

Inks



SASOL

Sasol Performance Chemicals



About Us

Sasol Performance Chemicals develops and markets a broad portfolio of organic and inorganic commodity and specialty chemicals and comprises three key business divisions: Organics, Advanced Materials and Wax. Our offices in 18 countries serve customers around the world with a multifaceted portfolio of state-of-the-art chemical products and solutions for a wide range of applications and industries.

At a Glance

The Wax Division of Sasol Performance Chemicals is a leading specialist in innovative wax technology.

For many decades the Wax Division of Sasol Performance Chemicals has focussed on the development and sales of paraffin waxes, micro waxes, synthetic waxes and blends or emulsions thereof. Today we serve different industries like inks, paints and coatings, rubber and tire, paper and packaging, textiles, cosmetics as well as road construction, candles and many others.

Micro and macro crystalline waxes are renowned for a wide range of possible applications. Their use ranges from rather simple applications to process oriented tailor-made blends for state-of-the-art production equipment. Specialties are created for innovative solutions.

Refined paraffin waxes are mixtures of saturated hydrocarbons, purified by modern, environmental friendly technologies. All our products are constantly monitored by a stringent quality control system and are nontoxic. Their environmental properties are characterized by inherent biodegradability and non-cumulative effects.

Wax solutions for every process.



Printing Inks

Sasol Performance Chemicals manufactures a number of specialised wax grades which are available in pelletised and micronised form for use in the printing ink industry.

Utilisation of the Fischer–Tropsch (FT) process together with state-of-the-art fractionation, micronisation and blending facilities enables Sasol Performance Chemicals to produce superior products designed to satisfy the needs of ink makers in every area of application involving intermediate wax grinders, dispersion and compound producers.

Waxes are used as additives in printing inks:

- To improve the resistance of the ink film to rubbing, scratching and scuffing
- To serve as a slip aid

FT wax properties:

- High level of hardness
- Low melting points (energy-saving)
- Low viscosity (after melting)
- Combined with the ability to flow well in liquid form

Micronised Powders

Sasol Performance Chemicals offers a range of micronised waxes. The defined particle size of our micronised powders and the low surface tension of Sasol's FT waxes ensure excellent slip performance in a variety of different types of inks. Our micronised waxes are produced by spraying and grinding processes.

Sasolwax Spray 30-G is an economical, finely micronised wax powder with a medium melting point, good rub resistance, excellent slip performance and outstanding gloss properties. This product is particularly suitable for lithographic heat-set inks due to its medium melting point and excellent slip performance. It also performs very well as an additive to water-based inks, provided high-speed mixing equipment is used to disperse the wax in the ink.

Sasolwax Spray 30 is the sprayed alternative to **Sasolwax Spray 30-G**.

Sasolwax Spray 30G-EF is the extra-fine version of **Sasolwax Spray 30-G** with an even smaller particle size.

Sasolwax Spray 105-G is a high-performance micronised wax with a high melting point, excellent rub resistance and slip performance and good gloss properties. It was developed specifically for applications in which a high rub resistance is required. This product is resistant to most printing ink solvents and may be used as a high-performance additive in most solvent-based printing inks. Because it has a higher surface tension than **Sasolwax Spray 30**, you can print over this product with most commercial UV varnishes, and is therefore suitable for use in lithographic sheet-fed inks.

Sasolwax Spray 105 is the sprayed alternative to **Sasolwax Spray 105-G**.

Sasolwax Spray 105G-EF is the extra-fine version of **Sasolwax Spray 105-G** with an even smaller particle size.

Sasolwax H1N4-G is a micronised powder and improves the performance of newspaper inks without significantly impacting costs.

Sasolwax Aqua 30-G is a chemically modified hard wax available in a fine-powder form. It is designed for improving the dispersion of powder in water-based ink systems. The wax provides the final ink with good rub resistance, slip performance and gloss.

Sasolwax Aqua 30G-EF is the extra-fine version of **Sasolwax Aqua 30-G** with an even smaller particle size.

Microcrystalline waxes are the base materials for heat-set ink compounds. With our flexible production technique, we're able to design these materials specifically for each customer to provide the best possible results.

Micronised 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

Technical Data

Printing Inks

Application	Products
Lithography, sheet-fed	Spray 30/-G/-EF/-M/-L, Spray 105/-G/-EF
Lithography, web-fed, heat-set	Petroleum jellies, paraffin and microcrystalline waxes
Lithography, web-fed, cold-set	Spray 30/-G/-EF/-M/-L, Spray 105/-G/-EF
Flexography/gravure/screen-printing	Spray 105/-G/-EF, Aqua 30-G/-EF
Digital printing, inkjet	Spray 30/-G/-EF/-M/-L, Aqua 30-G/-EF, Spray 105/-G/-EF, Narrow Cut Materials (NCMs)
Digital printing, xerography	Narrow Cut Materials (NCMs)
Thermal transfer ribbon	Narrow Cut Materials (NCMs)
Energy-curable inks	Spray 30/-G/-EF/-M/-L, Aqua 30-G/-EF, Spray 105/-G/-EF, Narrow Cut Materials (NCMs)

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	Congeaing 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

Sasol Fischer–Tropsch Waxes

The base waxes are available in coarse powder, flake and pastille form for use in intermediate grinders and compounders.

Sasolwax H1, a high melting Fischer–Tropsch wax with a molecular weight of 750 g/mol, is available in flaked and pellet form and is mostly used by intermediate companies who do wax grinding. Due to its favourable price–performance ratio, this product is ideal for blending with high-priced grades such as PTFE. **Processed for use in: Lithographic heat-set inks / Water-based liquid inks / Wax blend components**

Sasolwax C105, a high-performance wax with a high melting point and a molecular weight of 1300 g/mol is available in pellet form. This product, with a narrow carbon distribution, is particularly applicable for use in the production of wax compounds. Its narrow crystallisation curve and lack of low-boiling components leads to very controllable compound production.

Production of compounds for: Lithographic sheet-fed ink / Lithographic heat-set ink

Sasolwax A28, available in a coarse powder form, is a chemically oxidised hard wax which has been specifically developed for incorporation into water-based inks. This product can be easily emulsified. It can be used in water-based inks to provide excellent rub resistance, slip and gloss. **Making emulsions for: Water-based liquid inks**

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

Petroleum Jelly

In the production of printing inks, petroleum jelly significantly reduces “Tack”, without affecting the viscosity in the process. Petroleum jelly is used in all types of printing inks, but the main use is in the field of heat-set and offset inks.

For applications in the printing ink industry, we recommend MERKUR 500.

	Colour lovibond	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 min	140–160	5.0–9.0

At Your Service



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