



AutoChem II 2920

TECHNIQUE Temperature-Programmed Oxidation (TPO)

Temperature-Programmed Oxidation (TPO) examines the extent to which a catalyst can be oxidized or the extent to which it was previously reduced.

Usually the sample is pretreated to reduce the metal oxides present to the base metals; typically this is done with a gas mixture of hydrogen and nitrogen or argon. Then the reactant gas, typically 2-5% oxygen in helium, is applied to the sample in pulses or, alternatively, as a steady stream.

The furnace heats the sample tube and sample according to the user-selected temperature program. The oxidation reaction occurs at a specific temperature. The AutoChem II measures the uptake of oxygen and correlates this measurement with temperature