# DETERMINATION OF SPECIFIC SURFACE AND PARTICLE SIZE DISTRIBUTION BY SMALL ANGLE X-RAY SCATTERING

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The Small-Angle X-ray Scattering (SAXS) technique allows structural analysis of amorphous and crystalline materials on a mesoscopic length scale ranging from approx. 1 - 100 nm. Powders or dispersions of organic and inorganic nano particles can be characterized with respect to their particle size distribution and inner structure. In case of porous materials the specific inner surface and pore size may be determined. The specific surface – e.g. between amorphous and crystalline domains - is also an important property of pharmaceutical compounds. It determines the thermodynamic stability of the material and therefore the dissolution properties of the compound.

We present SAXS measurements on a conventional X'Pert PRO X-ray diffractometer using a line focus in combination with collimating optics. Experimental results could be achieved within ca. 10 to 30 minutes.