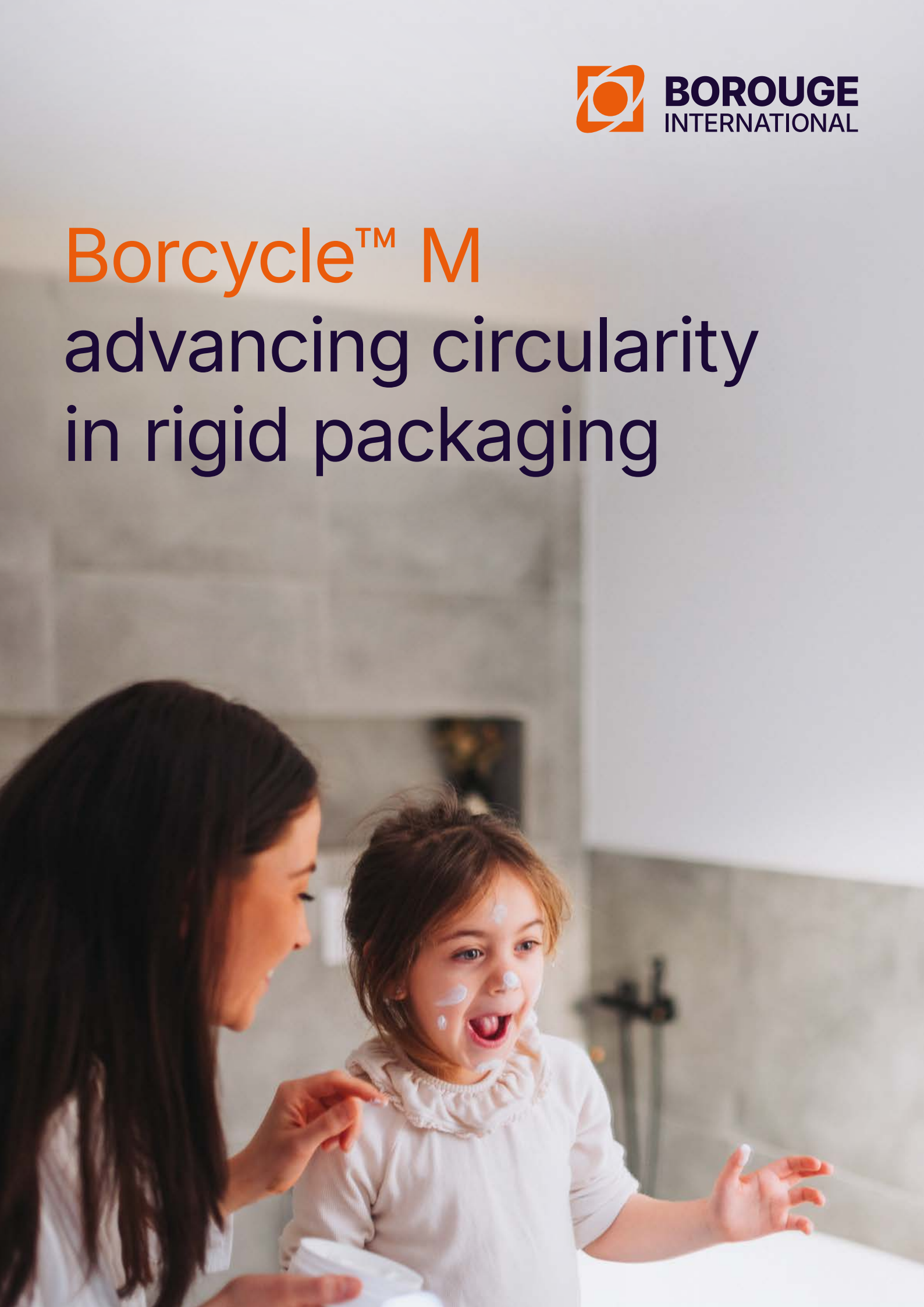
BOROUGE INTERNATIONAL

Borcycle™ M
advancing circularity in rigid packaging



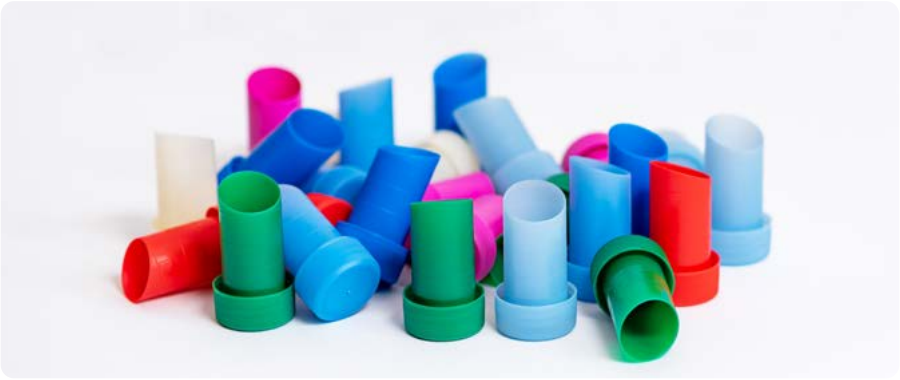
Giving packaging a second life

Due to their high versatility, plastics have become the leading material of our modern economy. However, only 14% of all plastic packaging is collected for recycling after use.

As a result, leading brand owners and retailers have pledged to increase the amount of recycled plastics in packaging to give waste a second life. Even so, a very limited amount of recyclate becomes packaging due to demanding application requirements.

This is in part due to the fact that incorporating recyclates requires a fundamentally new set of expertise, but also because the value chain hasn't been able to rely on a consistent supply of high quality recyclates – until now.

Transform your business with value-adding recycling solutions.



Introducing Borcycle™ M

Borcycle™ M is an evolving recycling technology that transforms polyolefin-based waste streams into value-adding solutions for demanding applications.

About Borcycle™ M:

- safeguards the environment by driving the shift from linear to circular product offering.
- combines our innovation heritage in polymer technology with scalable and transformative recycling technology.
- enriches the existing polyolefin portfolio with pioneering circular solutions.
- ensures consistent and reliable production of high quality advanced mechanical recyclates and rPO compounds.

These solutions provide performance while helping our business partners address global environmental and regulatory challenges.

Borcycle™ M in rigid packaging

1. Addresses the value chain's sustainability targets in demanding applications, including thin wall packaging containers and lids, caps and closures, bottles.

2. Offers 100% recyclates in white, natural and gray colors characterized by high purity and low odour.

3. Leverages our recycling and special compounding expertise with proprietary Borstar multimodal and Borstar® Nucleation Technology (BNT) to offer rPP compounds, ready-made solutions with single point of responsibility for quality control.

Meeting sustainability targets, whilst providing quality consistency

Advanced mechanical recyclates

rPP recyclates

Resin name	MFR (230 °C/2.16 kg)	Tensile Modulus (MPa)	Charpy NIS 23 °C (kJ/m²)	Available colors	Type of application
Borcycle™ AG1020MO-74	23	1,350	4.8	Dark Gray	Caps with glossy, dark color surface
Borcycle™ AG1020MO-90	23	1,350	4.8	White	Simple screw caps and cap designs
Borcycle™ AG1020MO-99	23	1,250	4.5	Natural	
Borcycle™ AH1040MO-90	40	1,350	4.8	White, Natural	Thin wall packaging, pails
Borcycle™ AH1040MO-99	40	1,250	3.5	Natural	Thin wall packaging, pails

rPP compounds

Resin name	MFR	Tensile Modulus (MPa)	Charpy NIS 23 °C (kJ/m²)	Recycled content %	Available colors	Type of application
PP compounds solutions with mechanical properties similar to homo PP						
Borcycle™ UF551MO	18	1,600	3.5	55	Light Gray	Hinge caps with robust design requiring high stiffness
rPP compounds solutions with mechanical properties similar to block PP						
Borcycle™ UG521MO	27	1,350	6	55	Dark Gray	Glossy, complex cap design requiring high impact and purity
Borcycle™ UG522MO	25	1,500	6	55	Dark Gray, Light Color	Complex cap designs, spray pumps requiring high impact performance
Borcycle™ UJ599MO	70	1,400	4.5	55	Light Color	Laundry tubs, lids, thin wall packaging containers, pails

Dark Gray (-74) Light Gray (-72) Light Color (-70) White (-90) Natural (-99)

A wide range of color options with Borcycle™ M recyclates

While PCR may not offer the same colorability as virgin materials, Borcycle™ M products allow for consistently achieving a broad range of color options.

RAL Color	Color	AG1020MO-74 (Dark Gray)	UG522MO-70 (Light Color)	AG1020MO-90 (White)	AG1020MO-99 (Natural)
RAL 3005 – Wine Red		✓	✓	✓	✓
RAL 6005 – Moss Green		✓	✗	✗	✓
RAL 5003 – Sapphire Blue		✓	✗	✗	✓
RAL 6024 – Traffic Green		✗	✓	✓	✓
RAL 5012 – Light Blue		✗	✓	✓	✓
RAL 5024 – Pastel Blue		✗	✓	✓	✓
RAL 7001 – Silver Gray		✗	✓	✓	✓
RAL 3015 – Light Pink		✗	✓	✓	✓
RAL 6027 – Bright Green		✗	✓	✓	✓
RAL 6029 – Mint Green		✗	✓	✓	✓
RAL 5015 – Sky Blue		✗	✓	✓	✓
RAL 2012 – Salmon Orange		✗	✗	✓	✓
RAL 3020 – Traffic Red		✗	✗	✓	✓
RAL 1017 – Saffron Yellow		✗	✗	✗	✓
RAL 3020 – Flame Red		✗	✗	✗	✓
RAL 3026 – Bright Red		✗	✗	✗	✗
RAL 1016 – Sulfur Yellow		✗	✗	✗	✗

In collaboration with

AVIENT

✓ possible to match with 3% Avient MB
✗ not possible to reach with max. 3% MB

*Some of the above color tones may still be reached when adding MB amounts higher than 3%; please consult your Avient sales representative for further insights.

Dark Gray (-74) offers good color absorption and can match a wide range of dark tones.
Light Color (-70) can be used as it is, or match bright colors, although requiring higher MB content than White (-90).
White (-90) can be used as it is, or match bright colors with minimum MB amounts.
Natural Color (-99) provides the most flexibility for reaching very bright colors.
Due to its virgin content, due to the higher translucency, **Borcycle™ M rPP compounds** can further enhance colorability.

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About Borouge International

Borouge Group International AG (Borouge International) is a global leader in polyolefins formed in 2026 through the combination of Borouge Plc, Borealis and NOVA Chemicals. Backed by long-term shareholders XRG, the international investment arm of ADNOC, and OMV, Borouge International brings together world-class assets, advantaged feedstock access and proprietary technology to deliver reliable high-performance polyolefin solutions across consumer products, infrastructure, energy, mobility and advanced products.

Borouge International combines a differentiated asset base, global reach and deep technical expertise to serve customers across key growth markets. The company is headquartered in Austria, with a regional headquarters in Abu Dhabi and corporate hubs in North America and Asia Pacific.

Learn more about the company: **borougeinternational.com.**

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