

Industrial Coatings

Sasol Performance Chemicals



SASOL



Technical Data

Paraffin Waxes for Paints and Coatings

	Congealing point (°C)	Oil content (%)	Penetration at 25 °C (1/10 mm)	Viscosity at 100 °C (mm²/s)
Sasolwax 3971	70–75	0–2.0	25–33	12–16
Sasolwax 6403	62–66	0–0.5	16–22	5.5–7
Sasolwax 5803	58–60	0–0.5	15–19	4–5
Sasolwax 5203	52–54	0–0.5	16–20	2,6–4,5

Dispersions

	Water content (%)	Viscosity (typical) (mPa·s)	pH (typical)	Emulsifier
HydroWax 115 *	52–56	250	8.5	Anionic
HydroWax 138	38–42	350	9	Anionic/Nonionic
HydroWax 46	38–42	250	7	Cationic
HydroWax RV	48–52	800	7	Anionic

* Complies with FDA and/or BfR regulations

Sasolwax Fischer–Tropsch Waxes

	Mettler drop point* (°C)	Penetration at 25 °C (1/10 mm)	Colour	Molecular weight (dalton)	Particle size (µm)	
					D50	D90

Sprayed waxes

Sasolwax Spray 30	112	< 1	White	880	6.5*	13.2*
Sasolwax Spray 105	117	< 1	White	1110	6.1*	12.6*

Ground waxes

Sasolwax H1N4-G	112	< 1	White	880	7*	17*
Sasolwax C80-G	88	4–9	White	620	7*	17*
Sasolwax Spray 30G	112	< 1	White	880	6.5*	13.2*
Sasolwax Spray 105G	117	< 1	White	1110	6.1*	12.6*
Sasolwax Spray 30G-EF	112	< 1	White	880	4–5	8–10
Sasolwax Spray 105G-EF	117	< 1	White	1110	4–5	8–10
Sasolwax Spray 30G-M	112	< 1	White	880	9–11	20–26
Sasolwax Spray 30 G-L	112	< 1	White	880	11–13	25–31
Sasolwax Aqua 30G	>95	< 1,5	White	1120	7	14
Sasolwax Aqua 30G-EF	>95	< 1,5	White	1120	5	10

* = Arithmetic mean

NCM (Narrow-Cut Material)

Technological trends such as higher processing speed, the idea of 'more with less' and lower energy requirements require highly technical products with distinct technical properties.

FT waxes from Sasol comprise linear molecules by nature, offering a high crystallinity and a low viscosity. In order to meet customer requirements in highly demanding application processes, the molecular distributions need to be narrowed. Therefore, Sasol has decided to introduce narrow-cut materials (NCMs) to its portfolio.

These products can be used in various market segments and application fields such as plastics, inks and coatings; hot melt adhesives; and personal care – and specifically for toners; TTR (thermal transfer ribbon); micronised products; EPS (expanded polystyrene); PU mould release; lipsticks; and antiperspirants.

The combined advantages of NCM products are:

- A high level of hardness and crystallinity in solid form
- Low melting point (energy-saving)
- Low viscosity (after melting)
- Ability to flow well in liquid form (Newtonian fluid)
- Distinct phase transition from the solid to liquid phases/temperature switch function

Product name	Congeealing point (°C)	Pen N 25 °C (0.1 mm)	Pen N 40 °C (0.1 mm)	Kin. viscosity 100 °C (0.1 mm)	Kin. viscosity 120 °C (0.1 mm)	
ASTM	D938-05	D1321-10	D1321-10	D7042-11	D445-11a	
Sasolwax NCM 9335	76	9	23	6.9	–	NEW!
Sasolwax NCM 9385	84	8	–	11.5	–	
Sasolwax NCM 9395	90	3	8	12.2*	9	NEW!

* = Calculated values

FT waxes are not considered as polymers in the sense of ECHA (European Chemicals Agency) and do not fall under the plastic definition.

Corrosion Protection

Waxes and petroleum jellies are excellent corrosion protection agents. The materials are applied in a molten state or at room temperature if emulsions or salve-like products are used. All products have an excellent wetting behaviour of the surface which has to be protected. The temporary corrosion protection emulsion can be removed easily by hot water or high-pressure water jets. Technical-grade petroleum jellies will not saponify and are free of resins, acids, alkaline substances, oxidised components and metals.

Petroleum Jellies for Corrosion Protection and Wire Rope Protection

	Colour ASTM	Congeaing point (°C)	Cone penetration at 25°C (1/10 mm)	Viscosity at 100 °C (mm ² /s)
MERKUR 500	0-0.5	50-56	140-160	5.0-9.0
VARA AB	0-0.7	50-55	165-185	7.5-10

Waxes for General Corrosion Protection

	Congeaing point (°C)	Oil content (%)	Penetration at 25 °C (1/10 mm)	Viscosity at 100 °C (mm ² /s)
Sasolwax 3735	68-75	4-8	60-120	12-18
Sasolwax 8287	72-76		50-65	12-16
Sasolwax 3279	76-82	0-2	14-18	13-19
Sasolwax 9484	62-70		80-140	12-20

Water-Based Corrosion Protection Emulsions

	Viscosity at 25 °C (mPa·s)	pH	Non-volatile content (%)
Sasolwax Protect	200-800	9.0-10.5	36-40

Industrial Coatings

Waxes play an important role in the manufacturing of surface treatment materials. Sasol Performance Chemicals offers the full range of petrochemical and synthetic Fischer–Tropsch waxes, white oils and petroleum jellies to fulfil the special requirements of your process.

The Role of Wax in Inks, Paints and Coatings

Characteristic	Inks	Powder	Can	Coil	Wood	Marine	Automotive
Rub/scuff/mar resistance	•		•	•			
Anti-blocking	•	•		•	•		
Water resistance	•				•		
Slip increase	•		•	•			
Lubrication (during manufacture)		•					
Grinding aid		•					
Reduced caking		•					
Flow additive		•					•
Product (content) release			•				
Higher coating flexibility			•				
Anti-weathering					•		
Water-mark resistance					•		
Barrier effect					•		
Maintenance aid						•	

Mechanism of Wax Functions in Coatings

Bloom Effect



- Wax melts and blooms (floats) to surface
- Bloom aided by incompatibility with coating system
- Wax forms layer

Ball-Bearing Effect



- Thin films (<10 µm)
- Wax particles same size or bigger than film thickness
- Optimum performance – narrow particle size distribution (PSD)
- Fast-drying films – no time for migration

At Your Service



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Source reference

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