

# APPLICATION SHEET

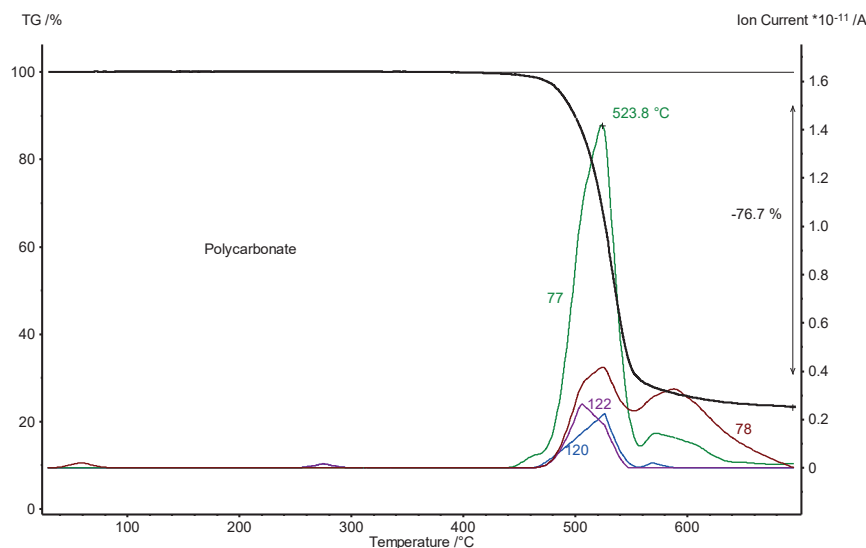
Polymers · Polymer Manufacturing  
TG 209 **F1 Libra**® - QMS 403 **Aëlos**

## Polycarbonate (PC)

### Introduction

Polycarbonates are a particular group of thermoplastics. They are easily worked, molded, and thermoformed. They are called polycarbonates because these polymers have functional groups linked together by carbonate groups (-O-CO-O-) in a long molecular chain. The most common type of polycarbonate plastic is one made of Bisphenol A, in which groups from Bisphenol A are linked together

by carbonate groups in a polymer chain. Polycarbonate is becoming more common in housewares as well as laboratories and industry. It is often used to create protective features, for example, in banks as well as vandal-proof windows and lighting lenses for many buildings. Other products made of polycarbonate include sunglass/eyeglass lenses, compact discs, DVDs, and automotive headlamp lenses.



### Test Conditions

Temperature range: RT ... 70°C  
Heating rate: 20 K/min  
Atmosphere: Nitrogen at 40 ml/min  
Sample mass: 7.3. 900 mg  
Crucible: Alumina  
Sensor: Platinel

### Test Results

During the decomposition of PC under inert conditions, the polymer chains, of course, decompose and fragments of Bisphenol can be detected indicated i.e., by mass numbers 77 and 78, representing benzene. But also higher mass numbers occur, for example, 120 and 122 amu.