mainly G.I. / CRCA Steel in panel form to get the best and full coverage of powder coating and in CKD – (Completely Knocked Down) construction so can be erected at site as per approved layout.

Supply of Laboratory Modular Furniture includes Frame Structure with height adjustable legs, each storage module UDL carrying capacity of 450 Kgs per square meter area when erected with Work Top/ Surface.

Welded construction of Cabinets is also acceptable when powder coating is properly done.

Ergonomics:

The furniture should be designed for Lab Benches / Tables of height 900 mm for standing posture and 750 mm for sitting posture.

Laboratory Work bench comprises of following components

1. Storage Cabinets:

A complete modular type storage cabinet consists of cabinet sides, top, bottom, shelf, Drawer, Cover Panels, Double wall construction shutter and Drawer Fronts, slides, handles and Hinges.

Shelves & Drawers:

G.I. / CRCA Shelves should have a uniformly load carrying capacity of 30 kg. The overall load carrying capacity is 60 kg of UDL (30 kgs. on each shelf and 30kgs. on bottom). The overall load carrying capacity of drawer should be of 20 kgs. of UDL for a pair of ball slide for 450 and 600 mm size Drawers and 30 Kgs for a pair of Telescopic Glides for 750 mm and 900 mm size. All glides can be telescopic as per manufacturer's design.

Handles:

S.S. 316 matt finish Handles of D Type 96 x 8 mm size required.

Shutters & Drawers:

Metal shutters & Drawer Fronts should be in colors combination as approved by Indentor. The steel frames, panels & shutters should be made from Prime Quality CRCA – Cold Rolled Cold annealed Steel sheets / G.I. – Galvanised Iron Steel sheets.

Hinges

HAFELLE / Mepla/ Hettich or Equivalent make self-closing 95 Degree opening hinges should be used with special coating called CED (Cathode Electro-Deposition) which ensures very high corrosion resistance.

Powder Coating

The thickness of powder coat should be of 50-70microns, which should passes the test of salt spray for 1000hours and should having the scratch hardness of 3Kgs.

TECHNICAL SPECIFICATION FOR LABORATORY BENCH COMPONENTS

A) Plinth mounted system:

General Description:

These are Laboratory Work Stations available in 2 heights of 900mm and 750mm in metallic Construction designed to have completely flexible modular system. Each module will have indep endent base frame. Necessary leg space will be provided between two modules wherever required. Rear portion of theleg space will be covered with the enclosure panel. Work table shall consist of;

Under bench cabinet: In GI / CRCA construction, duly finished with epoxy powder coating, front panelof the cabinet door and drawer shall be in double skin construction. Door hinges will be in SS construction of HAFELLE/ Mapla/Hettich Make. Shutter will have 95°opening. Cabinet will be provided with one shelf. Drawer rails will have the rollers in nylon construction with sealed ball bearing. All fasteners shall be in nickel plated steel /SS construction. Handles shall be in SS 304 construction in D type design. All Modules shall be availableindifferentoptions suchas, module with shutter, module with one shutter/one drawer or all drawers.

Detailed Specifications and thickness of GI / CRCA items in each module:

Cabinet end panels; min. 0.8 mm Thick sheet
Cabinet rear panel and top panel;min. 1.0 mm thick sheet
Cabinet base skid; 1.0 thick Sheet
Cabinet drawers; 1.0 thick Sheet

- Cabinet shutters & drawer front panels; double skin const, min 1 mm thick sheet
-Cabinet mainframe structure and drawer slide rails, 1.6mm thick Sheet

PLINTH MOUNTED UNDER BENCH STORAGE CABINETS

Cabinet end panels; min. 0.8 mm Thick sheet
Cabinet rear panel and top panel;min. 1.0 mm thick sheet

Detailed Specifications and thickness of GI / CRCA items in each module:

Cabinet base skid; 1.0 thick Sheet
Cabinet drawers; 1.0 thick Sheet

- Cabinet shutters & drawer front panels; double skin const, min 1 mm thick sheet

-Cabinet mainframe structure and drawer slide rails, 1.6mm thick Sheet

Worktops:

18(±1mm) mm.thickhighqualitygraniteinjetblack colorswithedgeshaving roundchamfer of5 mmradius ontopside.Theoverhang ofgranite is 25mm at front side of understructure.

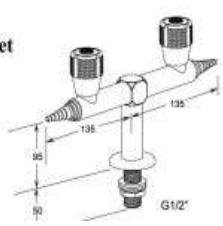
Reagent Rack: Worktop mounted reagent rack in single or double tier design.
Vertical member and main bracket ofthe reagentrack shall be in of 0.9mm thick GI /CRCA co nstruction,dulyepoxycoatedfor excellent corrosion resistance. Rack platform shall be in GI / CRCA construction. 3 mm thick Neoprene rubber sheets should be provided on shelves for better corrosion resistance and safety for glass bottles.
Shelf height shall be adjustable as per requirement.

Service valves: Worktop mounted service valves in forgedbrass construction in one way or two way design for NG,CA &V. Valve knobs shall be in plastic construction, generally with color code as per DIN standard..

Burner gas	ISI Make rubber tube suitable for burı
Any other service	Suitable fitting with prior approval

Deck Mounted, Double Outlet Faucet at 180°

Handle: Ergonomic, high grade PP knob



Deck Mounted, Single Faucet

Handle: Ergonomic, high grade PP knob

Service Panels:

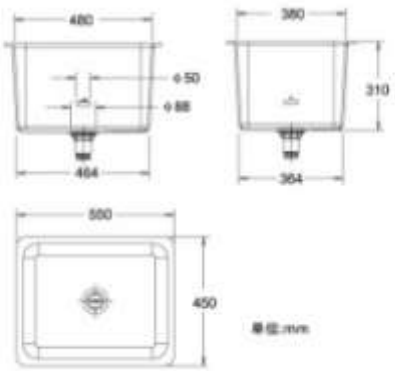
The service panels should carry all electrical fittings
Such as sockets and switches complete with internal wiring up to the battery limit. Fittings shall be mounted on
Rectangular Electrical Duct. Electrical Duct shall be 1mmthickGI/CRCA constructionwith epo xy powder coating and attached with Reagent shelf.

Each electrical module should consist of North-west /Norisys
or any reputed make as per approval.And MCB shall be ofMDS Legrand/L&T Haqer /Siemen s/ Havells or any other approved make.

1) 6/16 Amp 5 Pin socket – 230 V 2)
16 Amp Tiny Trip MCB Single Phase 230 V

PP Sink: 550 x 450 x 310 mm

PP Sink should be of in one piece of High Grade Polypropylene, Black colour with Matt Finish on lip. Sink should be resistant to scratch and most of chemicals, such as Aqua Regia, etc.. Overall size of sink shall be 550 mm L x 450 mm Width x 310 mm Depth (Bowl size: 480 mm L x 380 mm W x 300 mm Depth). Maxm Thickness to 7 mm. Sink should be with High Grade Stopper, Filter and bottom coupling.



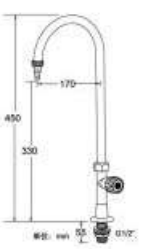
Water Faucet:
Sink unithas1Waywatertapmade upof BrassandwithEpoxy powder coatings. If 3way Water V alve is asked thenitwill have Double outlet fixedfaucets, one swanneck

360° turn type water faucet made up of Body- Solid Brass, Coating- High gloss epoxy powder resistant to most chemicals, UV Fading & heat, Ceramic headwork, 90 Degree turn, , detachable Nozzle, Bench mounted Valve with 1/2" BSP inlet pipe of 55 mm Length

Deck Mounted, Swing Gooseneck, Single Faucet

Handle: Ergonomic, high grade PP knob

Gooseneck spout: 360° swing



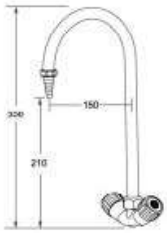
Mixing Valve [Hot and Cold Water]

Sink unit is also provided with 1Way watertap with Inlet ofHot Water andColdWater made up of Brass and with Epoxy powder coatings. one swan neck -360° turn type water faucet made up of Body- Solid Brass, Coating- High gloss epoxy powder resistant to most chemicals, UV Fading & heat, Ceramic headwork, 90 Degree turn, , detachable Nozzle, Bench mounted Valve with 1/2" BSP inlet pipe of 55 mm Length

Deck Mounted, Swing Gooseneck, Single Mixer

Handle: Ergonomic, high grade PP knob

Gooseneck spout: 360° swing



All valves and taps shall be provided with at least one meter long flexible tube inap propriate construction as mentioned below with suitable end

Floor Mounted Cabinets for Glassware Storage

Cabinet shall be fabricated out ofCRCA/G.I.Sheets and duly coated with epoxypowderfor good ae sthetics. Cabinet shall have recessed skid andadjustable shelves. Cabinetdoors shall be in double skin construction for proper strength and aesthetics. Necessary frame structure andhatsection st iffeners should be provided for strengtheninglargerpanels. Doors shall have properlocking arran gement.Dimensionand Constructionaldetails of the cabinet are furnished below. **General specifications Overall Dimensions:** W – 900mm x Depth – 570 mm x Height – 2100 mm **No. of Shelves**: - 5 shelves form 6 compartments. Shelves shall be adjustable in height.
Construction Detail:

End Panel, Rear panel, Top Panel & Bottom Panel: - 1.2 mm thick Sheet.
Front door: - 1.0 mm thick double skin Sheet const.
Door Fixing Frame: - 1.6 mm thick double skin / CRCA Pipe Frame const
Shelf: - 1.2 mm thick Galvanized Iron (zinc coated) Sheet.
Door Hinges: - In non ferrous const., zinc - Al alloy const. / SS Hinges
Door Handles: - SS 316 L / D const.

Thecabinetsshouldbesuitableformountingonwall.Thecabinetsshallbefabricatedout ofCRCA S heets / GI sheets. Cabinet should be provided with 1adjustable shelf. Properdesign, stiffenin g /structural members should be providedfor strength and rigidity.Frontdoorofthecabinets hallbeintwindoordesignhavingglasspanelwithmetallicframe in galvanized iron / anodized al uminum construction. Dimension andconstructional detail of the cabinetis furnished below.

General Specifications: Overall Dimensions:
W – 450 mm x Depth – 340 mm x Height –
W – 600 mm x Depth – 340 mm x Height –W –
750 mm x Depth – 340 mm x Height –W –
900 mm x Depth – 340 mm x Height –
No.of Shelves: 1 shelf; forming 2 compartments. Shelf should be adjustable inheight.

Construction Detail:
-Rear panel: - 0.8 mm Sheets.
-End Panel, Top Panel & Bottom Panel: - 1.0 mm thick Sheet.

-Front door: - 5 mm thick glasswith metallic frame / metallicdoors with locks.
-Shelf: - 1.2 mm thick. Sheet.
Door Hinges: - In non ferrousconst. / 95 Degree self closingtype
Door Handles: - SS 316 L / D const.

Work top mounted Hand held design Safety shower for Eye wash cum body wash with a sin gle/double, angular faucet and soft plastic cone.

FUME HOODS

1. BENCH TOP-AUTOBYPASS FUME HOOD

SPECIFICATIONS:

1 Fume Hood Body constructed from G.I. sheet High quality Tata /equivalent Make of Grade D of IS:513
2 Sash Frame of Stainless Steel -316
3 Ceiling Enclosures: G.I. sheet of minimum 1.25 mm thickness with powder coated on all sides
4 Sash : Toughened glass of 5 mm thickness
5 Sash cables: Stainless steel multi strands coated of 3mm with PVC sleeve
6 Sash Guides: Corrosion resistant PVC.
7 Pulley assembly for sash cable: 45mm diameter double grooved of white Nylon with ball bearings fitted with plastic snug fitted lid.
8 Sash Pull: Full width of extruded aluminum with corrosion resistant epoxy powder coating.
9 Fasteners: Interior fastening device shall be concealed. If head of metal fasteners are projecting inside shall be covered with plastic caps. The fasteners on exterior surface to be corrosion resistance of either steel with zinc plating or stainless steel depending on the demands of the service conditions.

Design Structure:
Aerodynamic, Floor mounted.

Airflow Type:
Automatic Bypass Type

Construction (Exterior):
Pure Epoxy powder coated 50-70micron on 18Gauge Galvanized steel with rigid structure.

Construction (Interior):

As specified in GA Drg / Sketch, all Bench Type Fume Hoods should have internal FRP lining with Vinyl Easter of Ivory shade and all Distillation Fume Hoods should have internal PP Lining of Natural White colour.

Baffle arrangement:
Removable baffle is fixed to ensure smooth and immediate exhaust of fumes.

Airfoil:
Fume Hood bottom Front is of aerodynamic design, FRP lined for Bench Hoods and for Distillation Hoods, it should be of suitable for application.

Worktop for Fume Hood:

Dished Jet Black Granite work surface for Fume Hoods:

18(±1mm) mm. thick high quality granite in jet black colors with Dished edges.

Sink, Water tap with drain arrangement:
Worktop should have oval shaped good quality 264 x 111 mm 'PP' Black Cup-Sink with outlet coupling and 1 Meter Long PVC Hose for drainage with water valve.

Vertical Rising Sash :

Vertical rising counter-balanced 'Toughened Float Glass' (5mm thick) should have Aluminum extruded aerodynamic Handle providing Smooth and light sash operation. Clear sash open height =750mm for Bench Hoods and 1100 mm for Distillation Hoods for initial set-up when there is no reaction otherwise it is recommended to use / operate by keeping vertical sash at lowest position for safe working and setting 0.5 m / sec +/-20% average Face Velocity.

Blower operation Timer system :

For each cluster, a timer system should be provided for night and weekend operation / working of Blower automatically at set interval for required period. It should have auto and manual setting system.

Service fittings:

Remotely operated colour coded (as per international norms) service valves with SS breaded flexible hose & brass fittings and spouts fitted on FH side. The Qty and Type of Valves are specified in GA Drg. They are for Raw Water, Chilled Water, Compressed Air, Argon

Lighting:

FLP light fittings with corrosion free enclosure should be provided for better illumination with less power consumption and vapour free sealing with glass

Electrical Utilities:

6/16 A SP electrical sockets & 16A MCB 'modular type and shall be of North West/ Norisys or Equivalent approved make.(230V, 50HZ) A soft touch button panel with main switch, NO-NC switch for blower for each cluster & tube light & Rocker switch with LED indication should be provided. DOL starter should be provided for blower motor for each cluster.

G.I. Scaffolding / Lattice :
All Fume Hoods should be provided with G.I. Scaffolding duly PU coated having 160 x 160 mm Pitch and of 12 mm Thick Rod. It should be of removable design.

Apparatus / Chemical Storage Base Cabinet:
Base cabinet should be provided to receive the fume hood at its top / provided below Fume Hood base Frame.

- Complete rigid steel structure to support Fume hood
- Epoxy Powder Coated attractive color combination
- Storage units with shutters and one fixed shelf and FRP / PP tray.
- Shutters of double skin with external Nylon / SS Hinges to avoid any internal corrosion.
- For Acid bottles / the complete cabinet should be coated with 3mm thick Fiber reinforced Vinyl ester .
- For Solvent bottles / the complete cabinet should be of 3mm thick PP .

Overall configuration for storage cabinets are shown in GA Drgs.

BFV / Damper:

To regulate airflow PP damper should be provided at the outlet of hood.

Testing:

All fume hoods should be "factory tested" for design as per ASHARE 110 and EN 14175. Also, "onside validation" for face velocity will be carried out to ensure working of fume hood as per international norms and should provide 05 m / sec +/- 20% average Face Velocity at 500 mm High vertical sash. Sufficient inlet air shall be provided for perfect ventilation by customer.

Spot extractor

Localised Fume Extractor of PP 75 mm Dia Pipes with 3 Nos universal Joints in Total 1500 mm Length having PC Dome of 375 mm Dia and Manual BFV / Damper in Pipe, 200 CMH exhaust capacity of each with Wall Mounting / Ceiling Mounting Bracket

Safety shower for eye wash cum body wash

Description:

Work top mounted Hand held design Safety shower for Eye wash cum body wash with a single/double, angular faucet and soft plastic cone.

Emergency Shower and Eye Wash unit Floor Mounted Open Type made of –SS-304

Yellow Cycolac shower head 250 Dia, Inlet size 25mm SS, SS Ball valve lever operated from inside, drain & fresh clean supply water connection by customer with 30 PSI -110 LPM. Eye / Face Wash Fountain - Mounted inside / outside of shower unit, having Handle Push to operate, ABS Atomiser with Pop-Off Covers, Water inlet 1/2 inch Ball Valve with 15mm inlet for water supply connection of 30 PSI & 110 LPM by customer, Drain size of 32 mm heavy GI / Flexible PVC to connect by customer, Bowl top normally mounted at 1050mm height.

Blue safety cabinet for corrosives

Capacity- Gallons- 45 / Liters – 170 Self closing Type 2 Doors
Imported USA Make Approved / Listing / Regulations - FM,N,O,U
External Dimensions- 65" Ht x 43" W x 18",1651 mm x 1092 mm x 457 mm D
Approved / Listing / Regulations - FM,N,O,U
Make – Justrite/EcoSafe or Equivalent