

## IR - Polymers, Hummel Defined Basic - Wiley

Spectra - 1,040

### Description

This database is a subset of the Hummel Defined Polymers database and contains 1,040 hand-picked spectra to help polymer and plastics chemists solve analytical problems. It can be used for quality control, material characterization, or structure elucidation.

### Additional Information

Each compound is identified by its IUPAC or common name. Property text displays references, origin, synthesis, and sample preparation.

### Classifications

Hydrocarbons	CHN Polymers	CN Polymers
CHS Polymers	CHaX Polymers	CHHalO Polymers
CHNO Polymers	CHOS Polymers	Silicon, Germanium
CHal Polymers	CHHal Polymers	CHO Polymers
CHalHal Polymers	CHHalN Polymers	CHHalS Polymers
CHNS Polymers	Deuterated Polymers	Phosphorus Compounds

### Technique

Spectra of the most important defined polymers were recorded using FT-IR spectrometers, primarily a Nicolet 7199 and 20 SX. They were intensity normalized, background corrected, and foreign bands eliminated when possible. Liquids were recorded as capillary layers. Soluble noncrystallizable materials with low softening points were applied to the carrier crystal as films from solution or melted between two crystal plates. Solvent was removed at 50°C in the oil pump vacuum for several hours, usually overnight. Low molecular weight or inorganic materials that were crystalline at room temperature were dispersed in KBr and pressed.

The KBr technique was also used for insoluble polymers and fibers. Low melting polymers were melted to uniform films between KBr discs. Higher melting polymers were pressed to films between Al, Ti, or fiber-reinforced PTFE foils using a heated press. Soluble polymers were prepared as films from solution. Thallium bromide iodide (KRS-5) was used for substances which would have dissolved the alkali halides.