

BEAUTY AT ITS BEST

Styrenic packaging solutions for cosmetics



INEOS
STYROLUTION

Driving Success. Together.



ENSURING YOUR PRODUCTS LOOK & FEEL GREAT

INEOS Styrolution is the world's leading supplier of styrenic plastics for cosmetics packaging with a deep understanding of the industry, its applications and value chains. In an industry where elegance and beauty must be reflected in every aspect of a product's design and surface quality, INEOS Styrolution offers a wide product portfolio of premium aesthetic solutions for the creation of eye-catching elegant surfaces and visual effects.

Aside from a broad opaque product portfolio, INEOS Styrolution is also continuously innovating new grades with breathtaking transparency. For thick-walled cream jars, for example, a "crystal

clear" appearance is a must. That's why INEOS Styrolution developed its crystal clear Luran® grades with a particularly low intrinsic colour and excellent clarity.

Besides good looks, there are applications that also require an attractive acoustic performance. If accidentally dropped on the floor, most other materials will make a clattering, cheap-sounding noise. Product families like our NAS®, Zylar® and Terlur® grades offer superior acoustic performance resulting in a deep, rich sound appropriate to a quality luxury product.

DOING IT YOUR WAY

As a reliable global supplier, INEOS Styrolution also delivers broad application expertise, a long-term commitment to R&D, and opportunities for product co-development right from day one of a new idea. In a process of collaborative innovation

covering everything from texture to shape and colour, customers define together with INEOS Styrolution how their ideas can be transformed into beautiful packaging solutions.

STUNNING STYRENICS PROPERTIES FOR COSMETICS PACKAGING

Some of the reasons specialty styrenics are the polymers of choice for cosmetics packaging:

PIANO PAINT LOOK
SOUND DAMPENING WATER-CLEAR
TRANSPARENCY
METALLISATION
SUPERIOR COLOUR DEPTH
CUSTOMISABLE HUES EXCELLENT FLOWABILITY
BRILLIANT COLOURABILITY
EASY TO PROCESS
IMPACT RESISTANCE HIGH GLOSS PIANO PAINT LOOK
RESISTANCE TO MEDIA
EXQUISITE HAPTICS HIGH COLOUR
CONSISTENCY
LONGEVITY SCRATCH
RESISTANCE
ELEGANT SURFACE FINISH
IN-MOULD DECORATION, PAINTING
AND PRINTING

PREMIUM AESTHETICS

FOR COSMETICS PACKAGING SOLUTIONS

Be inspired by

WATER-CLEAR TRANSPARENCY

that looks as stunning as ice or as sparkling as crystal, such as in the INEOS Styrolution product lines Luran®, NAS® and Zylar®.

Let your true colours shine
thanks to the

BRILLIANT COLOURABILITY

inherent in all INEOS Styrolution products, featuring beautiful colour depth, extremely intense colours and an enormous variety of hues you can even create yourself in collaboration with our Color Excellence Center.

You'll be dazzled by the

HIGH GLOSS

of eye-catching and brilliant surfaces delivered by such INEOS Styrolution product lines as Novodur® and Luran®.

Always look fresh and new
thanks to superior

SCRATCH RESISTANCE

for an enduring, sophisticated surface quality, particularly in the INEOS Styrolution product lines Luran® and NAS®.

Rest assured that your
packaging has excellent

RESISTANCE TO MEDIA

including outstanding chemical resistance, extraordinary heat resistance and high durability, for example with Luran® and Terluc®.



INEOS STYROLUTION PRODUCTS FOR COSMETICS PACKAGING

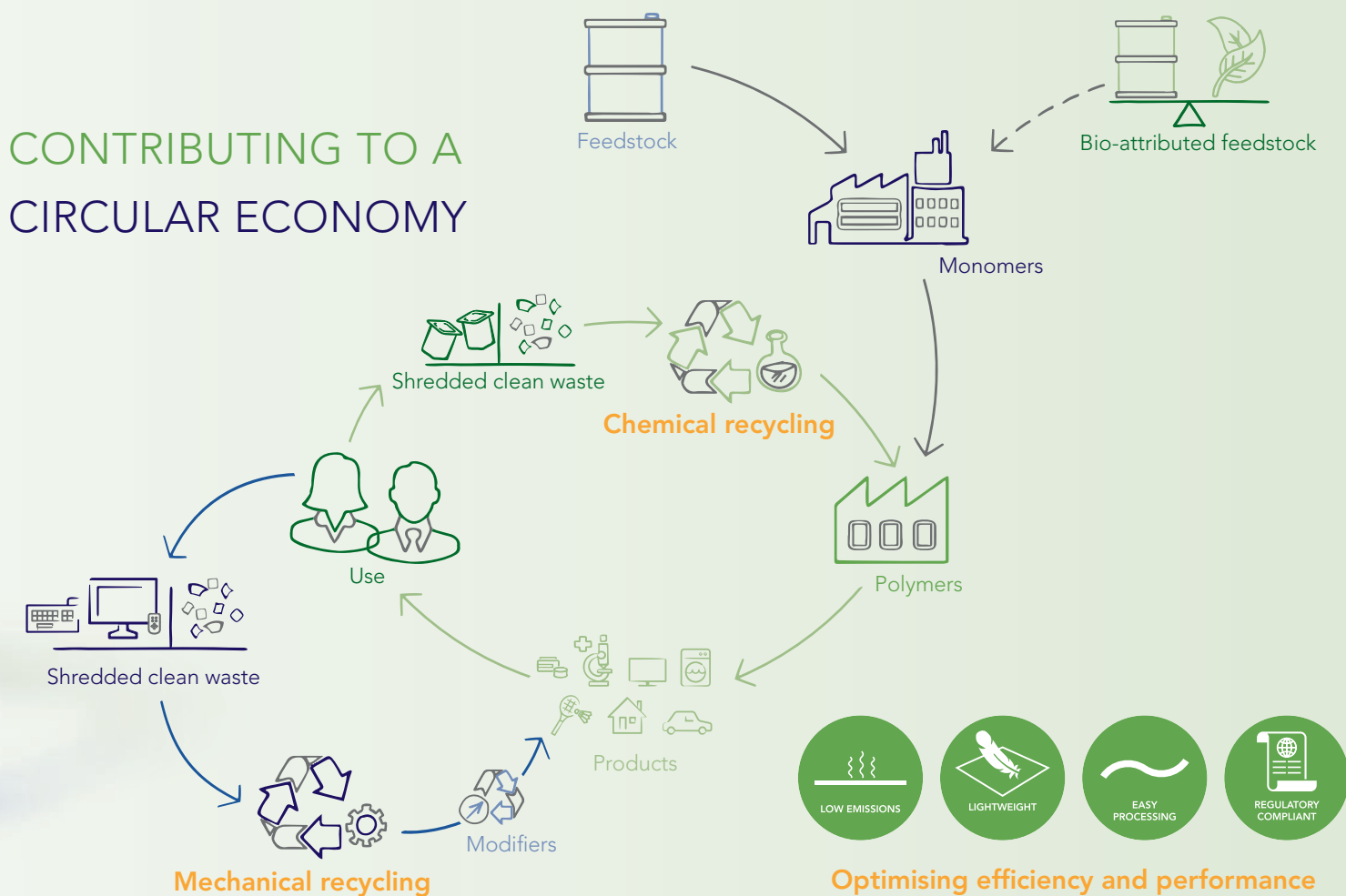
			TRANSPARENT & SCRATCH RESISTANT					TRANSPARENT & IMPACT RESISTANT					IMPACT RESISTANT & HIGH GLOSS		
Typical values for uncoloured products at 23 °C	Test method	Unit	NAS® 30	NAS® 90	LURAN® 338L	LURAN® 348Q	LURAN® 358N	TERLUX® 2802	TERLUX® 2812	CLEARLUX® 816	ZYLAR® 550	ZYLAR® 960	NOVODUR® P2H-AT	NOVODUR® M210TF	NOVODUR® P2MC
PROPERTIES															
Polymer abbreviation	-	-	SMMA	SMMA	SAN	SAN	SAN	MABS	MABS	MABS	MBS	MBS	ABS	ABS	ABS
Density	ISO 1183	kg/m³	1090	1070	1080	1080	1080	1080	1080	1080	1050	1050	1050	1050	1030
Moisture absorption, equilibrium 23 °C/50% r.H.	ISO 62	%	0.15	0.10	0.20	0.20	0.20	0.35	0.35	0.35	0.05	0.05	-	-	-
PROCESSING															
Melt volume rate MVR 220 °C/10 kg	ISO 1133	cm³/10 min	30.00	16.00	40.00	19.00	22.00	2.00	8.00	16.00	55 / 5.00*	65 / 6.00*	37.00	32.00	25.00
Melt temperature range	iSO 294	°C	200-240	200-240	200-250	200-250	220-260	230-260	230-260	220-250	200-240	200-240	230-260	230-260	230-260
Mold temperature range	iSO 294	°C	30-50	30-50	40-80	40-80	40-80	50-75	50-75	44-70	30-55	10-60	60-80	60-80	60-80
Mold shrinkage range	iSO 294-4	%	0.20-0.60	0.20-0.60	0.30-0.70	0.30-0.70	0.30-0.70	0.40-0.70	0.40-0.70	0.40-0.70	0.20-0.60	0.20-0.60	0.40-0.70	0.40-0.70	0.20-0.70
MECHANICAL PROPERTIES															
Tensile modulus	iSO 527	MPa	3300	3100	3500	3600	3700	2000	1900	1900	2100	1640	2500	2450	2200
Tensile stress at yield	iSO 527	MPa	60	60	-	70	72	48	42	42	28	28	44	46	40
Tensile strain at yield	iSO 527	%	-	-	-	-	-	4.00	4.00	4.00	-	-	2.10	2.60	2.40
Tensile strain at break	iSO 527	%	2.50	2.30	2.00	2.50	3.00	-	-	20.00	50.00	120.00	> 15.00	> 15.00	> 15.00
Flexural strength	iSO 178	MPa	100	100	-	115	120	70	60	-	50	45	70	65	62
Charpy unnotched impact strength	iSO 179/1eU	kJ/m²	12	13	14.50	14	16	120	110	-	n.b.	n.b.	100	120	n.b.
Charpy notched impact strength	iSO 179/1eA	kJ/m²	1.50	1.50	1.70	1.50	2.00	5.00	5.00	8.00	4.00	16.00	18.00	16.00	25.00
Izod notched impact strength	iSO 180/A	kJ/m²	2.50	2.50	2.00	1.50	2.00	7	7	-	6.00	15.00	18.00	16.00	25.00
THERMAL PROPERTIES															
Heat deflection temperature, HDT A (annealed 4H/80 °C; 1.8 MPa)	ISO 75-1/-2	°C	80	75	86	86	86	90	87	87	70	67	93	94	94
Heat deflection temperature, HDT B (0.45 MPa)	ISO 75-1/-2	°C	90	83	98	99	99	94	93	93	81	78	97	98	96
Vicat softening temperature VST/B/50	ISO 306	°C	98	90	105	105	106	93	87	87	73	60	98	99	96
OPTICAL PROPERTIES															
Light transmission (4 mm thick)	aSTM D 1003	%	91.40	91.70	> 89	> 89	> 89	89	89	90	90	89	-	-	-
Haze (4 mm thick)	aSTM D 1003	%	0.30	0.30	< 1.00	< 1.00	< 1.00	< 3.00	< 3.00	2.00	2.00	2.00	-	-	-
Refractive index (ND)	ISO 489	-	1.56	1.56	1.57	1.57	1.57	1.54	1.54	1.54	1.57	1.56	-	-	-

* Melt volume rate MVR 200 °C/5 kg n.b. = no break



STYRENICS. MADE FOR RECYCLING.

CONTRIBUTING TO A CIRCULAR ECONOMY



Styrenics are one of the most versatile materials in the 21st century, and have revolutionised the way we live today. Our products have become an indispensable part of consumers' everyday lives and provide solutions to societal challenges such as climate change, resource scarcity, urbanisation, rising living standards and population growth.

The solutions styrenics products offer include extending food shelf life thereby reducing food waste, while also providing lightweight solutions for the automotive industry leading to lower fuel consumption.

This new ECO range not only complements INEOS Styrolution's existing strong portfolio of styrenics standard products and specialties, but also matches the performance of our existing portfolio.

INEOS
STYROLUTION
ECO

By offering styrenics solutions that deliver strong, sustainable performance, we want to ensure that our customers' businesses and end consumers' choices become more sustainable.

To read more about our ECO family of solutions, please visit:
www.styrolution-eco.com.

To read more about our actions and performance on sustainability visit:
www.ineos-styrolution.com/sustainability

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