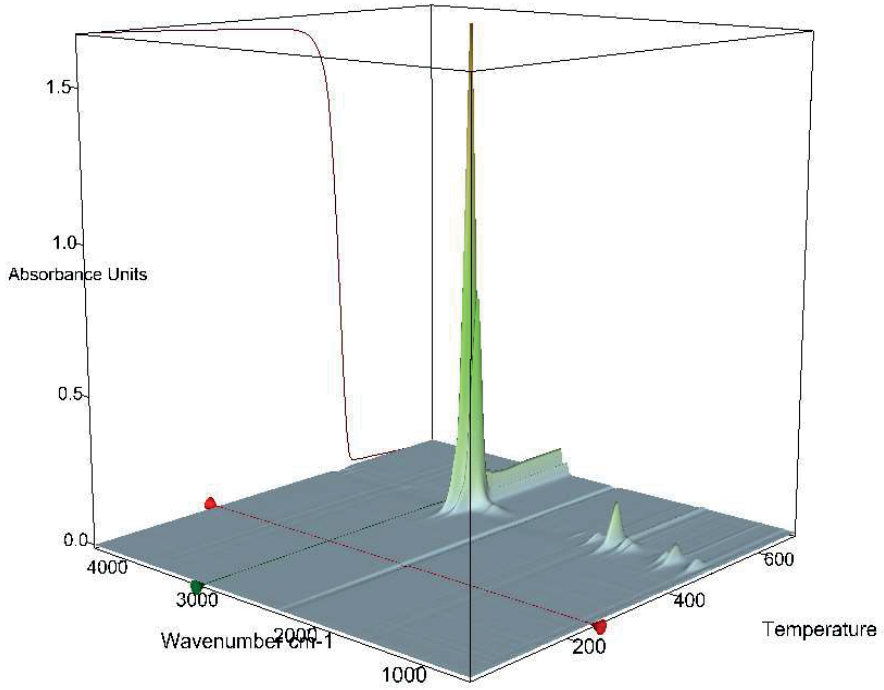
APPLICATION**SHEET**

Polymers · Polymer Manufacturing
TG 209 ***F1*** *Iris*® – FT-IR

Polyethylene

Introduction

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.



Test Conditions:

Temperature range:	RT ... -165°C	Sample mass:	7.7 mg
Heating/cooling rates:	20 K/min	Crucible:	Alumina
Atmosphere:	Nitrogen at 40 ml/min	Sensor:	Platinel

NGB · Application Sheet 138 · E · 1021 · Technical specifications are subject to change.

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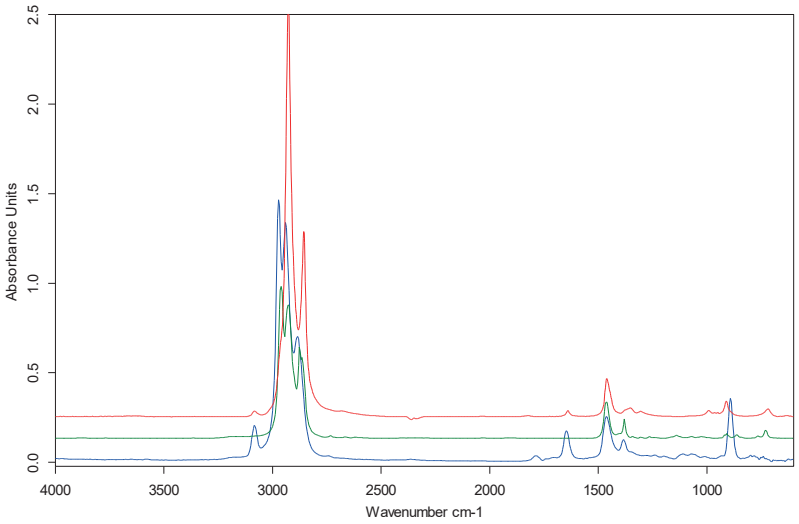

Test Results

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

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