

*Chapter 4*  
*Experimental Set up*

---

The chapter includes list of tables enlisting various materials/reagents/solvents used in the research work against their respective supplier/manufacturer name. It also enlists table stating list of equipments employed in the current research work against their source/make name.

**Table 1: List of materials used in the research work**

Sr.No.	Name of Material	Name of Supplier
1	Rifampicin	Acme Pharmaceuticals Ltd., Ahmedabad, India
2	Isoniazid	S. D. Fine Chem Pvt. Ltd., India
3	Dipyridamole	Welable Pharmaceuticals, Mehsana, India
4	Lansoprazole	Zydus Cadila Healthcare Ltd., Ahmedabad, India
5	Microcrystalline cellulose (Avicel PH 101, Avicel PH 102)	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
6	Glyceryl Behenate	Gattefosse Ltd., India
7	Gelucire 50/3	Gattefosse Ltd., India
8	Stearic acid (Kolliwax S)	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
9	Carnabua wax	Welable Pharmaceuticals, Mehsana, India
10	Hydroxypropylmethylcellulose (HPMC E5, HPMC E15, HPMC E50, HPMC K100 LVCR, HPMC K4M)	Colorcon Asia Pvt. Ltd., India
11	Colloidal silicon dioxide (Aerosil 200)	Evonik Industries, India
12	Sodium bicarbonate	Rankem Ltd., New Delhi, India
13	Sodium chloride	Himedia Labs Pvt. Ltd., Mumbai, India
14	Sodium hydroxide	Rankem Ltd., New Delhi, India
15	Sodium carbonate	Rankem Ltd., New Delhi, India
16	Magnesium stearate	S. D. Fine Chem Pvt. Ltd., India
17	Lactose monohydrate (Pharmatose DCL 11)	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
18	Sodium lauryl sulphate	S. D. Fine Chem Pvt. Ltd., India
19	Talc	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
20	Polyethyleneoxide (Polyox WSR 303, Polyox N12K)	Colorcon Asia Pvt. Ltd., India
21	Ethyl cellulose (EC N10, N20, EC N80)	Colorcon Asia Pvt. Ltd., India
22	Hydroxypropyl cellulose (HPC HF)	Ashland, Mumbai, India
23	Eudragit (L100-55, L100 and S100 grades)	Evonik Industries, India
24	Butylated Hydroxy Toluene	S. D. Fine Chem Pvt. Ltd., India
25	Polyethylene glycol (PEG 400)	S. D. Fine Chem Pvt. Ltd., India
26	Triethyl citrate	S. D. Fine Chem Pvt. Ltd., India
27	Carbopol 934P	Welable Pharmaceuticals, Mehsana, India
28	Povidone (PVP K-30, PVP K-	Welable Pharmaceuticals, Mehsana, India

	90)	
29	Sodium alginate	S. D. Fine Chem Pvt. Ltd., India
30	Potassium bromide	S. D. Fine Chem Pvt. Ltd., India
31	Hydroxypropylmethylcellulose acetate succinate (HPMCAS LF and HF)	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
	Crospovidone	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
32	Hydroxypropylmethylcellulose Phthalate	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
33	Sodium starch Glycolate Type A	Signet Chemical Corporation Pvt. Ltd., Mumbai, India
34	Fumaric acid	Sulab laboratories, Gujarat, India
35	Cell culture flasks	Corning (Sigma Aldrich, India)
36	Transwell cell culture systems	Corning (Sigma Aldrich, India)
37	Caco-2 cell line	National Centre For Cell Science, Pune, India
38	Dulbecco's modified Eagle medium	Sigma Aldrich, India
39	10% fetal bovine serum	Sigma Aldrich, India
40	Penicillin-Streptomycin Solution	Himedia Labs Pvt. Ltd., Mumbai, India
41	Nonessential amino acid solution	Himedia Labs Pvt. Ltd., Mumbai, India
42	Trypsin-EDTA Solution	Himedia Labs Pvt. Ltd., Mumbai, India
43	Hanks' Balanced Salt solution	Sigma Aldrich, India
44	Glyceryl Monostearate	Gattefosse Ltd., India
45	Potassium Bromide	S. D. Fine Chem Pvt. Ltd., India
46	3-Formyl Rifamycin	Torrento Research Chemicals Inc., Canada

**Table 2: List of solvents/reagents used in the research work**

Sr. No.	Material	Source/Make
1	Methanol (UV and HPLC grade)	S. D. Fine Chem Pvt. Ltd., India/ Rankem Ltd., New Delhi, India /Spectrochem Pvt. Ltd., India
2	Acetonitrile (UV and HPLC grade)	S. D. Fine Chem Pvt. Ltd., India/ Rankem Ltd., New Delhi, India /Spectrochem Pvt. Ltd., India
3	Isopropyl alcohol (UV and HPLC grade)	S. D. Fine Chem Pvt. Ltd., India/ Rankem Ltd., New Delhi, India /Spectrochem Pvt. Ltd., India
4	Triethyl amine (HPLC grade)	S. D. Fine Chem Pvt. Ltd., India/ Merck Pvt. Ltd., Mumbai
5	Orthophosphoric acid (HPLC grade)	S. D. Fine Chem Pvt. Ltd., India/ Merck Pvt. Ltd., Mumbai
6	Chloroform (UV and AR grade)	Fisher scientific Pvt. Ltd., Mumbai, India, Qualigens Fine Chemicals Pvt. Ltd., Mumbai, India
7	Hydrochloric acid AR grade	Loba Chemie Pvt. Ltd., Mumbai, India
8	Glacial acetic acid AR grade	Merck Pvt. Ltd., Mumbai
9	Potassium dihydrogen orthophosphate AR grade	Loba Chemie Pvt. Ltd., Mumbai, India
10	Sodium acetate AR grade	Loba Chemie Pvt. Ltd., Mumbai, India
11	Sodium hydroxide AR grade	Loba Chemie Pvt. Ltd., Mumbai, India/ Rankem Ltd., New Delhi, India

**Table 3: List of equipments used in the research work**

Sr.No.	Equipment	Source/Make
1	Digital weighing balance	Shimadzu AX 120, Japan; Shimadzu ELB300, Japan
2	pH meter	Electrolab, India
3	Bath sonicator	B.N. Scientific Enterprise, Ahmedabad, India
4	HPLC system	LC-20AT/SPD-20A, Shimadzu Corporation, Kyoto, Japan; LC-20AD/SPD-M20A, Shimadzu Corporation, Kyoto, Japan
5	UV-Visible spectrophotometer	Shimadzu UV1700, Shimadzu Corporation, Kyoto, Japan
6	Compression machine	Eight station automatic rotary tablet press, JM-8, General Machinery Co., Mumbai, India
7	Coating machine	Solace Engineers (Mktg) Pvt. Ltd., Vadodara, India
8	Dial type tablet hardness tester	Scientific Engineering Co., Delhi, India
9	Friability test apparatus	VFT-2D, Veego Instruments Co., Mumbai, India
10	Disintegration test apparatus	VTD-DV, Veego Instruments Co., Mumbai, India)
11	Dissolution apparatus	VDA-6DR, Veego Instruments Co., Mumbai, India
12	Stability chamber	S. R. Lab instruments, Mumbai, India.
13	Oven	Shree Kailash Industries, India
14	Extruder and Spheronizer	Cronimach, India; Umang Pharmatech, Pvt. Ltd., India
15	Fluid bed processor	PAM Mini-Glatt, India
16	Spray Dryer	LU-227, Labultima, Mumbai, India
17	Particle size analyzer	Mastersizer 2000, Malvern Instruments, UK
18	Sieves	Jayant Scientific Industries, Mumbai, India; Wiremetal GMP products, Mumbai, India
19	Differential scanning calorimetry	DSC-60, Shimadzu, Japan
20	Powder X-ray diffraction	Panalytical, Netherlands; Phillips X'Pert, Netherlands
21	Fourier transform infra-red spectroscopy	Bruker, USA
22	Scanning electron microscopy	JSM-5610LV, Jeol Ltd., Tokyo, Japan
23	Homogenizer	UltraTurrax, IKA, USA
24	Stirrer	Remi Sales & Engineering Ltd., Mumbai, India
25	Incubator Shaker	Orbitek, Chennai, India
26	Centrifuge Machine	Remi Sales & Engineering Ltd., Mumbai, India
27	ERS voltameter	Millicell® ERS meter
28	ELISA Plate Reader	BIO-RAD, India
29	Vacuum Oven	Ohmkar Equipments, India