

# HYCOS<sup>®</sup>

High Performance Synthetic Hard Waxes for  
Personal Care Applications



## Pure Excellence

### Synthetic Waxes

**HYCOS®** products are the ultimate high-performance ingredients for the formulation of creams, ointments and balms for body, lip and haircare. They boast outstanding properties in all stick applications.

**HYCOS®** synthetic hard waxes form stable oil gels and improve the oil binding capacity with many widely used cosmetic emollients and in particular with linear silicones, which are irreplaceable when it comes to innovative haircare products.



Obtained through dedicated synthesis under controlled conditions, constant physical properties promote effective stable crystallization, proper film formation and gloss, which are important for all stick applications, including antiperspirants, deodorants and lipsticks. Moreover, they improve the stability of all ointments and creams due to their higher melting behavior, also in warm climate conditions.

**The innovative ingredient for high-performance body care and stick applications.**

**HYCOS®** properties: melting range of 60 -105 °C, texture and molecular structure, reveal controlled melting behavior, ensuring easy and repeatable processes and performance.

**HYCOS®** stabilizes emulsions and improves temperature resistance, even in sunscreen formulations and severe temperature conditions.

**HYCOS®** is virtually PAH<sup>1</sup> and MOAH<sup>2</sup> free!



<sup>1</sup> PAH: Polycyclic Aromatic Hydrocarbons

<sup>2</sup> MOAH: Mineral Oil Aromatic Hydrocarbons

## HYCOS® Product Range

**HYCOS 75®**, **HYCOS 80®** and **HYCOS 98®** are classic synthetic hard waxes, well known for their versatile usages and their high performance in cosmetics, body care and beauty applications. They are produced by a Fischer - Tropsch synthesis and further refining and consist mainly of unbranched alkanes. They are virtually free of all impurities.

The congealing point range of 75°C - 80°C, combines excellent melting behavior, stable properties and high performance in stick applications and emulsion stabilization.

**HYCOS 303®** is a new member of the **HYCOS®** product range. It was developed to make the product portfolio complete. With its melting range of 60 - 67 °C and its needle penetration of 12 - 25 mm/10, the product properties are very close to traditional paraffin waxes. It is a great candidate in all applications in which a higher melting behavior and/or the strict hardness of the synthetic hard waxes is not ideal. Nevertheless, purity and performance match typical synthetic wax properties.

### Approvals, Facts & Figures

- Compliant with EU Cosmetics Regulations
- No Allergens acc. to EU Regulation 1223/2009
- CAS no.: 8002-74-2
- Compliant with FDA 21 CFR 175.250
- REACH and other global national inventories listed
- No solvent residues
- No preservatives
- Shelf life: 5 years
- INCI: Synthetic Wax

## HYCOS® ISO

### Combining properties and advantages of Microcrystalline Waxes with the purity of Synthetic Waxes

The **HYCOS® ISO** product range is very innovative!

It represents totally new synthetic waxes, which have the fantastic properties of microcrystalline waxes. Produced by the classic Fischer-Tropsch synthesis and followed by an isomerization step, these products unite the highest purity of synthetic waxes with the advantageous properties of high iso-alkane microcrystalline waxes.

**HYCOS® ISO Soft** stands for a high purity, synthetic microcrystalline wax, which is ideal for all those applications in which a microcrystalline wax can be used like ointments, creams, lotions, fatty-free and water-free basic excipients. High oil binding and viscosity modifying properties are given. The needle penetration of 20 - 60 mm/10 shows a soft texture and the congealing point of 70 - 80°C enables the production with standard equipment. A fully molten fatty phase without possible negative crystallization effects of the finished product always delivers a constant production. Ideal for use in all stick applications.

**HYCOS® ISO Medium** is similar to **HYCOS® ISO Soft**. However, it is slightly harder with a needle penetration of 10 - 40 mm/10. The product is used as alternative for mineral oil based Microcrystalline Waxes in all applications.

Lastly, **HYCOS® ISO Hard** is literally a synthetic hard wax with high iso-alkane content. It shows similar physical data, comparable to HYCOS 75®/HYCOS 80®, but with a significantly higher kinematic viscosity and higher iso-alkane content. Ideal for use in beauty stick applications and mascara as well as hardener in creams and ointments, where the chemical structure delivers an advantage in emulsification characteristics.

## Properties and Advantages



By combining the latest technology, high performance and purity, we make sure that **HYCOS®** is the right choice for each of your requirements.

All **HYCOS®** synthetic waxes are virtually free of PAH and MOAH.

### INCI Name: Synthetic Wax

Synthetic wax	Hycos® 303	Hycos® 75	Hycos® 80	Hycos® 98	Hycos® Iso Soft	Hycos® Iso Medium	Hycos® Iso Hard
<b>Appearance</b>	White pastilles	White pastilles	White pastilles	White pastilles	White slabs	White slabs	White pastilles
<b>Saybolt color</b>	15-30	20-30	15-30	15-30	28-30	28-30	28-30
<b>Congealing point °C</b>	60-67	75-82	80-85	98-105	70-80	75-85	80-90
<b>Needle penetration @ 25°C mm/10</b>	12-25	5-15	4-9	0-1	20-60	10-40	0-10
<b>Drop point °C</b>	60-75	90,0 max	95,0 max	120 max	85-95	80-95	90-105
<b>Viscosity mm<sup>2</sup>/s 100°C</b>	3,0-8,0	6,0-9,0	7,0-11,0	7,0-14,0 (135°C)mPa/s	15-25	15-25	15-25

## The HYCOS® Advantage

- A full range of Synthetic waxes
- Synthetic waxes with Microcrystalline wax characteristics
- Highest purity
- Virtually PAH and MOAH free
- Mineral oil free
- Reliable stick production processes
- Film forming, gloss, oil binding and temperature stability enhancement
- Emulsion stabilization
- Stable oil gels, even with silicones
- High performance products





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