Gas release from minerals and rocks

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The analysis of the degassing behavior of glass-forming melts and the volatile content in glasses and raw materials is used in glass industry to elucidate the shortcomings of glasses and to optimize the glass melting process. A special device, the *D*irectly *E*volved *G*as *A*nalysis *S*ystem (*DEGAS*), was developed for this purpose (K. Heide et al. 1993).

The technique couples thermogravimetry with mass spectrometry and analyses the release of volatiles during heating in vacuum, such as H_2O, H_2, hydrocarbons, CO, CO_2, N_2, HF, HCl, O_2, or sulphur- and boron-containing species (Heide K. & Heide G. 2011; Heide K. 2012). The gas release profiles enable us to distinguish between pristine volatiles and secondary alteration products in minerals and rocks.

DEGAS cannot only be used for the qualitative analysis of volatiles in natural glasses, rocks and nominal volatile free minerals but allows us also to quantify the gas contents of H_2O, CO_2, SO_2 and O_2 down to the ppm level.

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