

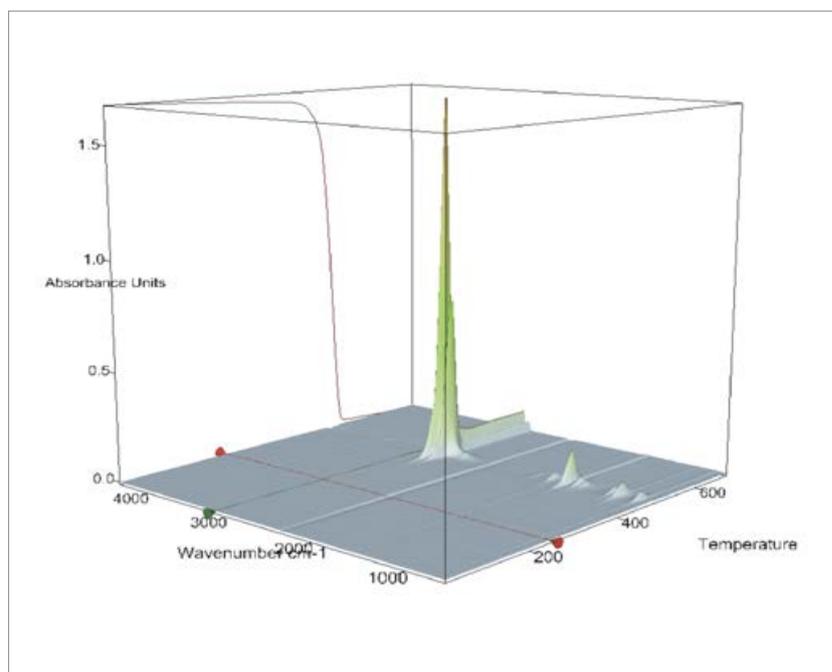
APPLICATION SHEET

POLYMERS – POLYMER MANUFACTURING

POLYETHYLENE

Polyethylene (PE) is a thermoplastic material which is heavily used for consumer products as foils (wrapping, packaging), containers (bottles, tanks), pipes, tubes or

other engineered products. PE is odorless, flavorless, physiological indifferent and can therefore be used in the food industry.



Instrument

TG 209 **F1 Iris**® – FTIR

Test Conditions

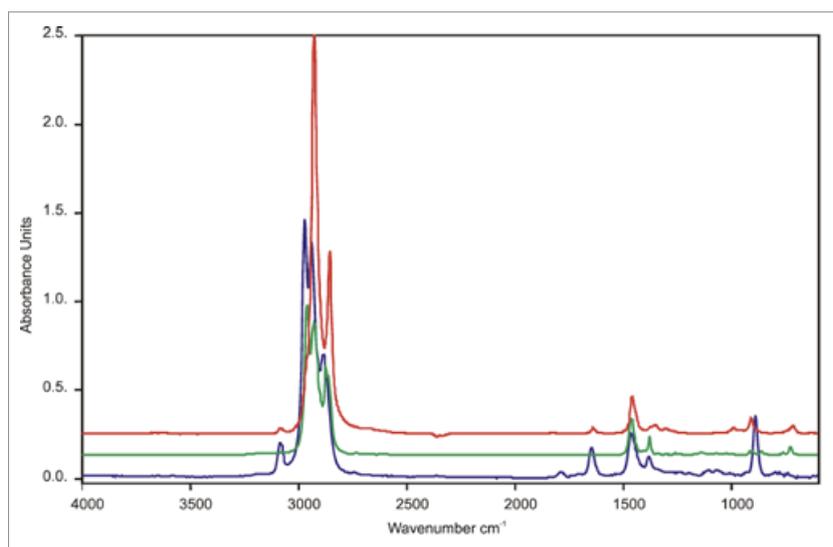
Temperature range	RT ... -650°C
Heating/cooling rates	20 K/min
Atmosphere	Nitrogen
Sample mass	7.7 mg
Crucible	Alumina
Flow rate	40 ml/min
Sensor	Platinel

Results

Figure 1 depicts the 3-dimensional plot of the FTIR spectra and the TG curve. PE evolves completely, starting at about 420°C. The pyrolysis products are hydrocarbon fragments showing C-H and C-C bondings in the FTIR (figure 2).

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