

TECHNICAL DATA SHEET

SULAPAC NORDIC COLLECTION

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RAW MATERIALS

The Nordic Collection jars are made of 100% bio-based¹ Sulapac Premium material. The material is recyclable via industrial composting and it doesn't leave permanent microplastics behind². The main components are wood from industrial side streams and biodegradable biopolymers. All raw materials are sourced according to a strict sustainability policy and the wood originates from certified forests.

Sulapac Premium is safe for both people and the planet: The ecotoxicity and threshold values for heavy metals have been tested according to EN 13432 / ASTM D6400. The raw materials used are REACH and Proposition 65 compliant and meet the framework regulation (EC) No.1223/2009 for cosmetic products. The material complies with the food contact requirements of the EU and FDA legislation.

For more details, visit www.sulapac.com/key-features

¹ USDA Bio-based certification in progress.

² Biodegradation of 59% in 280 days in the marine environment (30°C/86°F) (ASTM D6691). Not considered degradable in California.

COMPOSTABILITY

Sulapac Premium is industrially compostable according to the European standard EN 13432 (corresponds with ASTM D6400). BPI certification process is ongoing. The compostability has been verified by an accredited third-party laboratory up to wall thickness of 4,5mm.

The compostability claim is always application specific. Attention must be paid to materials added to the Sulapac packaging, e.g. printing colors, stickers, sleeve or other parts, and the formula of the product inside the packaging:

- Make sure that the non-compostable content and potential additional parts of the packaging are easy to remove from the Sulapac packaging and leave no residues.
- If the product filled into a Sulapac packaging could leave traces in the packaging after the normal use, the product itself should be compostable and neither toxic nor hazardous.
- Make sure the inks, labels and glues used for customising the packaging also comply with EN 13432.

More information about the compostability of Sulapac and how to communicate about it can be found at www.sulapac.com/compostability.



Figure 1. Sulapac Premium (left) and polypropylene (right) jar before composting and after being held in an industrial compost for 21 days (EN 13432).

SULAPAC NORDIC COLLECTION JARS

NORDIC COLLECTION – MEASUREMENTS				
	15ml OIL-BASED	30ml OIL-BASED	50ml OIL-BASED (Universal Coating)	50ml OIL-BASED * (Barrier B Coating)
Maximum filling (to the brim)	17ml	33ml	55ml	55ml
Exterior Measurements	Ø 47 x 27 mm	Ø 55 x 29 mm	Ø 60 x 38 mm	Ø 60 x 38 mm
Interior Measurements	Ø 34 x 17 mm	Ø 45 x 20 mm	Ø 50 x 28 mm	Ø 50 x 28 mm
Inner Liner thickness	0.8 mm	0.8 mm	1.2 mm	1.2 mm
Gross weight	35g	39g	55g	55g
Max. size for bottom labelling	Ø 31 mm	Ø 37 mm	Ø 42 mm	Ø 42 mm
Max. size for cap printing	Ø 40 mm	Ø 48 mm	Ø 53 mm	Ø 53 mm

* Under development also for water-based formulas.



SULAPAC BI-INJECTED 50ML JAR

The Sulapac bi-injection molded 50ml jar comes in two varieties. Both options have the Sulapac Premium material on the outside and either a Universal or a Barrier B coating on the inside. The Universal coating can be seen on the left of the image above and the Barrier B coating is depicted on the right.

SULAPAC BIODEGRADABLE LINER



SULAPAC BIODEGRADABLE LINER

MATERIAL	FUNCTIONALITY	TECHNICAL PORPERTIES
<p>Sulapac liner is fully biodegradable and BPA (bisphenol A)-free. It doesn't leave permanent microplastics behind.</p> <p>Since the liner is in direct contact with the product, chemical compatibility is critical. The liner is suitable for oilbased and dry cosmetic products.</p>	<p>Sulapac liner is an additional "layer" to be assembled to the inside of the lid. The liner provides improved functionality and longer stability time for the product. While the Sulapac material already has good oxygen barrier properties, adding the liner further protects the product inside the jar.</p> <p>The primary function of the liner is to offer proper sealing of the product and often it determines the closure's fit and function viability. It also prevents leakage and provides a barrier to aromas and extends shelf life.</p>	<p>Sulapac liner is flexible, and it can be placed mechanically inside the lid. No glues or any other adhesives are needed.</p> <p>The thickness of the liner is 0.8 mm or 1.2 mm, depending on the size of the jar in question. The diameter of the liner varies according to the inner dimensions of different sized Sulapac lids.</p> <p>Water (or other product) evaporation from the jar is significantly lower with a liner.</p>

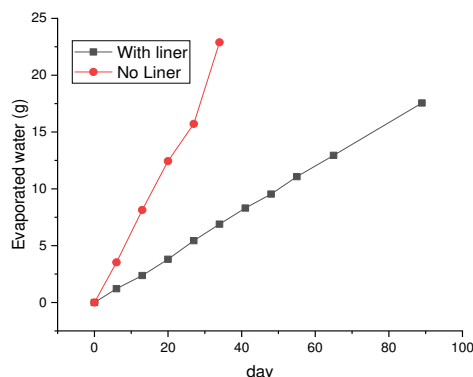


Figure 2. Evaporation of water from Sulapac jar with and without a liner at 50°C

Sulapac Liner

The graph in Figure 2 shows the evaporation of water from Sulapac jar with and without a liner at 50°C. Without a liner, 22.9 g of water evaporated from the jar in one month, whereas with a liner, only 17.6 g of water evaporated from the jar in three months. The corresponding evaporating rates with and without liner were 0.199 g/d and 0.648 g/d, respectively.

SULAPAC NORDIC COLLECTION JAR STABILITY

NORDIC COLLECTION – CONDITIONS OF USE		
	JARS FOR OIL-BASES FORMULAS	JARS FOR WATER-BASED FORMULAS *
Storage of empty jars	12 months in low relative humidity (under 50% RH), not exposed to extreme temperatures or direct sunlight, best in dry conditions and room temperature (22-25°C max. 45°C or 68-77°F max. 113°F)	
Recommended temperature of temporarily filling	70°C (158°F)	70°C (158°F)
Recommended temperature for accelerated stability test	40°C (104°F)	40°C (104°F)
Stability time	24 Months **	12 Months **
Sterilization	In case sterilization is required, the products can be sprayed with a 70% ethanol solution. The products should be allowed to dry properly before they are filled.	

* For water-based formulations, under development.

**For most of the products, the above stability times can be guaranteed but every product needs to be evaluated separately.

SULAPAC COLOUR PALETTE



The ultimate appearance of the color depends on the material recipe it is applied to.
Lids: Sulapac® Premium Bottoms: Sulapac® Universal