

Geochemical studies on natural zeolites from Deccan trap of western and central India

DIWA MISHRA

Department of Chemistry Government Geetanjali GPG
College, Bhopal
(drdiwamishra@hotmail.com)

Deccan volcanic province (DVP) is one of the largest flood basalt province [1] in western and central India. It is exposed mainly in the states of Maharashtra, Madhya Pradesh, Karnataka, Gujarat and Andhra Pradesh. These have flows consisting of zeolite and secondary minerals. Zeolites are mostly found as weathered material filling in the pyroclastic vesicles [2].

In the present work the zeolites were collected from the western ghat and central India. The compositional and structural characterization studies on these zeolites were carried out at room temperature to find out their applicability in different areas. For this purpose the Fourier Transform Infra Red Spectroscopy (FTIR), X-ray diffraction(XRD), scanning electron microscopy coupled with energy dispersive X-ray (SEM-EDX) and Atomic Absorption Spectroscopy(AAS) were used. The thermal behavior of the samples were studied using Thermogravimetric Analysis(TGA) and Differential Scanning Calorimetry(DSC). The results show that all the zeolites are thermally stable up to very high temperature with no change in the structure.

[1] Richard J Brown *et al* (2010) *Bulletin of Volcanology*, **73(6)**, 737-752.[2] R A Dwairi *et al* (2014) *Jordan Journal of Civil Engineering*, **8(2)**,187-198.