

CERTIFIED REFERENCE MATERIALS

(Bharatiya Nirdeshak Dravyas)

Certified Reference Materials of Silicon Powder for X-ray diffraction:

National Physical Laboratory, India has prepared silicon powder certified reference material for use as a d-spacing standard for X-ray diffraction equipments. This is a high purity poly-silicon powder with particle size in the range of 5–15 μm . X-ray diffraction pattern of the material show high level of crystallinity and very well resolved diffraction lines. The d-spacings along with their standard deviation values of the first five reflections are as follows:

BND 1501: Silicon Powder for X-ray diffraction
d-spacing of the first five reflections

hkl	d (Å)	σ_d
111	3.1340	0.0073
220	1.9194	0.0029
311	1.6371	0.0022
400	1.3576	0.0014
331	1.2459	0.0011

The cost per pack of 5 g material is Rs 6,000.00 (Rupees six thousand only).

Other certified reference materials of toxic element in water available at NPL for calibration of analytical equipments and validation of methods are:

S. No.	Code no.	Material	Concentration	Quantity	Cost (Rs)
1.	BND 101.02	Lead	1.04 \pm 0.03 mg/l	65 ml	1500.00
2.	BND 102.02	Lead	2.04 \pm 0.02 mg/l	65 ml	1500.00
3.	BND 201.02	Cadmium	0.96 \pm 0.03 mg/l	65 ml	1500.00
4.	BND 301	Arsenic	0.99 \pm 0.02 mg/l	65 ml	1500.00
5.	BND 401	Chromium	0.98 \pm 0.02 mg/l	65 ml	1500.00
6.	BND 402	Chromium	1.98 \pm 0.02 mg/l	65 ml	1500.00
7.	BND 601	Mercury	1.00 \pm 0.02 mg/l	65 ml	1500.00
8.	BND 701	Selenium	1.00 \pm 0.01 mg/l	65 ml	1500.00
9.	BND 801	Fluoride	1.00 \pm 0.03 mg/l	65 ml	1500.00
10.	BND 1001	Nickel	1.01 \pm 0.03 mg/l	65 ml	1500.00
11.	BND 1101	Multi-element solution		65 ml	3000.00
		Zinc	100.17 \pm 0.58 mg/l		
		Iron	100.56 \pm 0.54 mg/l		
		Copper	100.01 \pm 0.52 mg/l		

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