



## **Solutions for polymer testing** Speed-up and simplify your laboratory tasks

Discover the benefits of BUCHI's laboratory equipment for the polymer and plastics industry. Speed-up your polymer extractions and simplify your testing tasks for process and quality control, research and development.



### Our expertise for analyzing your polymer products From extractables to additives and polymerization degree

What are the challenges in your laboratory routine? BUCHI supports you in your daily work by providing high quality and sharing application expertise and experience with you. Discover dedicated application Notes for polymer extraction and testing in your field of activity and simplify your laboratory activities.



#### Masterbatch

Reduce time from sampling to analysis significantly by using BUCHI Solutions. Control your production process online or at-line and ensure high quality of your masterbatches and the specific properties of tailor-made compounds.

Typical applications: control of polymerization process / crosslinked share / residuals from production process as fatty acid amides / quantification of additives



#### Rubber products and plastic parts

Simplify process and quality control by using automated solutions. Ensure high quality and dedicated properties of plastic parts, rubber products, industrial and consumer goods.

Typical applications: quantification of additives and total extractables / extraction of coatings



#### Foils and Packaging

Reach high recoveries and precision thanks to concerted workflows with low user intervention. Ensure high quality of your products and support the research and development of films, foils and packaging materials by reliable laboratory results.

Typical applications: determination of waxes, additives, total extractables / quantification of mineral oil contamination



#### Polymer waste

Get fast results for the quality control of waste polymers intended for recycling. Assess the risks of harmful compounds in waste polymers reliably with high recoveries and precision thanks to automated systems.

Typical applications: determination of residues, i.e. adhesives / determination of PCBs, flame retardants, phthalates

Find the Application Notes for your laboratory tasks and explore BUCHI's Application Finder:



### Solutions along your laboratory workflow

### Evaporation / Application Extraction Analysis Concentration Additives in MASTERBATCH: Gravimetric e.g. plasticizer in Polyamide Multivapor™ P-6 SpeedExtractor E-916 Additives in MASTERBATCH: GC-MS e.g. hindererd Amine Light stabilizer in LDPE SpeedExtractor E-916 Rotavapor® Extractables from RUBBER: Gravimetric e.g. ISO 1407 Multivapor™ P-6 SpeedExtractor E-916 Quality of POLYMER Gravimetric Evaporation is part PRODUCTS: of the process in the e..g. coating in PE yarns Extraction System B-811 Extraction System B-811 Residues in POLYMER GC-MS WASTE: e.g. PBDE/PDD

Extraction System B-811

"With this product solution we are able to accelerate our day-to-day work significantly. The entire workflow became much more convenient and less-operator dependent"

Laboratory Manager, QC Testing Laboratory, USA

### Complete your laboratory evaporation portfolio

Complementary and related products

# Pressurized Extraction



The SpeedExtractor E-916 is your best solution for fast pressurized solvent extraction (PSE). Increase productivity by extracting up to six samples in parallel. Discover the concerted workflow of PSE with parallel evaporation using the Multivapor™ for unprecendeted speed and throughput.

### Classical Extraction



The Extraction System
B-811 provides multiple extraction methods, including automated Soxhlet with high recovery rates and best precision.

#### NIR Solutions™



Industry-proven solutions for warehouse, laboratory as well as in-, on- and atline production give real-time control of your manufacturing process.

### Parallel Evaporation



The Multivapor<sup>™</sup> P-6 / P-12 speeds up your sample evaporation for multiple samples. With its ease of use, the Multivapor is tailored to maximize efficiency.

### Rotary Evaporation



Rotavapor® R-100 / R-300 offer convenient and efficient rotary evaporation from the market leader.

### Disposables



The extraction thimbles and filter papers are tailored to BUCHI's extraction units. Trouble-free operation is guaranteed.

### **Voice of the Customer**

#### Case studies



### Analysis of final product

Producer of masterbatch and color, Israel

Customer: producer of masterbatch and color, Israel

Application: determination of additives and surfactants to assure characteristics and

quality of masterbatch.

System: SpeedExtractor E-916 in combination with Multivapor™



### Extraction of rubber

Customer: Producer of tires, Italy

Application: determination of extractables from rubber,

according to ASTM D5774-95 for quality control of raw material.

System: Extraction System B-811 in combination with recirculating chiller



### Quality control of packaging materials

Customer: Goglio, SpA, Producer of flexible packaging, rigid plastic accessories and

packaging machines, Italy

Application: extraction of adsorbed fat in food packaging

System: SpeedExtractor E-916 in combination with Multivapor  $^{\text{TM}}$ 

### Your most important benefits Complementary and related products



#### Unmatched speed and throughput

- · Speed-up your extraction with pressurized solvent extraction
- · High sample throughput thanks to parallel extraction and concentration
- · Immediate results for fast intervention with at-line or on-line NIR measurements



#### Easy-to-use

- · No manual sample transfer is needed, because glassware for extraction and evaporation are compatible
- · Combine Soxhlet extraction, rinsing and evaporation to dryness in one process with Extraction System B-811



#### Economical and ecological

- · Cost savings for solvents by up to 70 % with pressurized solvent extraction
- · Replace your manual extraction glassware and use our automated Extraction System B-811 for high precision and reduced user intervention

### Complete your portfolio



**Melting Point** M-560 / M-565 Determination of

melting point



Syncore® Analyst Maximize multiple sample workup efficency



Recirculating Chiller F-305 / F-308 / F-314 The efficient and water saving way of cooling

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