SULAPAC

Sustainable, beautiful, and functional materials for cosmetic packaging and more

Mission driven. Science based.

Sulapac Ltd is an award-winning material innovation company bringing solutions to the global plastic crisis.

Founded by two visionary female scientists in Helsinki, Finland, Sulapac is setting a new standard for sustainable materials replacing conventional plastic. With our materials, you can accelerate a cleaner tomorrow without compromising functionality or aesthetics.

Companies across various industries, from indie brands to global luxury icons, collaborate with Sulapac to build a better future for us all.

Join the forerunners today.

PREMIUM LOOK & FEEL

- Adaptable to your brand needs
- A way to stand out from the competition
- Can provide the same aesthetics as conventional plastic

MASS-PRODUCIBLE WITH OUTSTANDING FUNCTIONAL PROPERTIES

- No compromises, meets the highest quality requirements
- Trusted by global high-end brands
- Can be used with existing plastic converting machinery
- Excellent processability for manufacturers

SUSTAINABLE – BACKED BY SCIENCE

- Bio-based, biodegradable and recycled raw materials
- Low carbon footprint
- Responsibly sourced
- No permanent microplastics or toxic load
- Recyclable by design

Sulapac key features are scientifically validated and verified, for example through third-party certificates. Find detailed info at **sulapac.com/key-features**

Become an ambassador for sustainability and innovation

BY ADOPTING SULAPAC, BRANDS AND MANUFACTURERS CAN:

- Reduce the use of fossil-based plastics
- Tackle microplastic pollution
- Reduce their carbon footprint
- Increase the use of recycled content
- Promote circular future
- Embrace biodiversity

Superior Solution for Cosmetic Pencils

Meet your sustainability goals with our innovative, high-performing barrel material.

- Compatible with demanding formulas (both lip and eye liners)
- Easy to sharpen
- Drop-in solution for standard extrusion machinery
- Typically used to replace PVC, ABS and AES

Learn more at sulapac.com/cosmetic-pencil

Sulapac Flow 1.8

Sustainable wood-composite for sharpenable pencils with outstanding functional properties.

- 72% biobased
- Made with FSC-certified wood from industrial side streams[1]
- Available with 100% recycled biopolymers[2]
- Low carbon footprint: 1,1 kg CO2eq/kg[3]
- FDA and EU food contact compliant[4]
- No persistent microplastics or toxic load[5]

1 FSC licence code: FSC-C158142

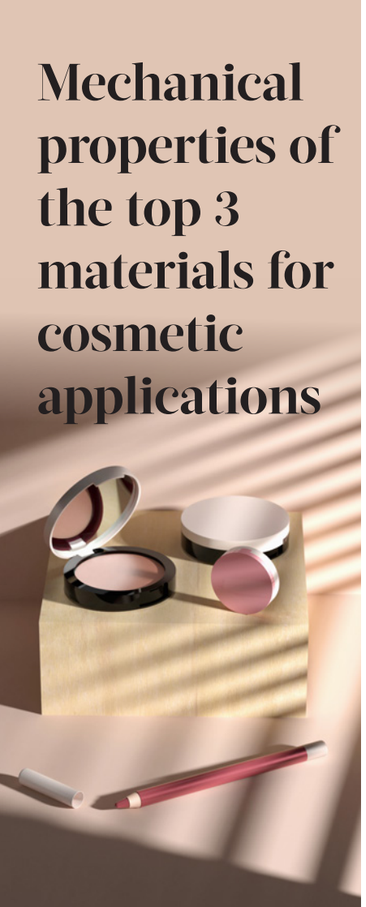
2 Based on mass balance allocation. Including both PIR and PCR.

3 Based on a screening LCA study performed by an independent third-party consultancy. The results have not yet been critically reviewed. Biogenic carbon (carbon sequestration) included. Calculated with virgin biopolymers; with recycled content the value will be lower.

4 Restrictions and specifications of use apply, please refer to relevant Declaration of Compliance for further information.

5 Relative biodegradation of 75,5% in 420 days in simulated marine environment test (ASTM D6691, 86°F/30°C) using natural sea water. Not considered biodegradable in California. Ecotoxicity and threshold values for heavy metals tested according to EN 13432.**Cradle-to-gate carbon footprint (biogenic carbon included) based on critically reviewed study by an independent LCA consultancy.

Mechanical properties of the top 3 materials for cosmetic applications



	SULAPAC FLOW 1.8 (EX1014.3NC)	**SOLID 2.0** (IM1026.0NC, IM1026.0BP, IM1026.0AW)	**SULAPAC LUXE FLEX** (IM1024.0NC, IM1024.0BP)
Density (g/cm3)	1.26	1.4	1.27
Shrinkage	Extrusion process	0.15	0.36
Certified biobased content (%)	72%	100%	86%
MFI (190°C/2.16 kg)	3g/10min	22g/10 min	31g/ 10min
Main components	Mix of biodegradable biopolymers and FSC certified wood flour (side steam)	Mix of biodegradable polymers and naturally occurring clay minerals	Mix of biodegradable biopolymers
Available with recycled content	Yes, up to over 50%	Yes, up to 70%	Yes, up to over 70%
Targeted replacement	ABS / AES / PVC	Thermodur / Bakelite	ABS
Application examples	Sharpenable cosmetic pencils	Fragrance caps Jars and lids Compacts	Fragrance caps Jars and lids Compacts Brush handles
Object thickness recommendations Min. – Max (mm)	Min. 0.5mm	0.6 – 9mm	0.5 – 6mm
Food contact compliance*	EU & FDA	EU & FDA	EU / FDA
Validated decoration techniques	Lacquering	Metallization, silkscreen printing, lacquering, hot stamping	Metallization, silkscreen printing, lacquering, hot stamping

*Restrictions and specifications of use apply, please ask for Declaration of Compliance for further information.

Future-proof Materials for Caps and Closures

Replace styrene-based plastics and thermosets with a more sustainable yet luxurious option.

Learn more: sulapac.com/caps-closures

Sulapac Solid 2.0

A ceramic-like premium composite for fragrance caps and lids.

- 100% biobased
- Heat, humidity and moisture-resistant
- Beautiful, ceramic-like look and feel
- Both velvety matte and glossy finish possible
- Low carbon footprint: 0,6 kg CO2eq/kg[1]
- Contains zero PFAS[2]
- Popular replacement for thermosets

USDA CERTIFIED BIOBASED PRODUCT PRODUCT 100%

BPI COMPOSTABLE COMMERCIALLY COMPOSTABLE ONLY. FACILITIES MAY NOT EXIST IN YOUR AREA. CERT #10529195

Loopla

[1]Cradle-to-gate carbon footprint (biogenic carbon included) based on critically reviewed study by an independent LCA consultancy.

[2]Tested for per-and polyfluoroalkyl substances (PFAS) by an independent, ISO/IEC 17025 certified laboratory based on CEN/TS 15968 test method; No PFAS compounds detected.

Sulapac Luxe Flex

Sustainable yet luxurious alternative for technical plastics in cosmetic packaging.

- Ideal substitute for ABS (compatible with most ABS molds)
- Good chemical resistance and excellent performance in cosmetic climatic testing
- Glossy finishing possible without varnish
- Low carbon footprint: 1,2 kg CO2eq/kg[1]
- The perfect choice for high-end fragrance caps
- 86% biobased

USDA CERTIFIED BIOBASED PRODUCT PRODUCT 86%

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*Cradle-to-gate carbon footprint (biogenic carbon included) based on critically reviewed study by an independent LCA consultancy.

[1]Based on a screening LCA study performed by an independent third-party consultancy. The results have not yet been critically reviewed. Biogenic carbon (carbon sequestration) included.

Mechanical properties of Sulapac materials for cosmetics

	Large wood chips	Small wood chips		Wood flour	Non-visible wood	No wood		
	Premium	Universal	Universal Flex 35	Flow 1.7 & 1.8	Luxe	Luxe Flex	Solid 2.0	Barrier
Natural color of the material								
Density (g/cm3)	1.27	1.27	1.27	1.26	1.27	1.27	1.4	1.49
Shrinkage	0.2	0.2	0.3	N/A	0.36	0.36	0.15	1
MFI (190°C/2.16 kg)	N.A	12 g/ 10 min	12 g/ 10 min	3 g/ 10 min	14 g/ 10 min	31 g/ 10 min	22 g/ 10 min	8 g/ 10 min
Flexural Strain (%)	2.0%	1.9%	2.5%	4.5%	3%	6.5%	1.3%	1.1%
Tensile Modulus (GPa)	4.9	4.5	3.5	2.1	3,2	2.3	7.8	8.7
Tensile strain at yield (%)	1.2%	1.6%	2.5%	3.0%	2.2%	2.8%	1.3%	1.1%
Tensile strength (MPa)	48	45	40	35	50	53	65	44
Charpy Impact (kJ/m2)	6	10	11	33	16	19	16	9
Recommended minimum object thickness (mm)	2	0.6	0.6	EX: 0.25 (Flow 1.7) EX: 0.5 (Flow 1.8)	0.6	0.6	0.6	0.5
Food contact compliance*	EU & FDA	EU & FDA	EU & FDA	EU & FDA	EU & FDA	EU & FDA	EU & FDA	EU
Recycled content maximum	>70%	>70%	>50%	>50%	>50%	>70%	>70%	>50%

*Restrictions and specifications of use apply, please refer to relevant Declaration of Compliance for further information.

Trusted by iconic brands and industry-leading manufacturers

Fighting climate change and plastic pollution, together.

Join the forerunners at **sulapac.com**

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LIKE NATURE