ONE OF THE WORLD’S LEADING PROCESSORS, REFINERS AND MARKETERS OF HIGH QUALITY NATURAL WAXES
Koster Keunen Holland was founded as a family business in 1852 by Johanna Keunen and Bernhard Koster. Prime user of refined beeswax at the time was the candle industry. In the early days bleaching beeswax was a seasonal task because the only available method was exposing beeswax to sunlight in large open fields.

While at first beeswax was mainly used for candles, at the start of 20th century pharmaceuticals, food and especially cosmetics became important markets for beeswax. In 1930 Koster Keunen LLC was founded in Sayville, N.Y. to supply the American market and a second home base for the company was established. In 1973 a new modern factory site was established in Bladel to better serve the ever-increasing customer base, especially for specialty products for the cosmetic industry.

Currently, Koster Keunen is one of the world’s leading processors, refiners and marketers of natural waxes. It is specialized in processing, formulating and marketing quality waxes to the cosmetic, pharmaceutical, candle and food industry and to other manufacturers worldwide. From its two facilities Koster Keunen processes and markets a greatly expanded line of waxes, wax derivatives and synthetic waxes which contribute to the high quality of literally thousands of products.
EXTENSIVE KNOWLEDGE OF WAXES AND SCIENTIFIC EXPERIENCE IN DEVELOPING NEW PRODUCTS
Koster Keunen Holland produces according to ISO 22716: 2007 / Cosmetics Good Manufacturing Practice (cGMP) and has been certified for its production site in 2013. This certification covers production of natural and synthetic waxes for the cosmetic, pharmaceutical, food, feed, ink and candle industries.

From beeswax, the foundation of the business and one of our principal products, Koster Keunen has developed a variety of new products to meet new and constantly evolving client requirements. In the area of natural waxes, beeswax derivatives have been created, such as BW Ester BW67, Cera Bellina as well as siliconyl beeswax and PEG-8 beeswax.

Specialty synthetic waxes are Kester (Koster ester) waxes such as K80H, K82P and K30G, inspired by our unique knowledge of the composition of beeswax. Vegetable waxes include carnauba wax, candelilla wax and several composites. Orange wax, sunflower wax and flower waxes have been added to our natural wax portfolio.

Koster Keunen’s strength is its extensive knowledge of waxes and scientific experience in developing new products. By working closely together with our customers’ R&D departments as well as formulators we enable our clients to create unique formulas with strong added value in its end product properties.
<table>
<thead>
<tr>
<th>DESCRIPTION:</th>
<th>GENERAL INFORMATION:</th>
<th>BEESWAX</th>
<th>CARNAUBA WAX T1</th>
<th>CANDELILLA WAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>This natural animal wax is a complex mixture of ca. 70 % non-glyceride esters (C38-&gt;C62), ca. 12-15 % fatty acids (C16-C36) and ca. 12-16 % paraffinic hydrocarbons (C21-C25) Beeswax can be used in the entire range of cosmetic products, for example in W/O and O/W formulations, sticks, salves, make-up, hair care products.</td>
<td>Carnauba wax is obtained from the leaves of a palm tree named Copernica cerifera, indigenous to northern Brasil. The wax protects the plant against the environment and prevents excessive evaporation. Carnauba wax consists mainly of esters (ca. 85 %), free long chain fatty alcohols (ca. 13 %), and free fatty acids and resins. This very hard natural wax is mainly used in cosmetic and pharmaceutical stick formulations.</td>
<td>Creams, lotions, sticks, sun care, make-up, hair care, food (glazing or release agent)</td>
<td>It provides good mould release, hardness, consistency, surface gloss and relatively low melting point, high occlusive character. Sticks: improves structure, oil retention, firmness, adhesion, pay-off and mould release. Emulsions: consistency regulator and optional (co-)emulsifier contributing to skin feel, emolliency, barrier function and appearance.</td>
<td>Lipsticks, Lipbalms, decorative cosmetics, sun care, food</td>
</tr>
<tr>
<td>ADVANTAGES:</td>
<td>Candelilla wax has extraordinary oil binding properties, improving the stability and texture of cosmetic products. Sticks: provides good mould release, firmness, surface gloss and improves softening point. Often used in combination with carnauba wax, beeswax and other waxes to improve skin feel, adhesion and pay-off properties.</td>
<td>High binding strength, pronounced plasticity, excellent emulsifiability, relatively low melting point, high occlusive character. Sticks: improves structure, oil retention, firmness, adhesion, pay-off and mould release. Emulsions: consistency regulator and optional (co-)emulsifier contributing to skin feel, emolliency, barrier function and appearance.</td>
<td>It provides good mould release, hardness, consistency, surface gloss and ease of application. Because carnauba wax has the highest melting point among the natural waxes it is suitable for improving the temperature stability of many cosmetic products.</td>
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<tr>
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<td>CAS:</td>
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<td>8015-86-9</td>
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<td>Complies</td>
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<td>Annex V exempt</td>
<td>Annex V exempt</td>
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<td>Not present</td>
<td>max. 50 - 200 ppm Benzyl alcohol</td>
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<td>ALLERGEN FRAGRANCES:</td>
<td>AVAILABLE PRODUCT FORM:</td>
<td>SPECIFIC PRODUCT DATA</td>
<td>SPECIFIC PRODUCT DATA</td>
<td>SPECIFIC PRODUCT DATA</td>
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<tr>
<td>SPECIFIC PRODUCT DATA:</td>
<td>Pastilles (white&amp;yellow), Granulate (white&amp;light yellow), Slabs (white&amp;yellow)</td>
<td>Pastilles (20 kg flakes)</td>
<td>Pastilles (20 kg flakes)</td>
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</tr>
<tr>
<td>PACKAGING:</td>
<td>20 kg bags</td>
<td>25 kg bag</td>
<td>25 kg bag</td>
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<td>PALLET SIZE:</td>
<td>500 kg</td>
<td>500 kg</td>
<td>500 kg</td>
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<tr>
<td>CONGEALING POINT (°C)</td>
<td>61 - 65</td>
<td>Approx. 82</td>
<td>Approx. 69</td>
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<td>ACID VALUE (MG KOH/G)</td>
<td>17 - 24</td>
<td>2 - 7</td>
<td>12 - 22</td>
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</tr>
</tbody>
</table>
# Sunflower Wax

## General Information
Sunflower seed wax is a new, hard, crystalline, high melting vegetable wax obtained from winterization of sunflower oil. It consists of very long chain saturated C42-C60 esters derived from C20-C32 fatty alcohols and C20-C28 fatty acids. Sunflower wax functions as a consistency component in sticks and emulsions (W/O - and O/W).

Lipsticks, lip balms, mascara and other decorative cosmetics, emulsions
- Thickening, improving oil binding, emolliency, film formation and lubricity.
- Contributes to hardness, texture, strength and mould release. Alternative for rice bran, carnauba and candelilla wax and a natural alternative for mineral waxes. Exceptional oil gelling properties in very small wax concentrations. Interesting wax to use in emulsions; creating new textures.

## Regulatory
Helianthus Annuus Seed Wax (Cosing: Cera) 999999-99-4
- FDA §172.890, 172.615
- Annex V exempt
- Free of genetically modified organisms and complies with EC regulations No 1829/2003 and 1830/2003
- Not tested on animals
- BSE/TSE free
- Not present

## Specific Product Data
Granulate
- 20 kg bag
- 500 kg
- 74 - 77
- < 8

# Orange Peel Wax

## General Information
Orange peel wax is a soft orange vegetable wax obtained from the rind of the orange fruit. Composition and consistency are similar to lanolin. Orange peel wax consists of a complex mixture of special esters, free fatty acids, hydrocarbons, free sterols, free aldehydes and free alcohols. Minor components in this wax are well known for their anti-oxidant, anti-inflammatory, anti-microbial and sunscreen properties.

Hair care, skin care, sticks
- Emulsions, hair care, sticks
- In sticks rice bran wax contributes to hardness, texture, strength and mould release. Rice bran wax can be used as a (partial) substitute for carnauba and candelilla wax in many formulations.

## Regulatory
Citrus Aurantium Dulcis Peel Cera 8028-48-6
- FDA §172.890, 172.615
- Annex V exempt
- Free of genetically modified organisms and complies with EC regulations No 1829/2003 and 1830/2003
- Not tested on animals
- BSE/TSE free
- max. 900ppm d-limonene (INCI=LIMONENE)

## Specific Product Data
Solid
- 20 kg pail
- 500 kg
- 30 - 55
- 10 - 30
- < 13

# Lemon Peel Wax

## General Information
Lemon peel wax is a hard yellow wax obtained from the rind of the lemon fruit after separation from lemon essential oils and lemon terpenes. It consists of a complex mixture of special esters, free fatty acids, hydrocarbons, free sterols, free aldehydes and free alcohols. The phytosterols in lemon peel wax act as coemulsifiers aiding emulsion stability. Because it contains a small amount of essential oil this natural wax retains the beautiful fragrance of lemon essential oil.

Hair care, skin care, sticks
- Emulsions, hair care, sticks
- In sticks rice bran wax contributes to hardness, texture, strength and mould release. Rice bran wax can be used as a (partial) substitute for carnauba and candelilla wax in many formulations.

## Regulatory
Citrus Medica Limonum Peel Extract 92346-89-9
- FDA §172.890, 172.615
- Annex V exempt
- Free of genetically modified organisms and complies with EC regulations No 1829/2003 and 1830/2003
- Not tested on animals
- BSE/TSE free
- 5500-8300ppm d-limonene (INCI=LIMONENE)

## Specific Product Data
Solid
- 20 kg pail
- 500 kg
- 15 - 30
- Approx. 62
- < 13

# Rice Bran Wax

## General Information
Rice bran wax is a hard, crystalline, high melting vegetable wax obtained from rice husks. It consists of very long chain saturated C46-C62 esters from C20-C36 fatty alcohols and C20-C26 fatty acids. Rice bran wax functions as a consistency component in sticks and emulsions (W/O - and O/W).

Lipsticks, lip balms, mascara and other decorative cosmetics, emulsions
- In sticks rice bran wax contributes to hardness, texture, strength and mould release. Rice bran wax can be used as a (partial) substitute for carnauba and candelilla wax in many formulations.

## Regulatory
Oryza Sativa Cera 8016-60-2
- FDA §172.890, 172.615
- Annex V exempt
- Free of genetically modified organisms and complies with EC regulations No 1829/2003 and 1830/2003
- Not tested on animals
- BSE/TSE free
- Not present

## Specific Product Data
Pastilles
- 20 kg bag in carton
- 500 kg
- Approx. 81
- 5000-83000ppm d-limonene (INCI=LIMONENE)
**ROSE WAX**

**GENERAL INFORMATION:**
Rose essential oils obtained by extraction of Rose flowers are valued ingredients for the fragrance industry. Rose essential oil is produced from the flowers by hexane extraction. From this oil small quantities of essential waxes are obtained using ethanol.

**APPLICATIONS:**
Emulsions, decorative cosmetics, aromatherapy, creams, lotions, sticks

**ADVANTAGES:**
Rose Wax is a rubbery, medium hard wax of light yellow to green colour which retains the intense sweet floral fragrance of the essential oil. In its composition Rose Wax shows similarities with Candelilla Wax and other natural waxes, with about 85-90% natural hydrocarbons (ca. C19-C39, esp. C19-C31 & C35) and about 10-15% esters (ca. C38-C58, esp. C40-C48). This resemblance gives this product similar benefits.

**INCI:**
Rosa Multiflora Flower Wax

**CAS:**
97593-51-6

**HS/TARIFF CODE:**
15211000

**FOOD ADDITIVE:**
- (Annex V.9 exempt)

**EUROPEAN PHARMACOPOEIA:**
- (Annex V.9 exempt)

**REACH:**
Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/20031830/2003

**ANIMAL TESTS:**
Not tested on animals

**BSE/TSE:**
BSE/TSE free

**ALLERGEN FRAGRANCES:**
640ppm Citronellol and 350ppm Geraniol

**AVAILABLE PRODUCT FORM:**
Solid

**PACKAGING:**
Pastilles

**PALLET SIZE:**
20 kg bag

**CONGEALING POINT (°C):**
51 - 57

**ACID VALUE (MG KOH/G):**
3 - 7

---

**BW ESTER BW67**

**GENERAL INFORMATION:**
In BW Ester BW67 the free fatty acids in beeswax have been converted to esters of similar chain lengths as already present in beeswax using natural, vegetable fatty alcohols (total ester fraction > 85 %). Elimination of the free fatty acids leads to improved oil retention and oil gelling properties and improved compatibility with cosmetic ingredients.

**APPLICATIONS:**
Sticks, emulsions, decorative cosmetics, mascara, foundation, make-up

**ADVANTAGES:**
Excellent oil-gelling and oil-retention abilities. Most cosmetic oils can be gellified, even volatile silicone oils. Stable and smooth gels with high gel strength in low wax concentrations. Improved emulsion stability and rheological properties. Performs well in stick formulations such as lipsticks and eye pencils and as consistency modifier in emulsions and liquid make-ups.

**INCI:**
Stearyl Beeswax (± 50%); Behenyl Beeswax (± 50%)

**CAS:**
144514-54-5

**HS/TARIFF CODE:**
34049000

**FOOD ADDITIVE:**
Annex V.9 exempt

**EUROPEAN PHARMACOPOEIA:**
Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**REACH:**
Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:**
Not tested on animals

**BSE/TSE:**
BSE/TSE free

**ALLERGEN FRAGRANCES:**
640ppm Citronellol and 350ppm Geraniol

**AVAILABLE PRODUCT FORM:**
Granulate

**PACKAGING:**
20 kg bag

**PALLET SIZE:**
500 kg

**CONGEALING POINT (°C):**
64 - 69

**ACID VALUE (MG KOH/G):**
< 3

---

**SILICONYL BEESWAX**

**GENERAL INFORMATION:**
Siliconyl beeswax is the esterification product of beeswax with a high molecular weight silicone alcohol. By eliminating the free wax acids gelling and oil-binding properties have been much improved. The special character of Siliconyl Beeswax lies in the fact that advantages of beeswax and silicones have been combined into one product. With Siliconyl Beeswax the advantages of silicones can be easily incorporated into a formulation.

**APPLICATIONS:**
Sticks, emulsions, decorative cosmetics, hair care, sun care

**ADVANTAGES:**
Improves skin feel and texture, film forming, SPF, gloss, reducing tackiness and greasiness. It suppresses crystallization behaviour of other waxes and aids in pigment dispersion. In emulsions it improves stability, rheology, barrier properties and contributes to lubrication and spreading. Sticks: contributes to texture, pay-off, lubricity. Hair care: improves conditioning, body and combing characteristics.

**INCI:**
Bis-PEG-12 Dimethicone Beeswax

**CAS:**
151661-97-1

**HS/TARIFF CODE:**
34049000

**FOOD ADDITIVE:**
Polymer exempt

**EUROPEAN PHARMACOPOEIA:**
Polymer exempt

**REACH:**
Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:**
Not tested on animals

**BSE/TSE:**
BSE/TSE free

**ALLERGEN FRAGRANCES:**
Not present

**AVAILABLE PRODUCT FORM:**
Pastilles

**PACKAGING:**
20 kg pail

**PALLET SIZE:**
500 kg

**CONGEALING POINT (°C):**
Approx. 66

**ACID VALUE (MG KOH/G):**
< 4,5
<table>
<thead>
<tr>
<th><strong>PEG-12 CARNAUBA</strong></th>
<th><strong>PEG-8 BEESWAX EU</strong></th>
<th><strong>SILICONYL CANDELILLA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL INFORMATION</strong></td>
<td><strong>GENERAL INFORMATION</strong></td>
<td><strong>GENERAL INFORMATION</strong></td>
</tr>
<tr>
<td>PEG-12 Carnauba is a polar carnauba wax derivative created by esterification of carnauba wax with polyethylene glycol. In this way the free fatty acids of carnauba wax have been converted into polyethylene glycol esters. The introduction of polyethylene glycol groups imparts strong hydrophilic properties to carnauba wax. Esterification with polyethylene glycol not only improves emulsification properties but also compatibility, gelling properties and solubility.</td>
<td>PEG-8 Beeswax is a polar beeswax derivative created by esterification of beeswax with polyethylene glycol. In this way the free fatty acids of beeswax have been converted into polyethylene glycol esters. The introduction of polyethylene glycol groups imparts hydrophilic properties to beeswax. Elimination of the free fatty acids of beeswax leads to improved oil retention and oil gelling capabilities.</td>
<td>Siliconyl Candelilla is the esterification product of candelilla wax with a high molecular weight silicone. The special character of Siliconyl Candelilla lies in the fact that advantages of candelilla and silicones have been combined into one product.</td>
</tr>
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<td><strong>REGULATORY</strong></td>
<td><strong>REGULATORY</strong></td>
<td><strong>REGULATORY</strong></td>
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<td>25 kg bag in carton</td>
<td>20 kg bag in carton</td>
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<tr>
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<tr>
<td>&lt; 2</td>
<td>&lt; 2</td>
<td>&lt; 3,5</td>
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</table>
**KOSTER KEUNEN WAX COLLECTION**

**KESTER WAX K82P**

**GENERAL INFORMATION**
This specialty wax is created to mimic the complex polyester fraction of beeswax, which gives beeswax its unique plastic properties. Kester Wax K82P contains a range of hydroxy polyesters with chain lengths between ca. 56 and 76 carbon atoms and is manufactured from natural fatty acids and synthetic fatty alcohols. Kester Wax K82P gels most cosmetic oils showing good oil retention.

**APPLICATIONS:** Sticks, decorative cosmetics, emulsions, mascara, hair care, sun care

**ADVANTAGES:** Kester Wax K82P improves texture, film forming, SPF, plasticity, adhesion, homogeneity, oil binding and ingredient distribution. It suppresses the crystallisation behaviour of other waxes. Because of its special plasticizing properties the proportion of hard waxes in a product can be increased. Its excellent compatibility with pigments allows high pigment percentages.

**INCI:** Synthetic Beeswax

**CAS:** 71243-51-1

**HS/TARIFF CODE:** 34049000

**EUROPEAN PHARMACOPOEIA:** Polymer exempt

**REACH:** Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:** Not tested on animals

**BSE/TSE:** BSE/TSE free

**ALLERGEN FRAGRANCES:** Not present

**AVAILABLE PRODUCT FORM:** Slabs

**PACKAGING:** 5 kg slab (approx)

**PALLET SIZE:** 600 kg (approx)

**CONGEALING POINT (°C):** 78 - 84

**ACID VALUE (MG KOH/G):** < 5

**REGULATORY**
Synthetic Beeswax

**FOOD ADDITIVE:** Di-C20-40 Alkyl Dimer Dilinoleate

**REACH:** Polymer exempt

**GMO:** Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:** Not tested on animals

**BSE/TSE:** BSE/TSE free

**ALLERGEN FRAGRANCES:** Not present

**AVAILABLE PRODUCT FORM:** Granulate

**PACKAGING:** 20 kg bag

**PALLET SIZE:** 500 kg

**CONGEALING POINT (°C):** 79 - 84

**ACID VALUE (MG KOH/G):** < 3

**REGULATORY**
Di-C20-40 Alkyl Dimer Dilinoleate

**FOOD ADDITIVE:** Di-C20-40 Alkyl Dimer Dilinoleate

**REACH:** Polymer exempt

**GMO:** Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:** Not tested on animals

**BSE/TSE:** BSE/TSE free

**ALLERGEN FRAGRANCES:** Not present

**AVAILABLE PRODUCT FORM:** Pastilles

**PACKAGING:** 20 kg bag

**PALLET SIZE:** 500 kg

**CONGEALING POINT (°C):** 78 - 84

**ACID VALUE (MG KOH/G):** < 5

**REGULATORY**
Synthetic Beeswax

**FOOD ADDITIVE:** Synthetic Beeswax

**REACH:** Polymer exempt

**GMO:** Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

**ANIMAL TESTS:** Not tested on animals

**BSE/TSE:** BSE/TSE free

**ALLERGEN FRAGRANCES:** Not present

**AVAILABLE PRODUCT FORM:** Pastilles

**PACKAGING:** 20 kg bag

**PALLET SIZE:** 500 kg

**CONGEALING POINT (°C):** 78 - 84

**ACID VALUE (MG KOH/G):** < 5
## KESTER WAX K30G

### GENERAL INFORMATION
Kester Wax K30G is a unique very low melting, hard and brittle, powdery wax. It is manufactured by esterification of a special long chain guerbet alcohol with vegetable fatty acids. This synthetic specialty wax remarkably combines hardness and a high molecular weight with a melting point just below body temperature. Its molecules have a remarkable star-like shape consisting of three outward directed alkyl chains of similar length with the ester bond located in the center of the molecule.

Sticks, decorative cosmetics, mascara, emulsions.

Kester Wax K30G improves the sensory properties of formulations giving a silicon-like feel. Due to its low melting point this emollient wax melts on the skin. It also contributes to lubricity and improves the spread and slip properties of a formulation, while reducing greasiness, stickiness and occlusivity.

### REGULATORY
- Tetradecyloctadecyl Stearate
  - 68201-22-9
  - 34049000
- Cetearyl Behenate
  - 92797-30-3
  - 34049000
- Ozokerite
  - CAS 64742-51-4 and CAS 64742-60-5
- Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and No 1830/2003
- Not tested on animals
- Not present

### SPECIFIC PRODUCT DATA
- Solid
- Granulate

### PACKAGING
- 20 kg pail
- n/a
- 20 kg bag
- 500 kg
- 28 · 33
- < 3

---

## KESTER WAX K62

### GENERAL INFORMATION
This synthetic ester wax is the esterification product of long chain saturated fatty alcohols and acids, both of vegetable origin. It contains esters with carbon chain lengths between ca. C32-C46, especially C36-C44. Kester Wax K62 strongly resembles Hydrogenated Jojoba Oil and Synthetic Spermaceti (also called Cetyl Palmitate or Cetyl Esters Wax).

Sticks, hair care, skin care, mascara, emulsions.

Kester Wax K62 functions as a consistency component in sticks and emulsions (W/O and O/W). In both it thickens the formulation by providing a rigid structural network of wax crystals, improving oil binding, emolliency, film formation, gloss and lubricity. It strongly reduces the greasy feel of oils and contributes to texture, strength, break resistance, pay-off and mould release characteristics. This wax is a good alternative for Jojoba wax.

### REGULATORY
- Cetearyl Behenate
  - CAS 92797-30-3
- Ozokerite
  - CAS mix
- Ingredients registered up supply chain
- Not tested on animals
- Not present

### SPECIFIC PRODUCT DATA
- Granulate

### PACKAGING
- 20 kg bag
- 500 kg
- 28 · 33
- < 4

---

## PERMULGIN 3230

### GENERAL INFORMATION
Permulin 3230 is a mineral wax of the ozokerite type consisting of paraffinic and naphthenic hydrocarbons ca. C20-C70.

Sticks, emulsions, salves.

In stick formulations Permulin 3230 functions as an oil gellant and improves hardness, break resistance, temperature stability, texture, oil binding. In emulsion formulations Permulin 3230 functions as a consistency regulator, improves emulsion stability and when used in combination with Castor Wax (Hydrogenated Castor Oil) suppresses crystallisation of this wax.

### REGULATORY
- Ozokerite
  - CAS 64742-51-4 and CAS 64742-60-5
- Not tested on animals
- Not present

### SPECIFIC PRODUCT DATA
- Granulate

### PACKAGING
- 20 kg bag
- 500 kg
- 75 - 80
- < 0,1

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## PERMULGIN 3233

### GENERAL INFORMATION
Permulin 3233 is a wax blend of the ozokerite type. It fully complies to the COLIPA recommendation No. 14 (oral & lip care). Permulin 3233 is a mineral wax consisting of paraffinic, isoparaffinic and naphthenic hydrocarbons with carbon chain lengths between ca. C25 and C80.

In combination with mineral and natural oils it produces a strong gel network with high capacity resulting in excellent oil-binding capabilities. In stick formulations Permulin 3233 functions as an oil gellant and improves texture, break resistance and temperature stability. Permulin 3233 decreases oil bleeding of lipsticks and other stick products.

### REGULATORY
- Ozokerite
  - Registered 31-11-2010
- Ingredients registered up supply chain
- Not tested on animals
- Not present

### SPECIFIC PRODUCT DATA
- Pastilles / Granulate

### PACKAGING
- 20 kg bag
- 500 kg
- 73-77
- < 0,1
## KOSTER KEUNEN WAX COLLECTION

### PERMULGIN 3234
**Colipa compliant Ozokerite**

**GENERAL INFORMATION**
Permulgin 3234 is a wax blend of the Ozokerite type. It fully complies to the COLIPA recommendation No. 14 (oral & lip care). Permulgin 3234 is a mineral wax consisting of paraffinic, isoparaffinic and naphtalenic hydrocarbons with carbon chain lengths between ca. C25 and C80. Permulgin 3234 combines the advantages of paraffin waxes and microcrystalline waxes.

**APPLICATIONS:**
- Sticks, emulsions, salves

**ADVANTAGES:**
- In combination with mineral and natural oils it produces a strong gel network with high capacity resulting in excellent oil-binding capabilities. In stick formulations Permulin 3234 functions as an oil gellant and improves texture, break resistance and temperature stability.
- Permulin 3234 decreases oil bleeding of lipsticks and other stick products.

### PERMULGIN 3301
**Synthetic Beeswax**

**GENERAL INFORMATION**
Permulgin 3301 (Synthetic Beeswax) is a wax mixture simulating the properties of natural beeswax. It consists of hydrocarbon waxes, vegetable fatty acid and hydrogenated vegetable oil. We also offer a non-animal version: Permulin 3301N.

**APPLICATIONS:**
- Creams, lotions, sticks, sun care, make-up, hair care, food (glazing or release agent)

**ADVANTAGES:**
- Cost effective wax blend in times when natural Beeswax becomes too expensive for your formula.
- It has excellent oil gelling and oil binding properties and contributes to gloss, emolliency, emulsion stability and ease of application. This wax is easily emulsified by saponification and gives rich, glossy and velvety creams.

### PERMULGIN 3310
**Synthetic Beeswax**

**GENERAL INFORMATION**
Permulgin 3310 is an off-white wax consisting of a special blend of waxes with properties somewhat similar to beeswax.

**APPLICATIONS:**
- Hair care, skin care, sticks, emulsions

**ADVANTAGES:**
- Ingredients registered up supply chain
- Ingredients up supply chain
- Ingredients up supply chain
- Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003
- Ingredients registered up supply chain
- Ingredients up supply chain
- Ingredients up supply chain
- Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003

## Specific Product Data

### PERMULGIN 3234
**Pastilles / Granulate**

- **Packaging:** 20 kg bag, 500 kg
- **Pallet Size:** 79-84 kg
- **Congealing Point (°C):** < 0,1
- **Acid Value (mg KOH/G):** 17 - 24

### PERMULGIN 3301
**Granulate**

- **Packaging:** 20 kg bag, 500 kg
- **Pallet Size:** 61 - 65 kg
- **Congealing Point (°C):** 61 - 65
- **Acid Value (mg KOH/G):** 17 - 24

### PERMULGIN 3310
**Granulate**

- **Packaging:** 20 kg bag, 500 kg
- **Pallet Size:** 72,5 - 76,5 kg
- **Congealing Point (°C):** 72,5 - 76,5
- **Acid Value (mg KOH/G):** 10 - 18

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**REGULATORY**

### Ozokerite
- **CAS:** 71243-51-1
- **HS/TARIFF CODE:** 34049000
- **FOOD ADDITIVE:** -
- **EUROPEAN PHARMACOPOEIA:** -
- **REACH:** -
- **GMO:** Not present
- **ANIMAL TESTS:** Not tested on animals
- **BSE/TSE:** BSE/TSE free
- **ALLERGEN FRAGRANCES:** Not present

### Synthetic Beeswax
- **CAS:** 34049000
- **HS/TARIFF CODE:** -
- **FOOD ADDITIVE:** -
- **EUROPEAN PHARMACOPOEIA:** -
- **REACH:** -
- **GMO:** Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003
- **ANIMAL TESTS:** Not tested on animals
- **BSE/TSE:** BSE/TSE free
- **ALLERGEN FRAGRANCES:** Not present

### Synthetic Beeswax
- **CAS:** 34049000
- **HS/TARIFF CODE:** -
- **FOOD ADDITIVE:** -
- **EUROPEAN PHARMACOPOEIA:** -
- **REACH:** -
- **GMO:** Ingredients registered up supply chain
- **ANIMAL TESTS:** Not tested on animals
- **BSE/TSE:** BSE/TSE free
- **ALLERGEN FRAGRANCES:** Not present
<table>
<thead>
<tr>
<th><strong>PERMULGIN 3500</strong></th>
<th><strong>PERMULGIN 4201</strong></th>
<th><strong>PERMULGIN 4202</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL INFORMATION</strong></td>
<td><strong>GENERAL INFORMATION</strong></td>
<td><strong>GENERAL INFORMATION</strong></td>
</tr>
<tr>
<td>Permulgin 3500 is a soft pharmaceutical grade petrolatum wax which can be used for plastic fat phases and emulsions, especially of the W/O type. Permulgin 3500 is an occlusive emollient which contributes to moisturising and barrier properties and reduces transepidermal water loss.</td>
<td>Permulgin 4201 is a hydrogenated microcrystalline wax consisting of isoparaffinic and naphthenic hydrocarbons with carbon chain lengths of ca. C35-C70. Permulgin 4201 is a hard mineral wax of petroleum origin with excellent oil-binding and oil-gelling properties.</td>
<td>Permulgin 4202 is a hydrogenated microcrystalline wax consisting of isoparaffinic and naphthenic hydrocarbons with carbon chain lengths of ca. C35-C70. Permulgin 4202 is a softer mineral wax of petroleum origin with excellent oil-binding and oil-gelling properties.</td>
</tr>
<tr>
<td>Emulsions, salves, oil gels, hair care</td>
<td>Hair care, skin care, sticks, emulsions, food</td>
<td>Hair care, skin care, sticks, emulsions, food</td>
</tr>
<tr>
<td>Permulgin 3500 has excellent oil binding properties and contributes to the stability and consistency of W/O and O/W emulsions. Permulgin 3500 is also suitable for cold formulation purposes.</td>
<td>In stick formulations Permulgin 4201 functions as a binder and oil gellant and improves: hardness, break resistance, temperature stability, texture, oil binding. In emulsion formulations Permulgin 4201 functions as a consistency regulator, improves emulsion stability and when used in combination with Castor Wax (Hydrogenated Castor Oil) suppresses crystallisation of this wax.</td>
<td>In stick and ointment type formulations Permulgin 4202 functions as a binder and oil gellant and improves break resistance, texture, oil binding, hardness and temperature stability. In emulsion formulations Permulgin 4202 functions as a consistency regulator and improves emulsion stability and texture.</td>
</tr>
<tr>
<td><strong>REGULATORY</strong></td>
<td><strong>REGULATORY</strong></td>
<td><strong>REGULATORY</strong></td>
</tr>
<tr>
<td>Petrolatum</td>
<td>Hydrogenated Microcrystalline Wax</td>
<td>Hydrogenated Microcrystalline Wax</td>
</tr>
<tr>
<td>8009-03-8</td>
<td>64742-60-5</td>
<td>64742-60-5</td>
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<tr>
<td>34049000</td>
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<td>German DAC compliant</td>
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<td>Free of genetically modified organisms (GMO) and complies with EC regulations No 1829/2003 and 1830/2003</td>
<td>Free of genetically modified organisms (GMO) and complies with EC regulations No1829/2003 and 1830/2003</td>
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<td>Not tested on animals</td>
<td>Not tested on animals</td>
<td>Not tested on animals</td>
</tr>
<tr>
<td>BSE/TSE free</td>
<td>BSE/TSE free</td>
<td>BSE/TSE free</td>
</tr>
<tr>
<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
</tr>
<tr>
<td><strong>SPECIFIC PRODUCT DATA</strong></td>
<td><strong>SPECIFIC PRODUCT DATA</strong></td>
<td><strong>SPECIFIC PRODUCT DATA</strong></td>
</tr>
<tr>
<td>Solid</td>
<td>Granulate, slabs</td>
<td>Granulate, slabs</td>
</tr>
<tr>
<td>180 kg drum / 70 kg drum</td>
<td>20 kg bag / 23.75 kg carton</td>
<td>20 kg bag / 24.37 kg carton</td>
</tr>
<tr>
<td>n/a</td>
<td>500 kg, 570 kg</td>
<td>500 kg, 585 kg</td>
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<tr>
<td>48 - 54</td>
<td>84 - 88</td>
<td>70 - 74</td>
</tr>
<tr>
<td>&lt; 0,1</td>
<td>&lt; 0,1</td>
<td>&lt; 0,1</td>
</tr>
</tbody>
</table>
OIL GELLING, BINDING, IMPROVING STABILITY, ADDING STRUCTURE
Koster Keunen’s strength is its extensive knowledge of waxes and scientific experience in developing new products. By working closely together with our customers’ R&D departments as well as formulators we enable our clients to create unique formulas with strong added value in its end product properties.

From beeswax, Koster Keunen has developed a variety of new products to meet new and constantly evolving client requirements. Our most recent addition to our product portfolio is the KOSTER MILK collection; perfect to use in cold formulations. Our KESTER WAX K82P-VS shows softer and improved plasticizing properties that increase the formulation window for difficult mixtures (hard waxes / crystallization issues).

In April 2012, Koster Keunen Holland opened its new laboratory. In this modern facility our chemists continue their work in developing new, unique waxes. We gladly invite our customers to visit Bladel, and work with us to find the perfect (combination of) waxes for your formulas.
KOSTER KEUNEN MILKS: THE EASY WAY TO CREATE A ‘LIGHT’ CREAM WITH UNIQUE FILM FORMING PROPERTIES
Our newly developed Koster Keunen Milks are sprayable, easy-to-use wax dispersions with a 40% wax content. A brand new patented emulsification technique allows us to produce small, spherical wax particles with a uniform particle size. This novel green technology gives us a flexible choice of emulsifiers - including food grade - using substantially less energy versus the traditional production methods.

Koster Keunen Milks’ extraordinary film forming abilities (greatly) improve protective and sensory properties of sun, hair and skin care products. The enhanced, superior quality of the film formed on the skin or hair and the better distribution of ingredients not only boosts SPF, but also overall product performance.

APPLICATIONS
Sun care, hair care, skin care, mascara, cold formulations

NEW – GREEN – TECHNOLOGY
• Green raw materials and production process
• Decreased emulsifier dosage (approx. 75% reduction)
• Reduced process and energy costs
• Uniform particle size
• Uniform formulas
• Formulating advantage
• Possibility combining different milks:
  f.i. milk 1 + milk 2 + milk 3 = unique new milk

GENERAL CHARACTERISTICS
• Film former for sun products, hair care and skin care
• SPF booster
• Water resistance booster

COLLECTION 2012
Koster Milk 102  40% Beeswax
Koster Milk 202  40% Sunflower wax
Koster Milk 302  40 % Carnauba wax T1 / Beeswax

INCI NAME
Water (aqua), WAX-INCI, Laureth-23, Glycerin, Trideceth-6 Phosphate, Phenoxyethanol, Sodium Hydroxyde
ISO 22716 - cGMP QUALITY STANDARD GUARANTEES OUR CUSTOMERS A RELIABLE SUPPLY OF QUALITY WAXES
Koster Keunen waxes are used in many different industries as functional ingredients with special benefits. To name a few: oil gelling, binding, improving stability, adding structure.

Koster Keunen offers a broad choice of waxes: natural waxes, specialty waxes exclusively created by Koster Keunen, as well as wax derivatives. Each wax has its own unique properties.

**PERSONAL CARE**
Binding and stability, structure, texture, film forming, pay off, skin feel, gloss

**PHARMACEUTICAL**
Binding and stability, structure, texture, gloss

**FOOD**
Binding and stability, coupling, gloss, moisture protection, release agent

**INKS AND COATINGS**
Film forming, anti-cracking, flexibility, scratch resistance

**CANDLE WAXES**
Natural waxes, low priced waxblends
<table>
<thead>
<tr>
<th>NATURAL WAXES</th>
<th>GENERAL PROPERTIES</th>
<th>STICKS/PENCILS</th>
<th>SKIN CARE</th>
<th>HAIR CARE</th>
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<tbody>
<tr>
<td>BEESWAX</td>
<td>Classic</td>
<td>+ + + + + + + + + + + + + +</td>
<td>62</td>
<td>+ + + + + + + + + + + + +</td>
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<tr>
<td>CARNABEAU WAX T1</td>
<td>Hardest glossy wax</td>
<td>• • - - • • • • + + - -</td>
<td>81</td>
<td>84 - - - - - - - - - - - -</td>
</tr>
<tr>
<td>CANDELILLA WAX</td>
<td>Oil binding and gelling</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>69</td>
<td>+ + + + + + + + - - - - - +</td>
</tr>
<tr>
<td>SUNFLOWER WAX</td>
<td>Excellent gelling agent</td>
<td>+ + + + + + + + + + + + - - +</td>
<td>75</td>
<td>75 + + + + + + + + + + - -</td>
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<tr>
<td>ORANGE PEEL WAX</td>
<td>Vegetable lanolin</td>
<td>• • + + + + + + + + + + + +</td>
<td>40</td>
<td>45 + + - + + + + + + + + +</td>
</tr>
<tr>
<td>LEMON PEEL WAX</td>
<td>Emollient, skin feel, beautiful aroma</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>60</td>
<td>62 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>RICE BRAN WAX</td>
<td>High melting</td>
<td>• + + + + + + + + + + - +</td>
<td>81</td>
<td>81 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>ROSE WAX</td>
<td>Beautiful aroma</td>
<td>+ + + + + + + + + + + + + +</td>
<td>55</td>
<td>55 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>BW ESTER BW67</td>
<td>Excellent, gelling, stabiliser</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>67</td>
<td>69 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>SILICONYL</td>
<td>Skin feel, crack reduction</td>
<td>• + + + + + + + + + + + + + +</td>
<td>69</td>
<td>- + + + + + + + + + + + +</td>
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<tr>
<td>CERA BELLINA</td>
<td>Compatibility, rheology modifier</td>
<td>• + + + + + + + + + + + + + +</td>
<td>68</td>
<td>70 + + + + + + + + + + + +</td>
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<tr>
<td>PEG-12 CARNABEAU</td>
<td>Hydrophilic, self-emulsifying carnauba</td>
<td>• + + + + + + + + + + + + + +</td>
<td>82</td>
<td>82 + + + + + + + + + + + +</td>
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<tr>
<td>PEG-8 BEESWAX EU</td>
<td>Hydrophilic, self-emulsifying beeswax</td>
<td>• + + + + + + + + + + + + + +</td>
<td>68</td>
<td>68 + + + + + + + + + + + +</td>
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<tr>
<td>PERMULGIN 3230</td>
<td>Ozerkite</td>
<td>+ + + + + + + + + + + + + +</td>
<td>79</td>
<td>84 + + + + + + + + + + + +</td>
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<tr>
<td>PERMULGIN 3233 COLIPA COMPL.</td>
<td>Ozerkite</td>
<td>+ + + + + + + + + + + + + +</td>
<td>75</td>
<td>82 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>PERMULGIN 3234 COLIPA COMPL.</td>
<td>Ozerkite</td>
<td>+ + + + + + + + + + + + + +</td>
<td>81</td>
<td>89 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>SILICONYL CNDELILLA</td>
<td>Oil binding and gelling, skin feel</td>
<td>+ + + + + + + + + + + + + +</td>
<td>69</td>
<td>+ + + + + + + + + + + +</td>
</tr>
<tr>
<td>KESTER WAX K82P</td>
<td>Plasticizer, high melting</td>
<td>• + + + + + + + + + + + + + +</td>
<td>81</td>
<td>86 + + - - + + + + + + + +</td>
</tr>
<tr>
<td>KESTER WAX K808D</td>
<td>High melting, hard</td>
<td>+ + + + + + + + + + + + + +</td>
<td>82</td>
<td>88 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>KESTER WAX K82D</td>
<td>Excellent gelling natural oils</td>
<td>+ + + + + + + + + + + + + +</td>
<td>81</td>
<td>94 + + + + + + + + + + + +</td>
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<tr>
<td>KESTER WAX K30G</td>
<td>Silicone like, skin feel</td>
<td>- + + + + + + + + + + + + +</td>
<td>30</td>
<td>33 - - + + + + + + + + + +</td>
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<tr>
<td>KESTER WAX K62</td>
<td>Alternative Jojoba wax, synthetic spermaceti</td>
<td>• + + + + + + + + + + + + + +</td>
<td>62</td>
<td>63 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>PERMULGIN 3301</td>
<td>Alternative for beeswax</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>61</td>
<td>62 + + + + + + + + + + + +</td>
</tr>
<tr>
<td>PERMULGIN 3310</td>
<td>Alternative for beeswax</td>
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<td>73</td>
<td>78 + + + + + + + + + + + +</td>
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<td>PERMULGIN 3500</td>
<td>Petrolatum</td>
<td>+ + + + + + + + + + + + + + +</td>
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<td>PERMULGIN 4201</td>
<td>Microwax</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>85</td>
<td>90 + + + + + + + + + + + +</td>
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<tr>
<td>PERMULGIN 4202</td>
<td>Microwax</td>
<td>+ + + + + + + + + + + + + + +</td>
<td>72</td>
<td>77 + + + + + + + + + + + +</td>
</tr>
</tbody>
</table>

++ RECOMMENDED // + SUGGESTED // • POSSIBLE // - NOT SUGGESTED // - - NOT RECOMMENDED