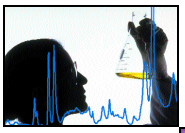
BIO-RAD Spectral Databases



Controlled Pyrolyzates of Polymers

4340 Controlled Pyrolyzates of Polymers - 2,970 Spectra

The Controlled Pyrolyzates of Polymers database of infrared spectra is intended to aid in the identification of the principal polymer types. This pyrolysis technique is commonly used in the infrared identification of polymers. The database includes 2986 infrared spectra representing the volatile and non-volatile pyrolyzed fractions of 1493 polymers.

Each chemical is represented by the description of the polymer as well as the spectra of the volatile and non-volatile pyrolysis products labeled with the temperature of pyrolysis. The volatile fraction is labeled as vapor phase and the non-volatile fraction is labeled as solid or condensed phase. The temperature of the sample compartment is also included.

Each compound is identified by its commercial or trade name. Also included is the manufacturer or source of the sample. This collection contains the spectra of polymers which have been pyrolyzed at a constant specified temperature. The samples provide representative examples of over 40 different types of polymers.

The following classes of polymers are included: aliphatic hydrocarbons/polyethylenes, polypropylenes, polybutadienes; cyclic unsaturated hydrocarbons, polyterpene and naphthene resins; aromatic hydrocarbons; silicone polymers; polymers containing nitrile linkages; polyethers; epoxy resins; aliphatic vinyl and vinylidene polymers; acrylic and methacrylic polymers; polyesters; rosin and rosin derivatives; polyamides; ureas; amides and cyanurates. Each compound is identified by its commercial or trade name.

The following additional information will also be supplied when available: chemical composition, chemical and physical properties, source of sample and technique.

The following classifications are used in the database:

Classifications

Polymers

Polyethylenes	302
Polypropylenes	100
Petroleum Hydrocarbon Resins	36
Synthetic Waxes	6
Polybutenes and Butyl Rubbers	40
Polybutadienes	16
Polyisoprenes and Natural Rubbers	24
Hydrocarbon Copolymers and Terpolymers	92
Coumarone-Indene Resins	12
Polyterpenes and Naphthene Resins	10
Other Unsaturated Hydrocarbon Resins	8
Polystyrenes	90
Styrene-Butadiene Copolymers	82
Other Styrene Copolymers and Terpolymers	36
Fluorinated Hydrocarbons	36
Chlorinated Hydrocarbons	44
Silicone Polymers	18
Acrylonitrile-Butadiene-Styrene Resins	64
Polyurethanes and Urethane Prepolymers	82
Butadiene-Acrylonitrile Copolymers	58
Styrene-Acrylonitrile Copolymers	14
Other Nitrile Polymers	45
Polyethers	48
Anhydride Polymers	28
Oxides	18
Epoxy Resins	36
Ionomers	4
Vinyl Chlorides	192
Vinyl Polymers and Copolymers	170
Cellulose Derivatives	48
Phenolic Resins	96
Acrylic Copolymers	28
Polyacrylates and Polymethacrylates	84
Polyacrylic and Polymethacrylic Acids and Salts	6
Polyesters	126
Polycarbonates	36
Alkyds	6
Rosins and Polymerized Fats	48
Aminoplasts	8
Polyamides, Polyimides and Polyimines	295
Polyvinylpyrrolidones	2
Polyvinylpyridines	4
Ion Exchange Resins	84
Polymers containing Sulfur	30
UV Light Absorbers	4
Miscellaneous Polymers	78

Monomers and Precursors

Hydrocarbons	6
Compounds containing Silicone	18
Compounds containing Nitrogen	74
Oxides and Peroxides	8
Compounds containing Halogen	32
Compounds containing Sulfur	14
Compounds containing Phosphorous	6
Alcohols and Phenols	50
Aldehydes, Ketones, Oximes and Quinones	18
Anhydrides	2
Phthalates	34
Esters	44
Salts	4
Organometallics	34
Miscellaneous Monomers	26

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