

SCANNING ELECTRON MICROSCOPY (SEM)

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Scanning electron microscopy (SEM) is a precise and non-destructive method for detailed analysis of particles and other materials. From the images it's possible to obtain information about size, shape and surface structure of samples with the maximum resolution of 1.3 nm. Using of the BSE detector gives opportunity to recognize different materials in alloys. Due to EDS and WDS analysis it's possible to identify chemical composition of samples.

ACQUIRED INFORMATION

- > Size and shapes of the particles (micro- and nano-)
- > Surface topology
- > Defects and impurities of the materials
- > Chemical mapping (element composition)

SAMPLE TYPES

- > Powder or granular materials
- > Powdered nanomaterials
- > Solid foils, plates and fibers
- > Biologic samples
- > Materials types such as composites, iron, steel, glass and ceramics (max. size 4 cm x 4cm x 2cm)
- > All samples must be dry

MODES, CONDITIONS AND PRECISION

- > SE mode, BSE mode
- > EDS (Energy Dispersive Spectroscopy)
- > WDS (Wavelength Dispersive Spectroscopy)
- > EDS a WDS give information about chemical composition of the samples
- > Accelerating voltage: 0.5 – 30 kV
- > Max. resolution in SE mode: 1.3 nm
- > Max. resolution in BSE mode: 3 nm
- > Magnification: 60-600 000x



Scanning Electron Microscope (SEM)

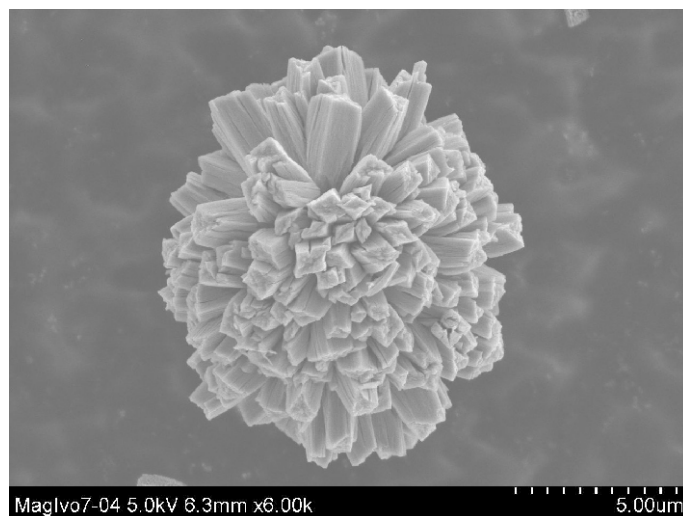
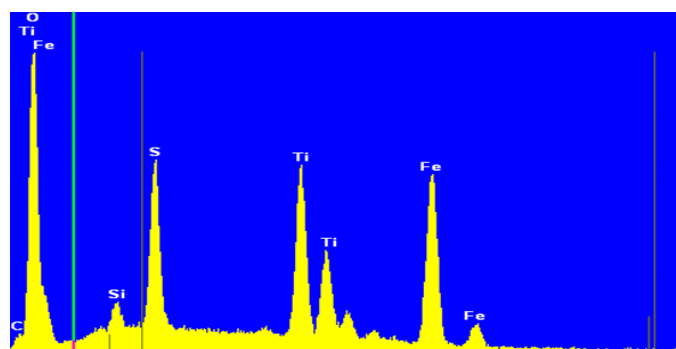


Image of iron oxide



EDS spectrum

DETAILED INFORMATION ON REQUEST



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