



STRAHL & PITSCH Inc.

LEADERS IN WAX TECHNOLOGY SINCE 1904

Waxes study – properties of some natural waxes

I – Gelling properties in 2 common vegetable oils

II – Lipstick study (# SP 1-49A):

- * Penetration
- * Stick properties: Breakage and stick strength
- * Solid Fat content depending on the formula

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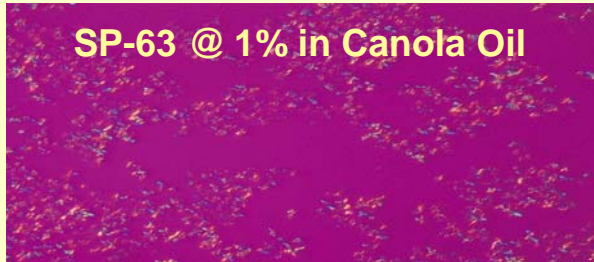


STRAHL & PITSCH Inc.

LEADERS IN WAX TECHNOLOGY SINCE 1904

Gelling properties of main natural waxes

SP-63 @ 1% in Canola Oil



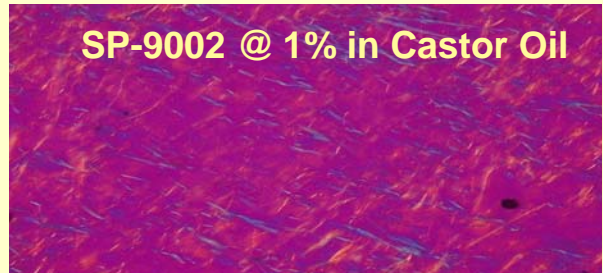
SP-63 @ 1% in Castor Oil



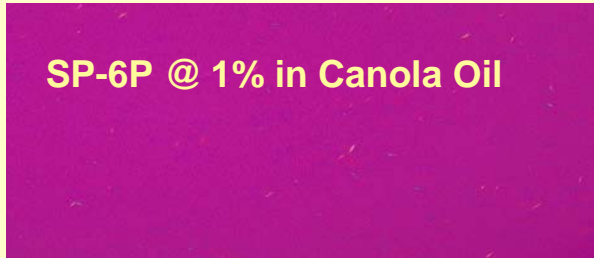
SP-9002 @ 1% in Canola Oil



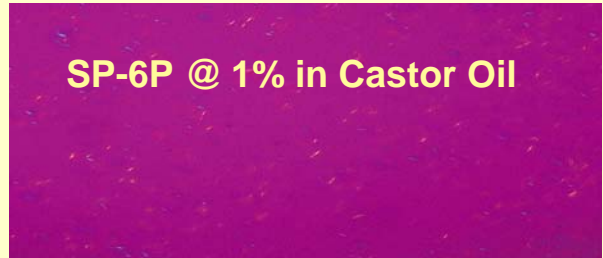
SP-9002 @ 1% in Castor Oil



SP-6P @ 1% in Canola Oil



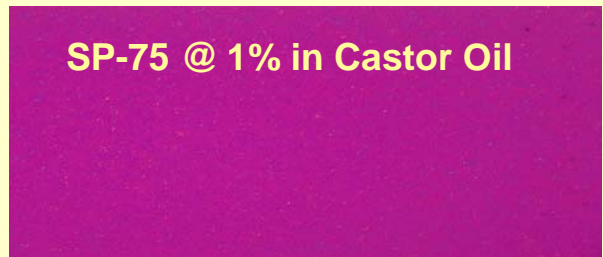
SP-6P @ 1% in Castor Oil



SP-75 @ 1% in Canola Oil:

No visible crystals

SP-75 @ 1% in Castor Oil



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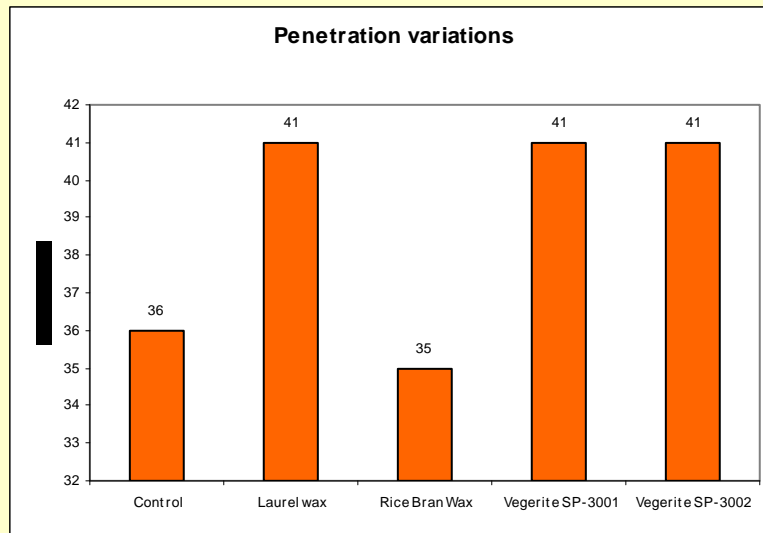


STRAHL & PITSCH Inc.

LEADERS IN WAX TECHNOLOGY SINCE 1904

Influence onto various stick parameters

Ingredients	Control	Formula A	Formula B	Formula C	Formula D
		Laurel wax	Rice Bran Wax	Vegeterite	Vegeterite
SP-535 # 33832/10	90.6	86.8	86.8	86.8	86.8
SP-75 # 23599/10	1.9	1.9	1.9	1.9	1.9
SP-424 # 18759/09	1.25	1.25	1.25	1.25	1.25
Castor Oil # 102688	6.25	6.25	6.25	6.25	6.25
SP-9001 # 33828/10	-	3.8	-	-	-
SP-9002# 23703/10	-	-	3.8	-	-
SP-3001 # 1-65-100621A	-	-	-	3.8	-
SP-3002 # 1-65-100715A	-	-	-	-	3.8



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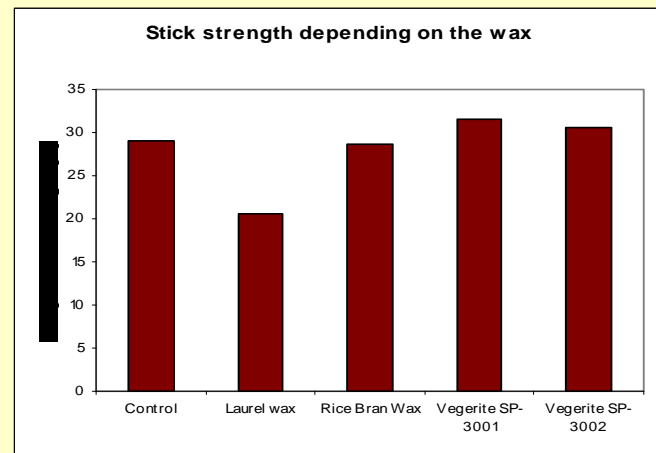
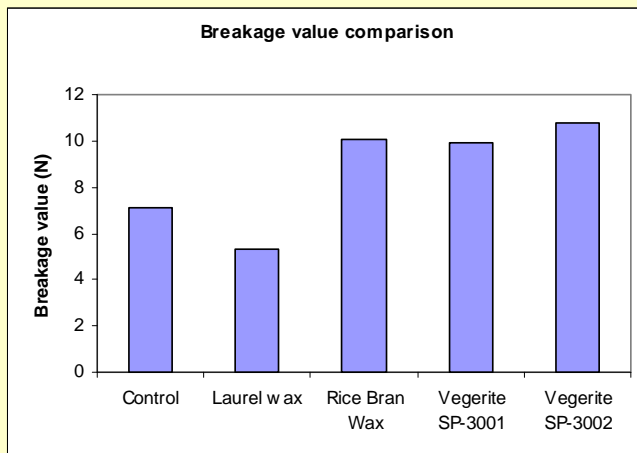


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LEADERS IN WAX TECHNOLOGY SINCE 1904

Influence onto various stick parameters

Ingredients	Control	Formula A	Formula B	Formula C	Formula D
		Laurel wax	Rice Bran Wax	SP-3001	SP-3002
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SP-75 # 23599/10	1.9	1.9	1.9	1.9	1.9
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SP-9001 # 33828/10	-	3.8	-	-	-
SP-9002# 23703/10	-	-	3.8	-	-
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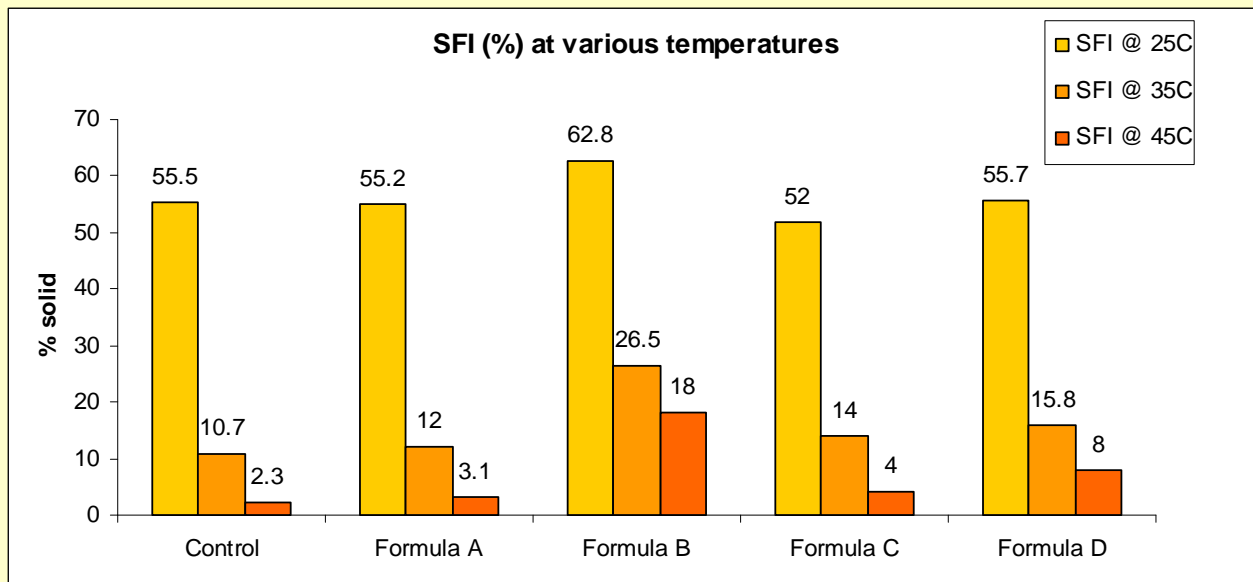


STRAHL & PITSCH Inc.

LEADERS IN WAX TECHNOLOGY SINCE 1904

Influence of the new waxes onto various stick parameters

Ingredients	Control	Formula A	Formula B	Formula C	Formula D
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SP-9001 # 33828/10	-	3.8	-	-	-
SP-9002# 23703/10	-	-	3.8	-	-
SP-3001 # 1-65-100621A	-	-	-	3.8	-
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STRAHL & PITSCH Inc.

LEADERS IN WAX TECHNOLOGY SINCE 1904

Influence of the new waxes onto various stick parameters

I – Gelling properties in 2 common vegetable oils

Rice Bran Wax SP-9002 exhibits the highest “crystalline power” and create “Organogels”.

Despite its higher Melt Point, Carnauba wax won’t gel vegetable oils at low percentages.

Beeswax does not gel vegetable oils, whereas Candelilla wax will gel but crystals are not visible under the optical microscope.

=> Rice Bran wax SP-9002 and Candelilla wax SP-75 are the best candidate in applications where oil retention is expected.

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LEADERS IN WAX TECHNOLOGY SINCE 1904

Influence of the new waxes onto various stick parameters

II – Lipstick study (# SP 1-49A):

Considering the following points:

- Penetration describes the hardness of a mixture and can be related to the creaminess of a composition.
- Breakage and stick strength cover the stability and resilience of sticks
- SFI (Solid Fat Index) can be linked to the skin feel as well as the stability at high temperatures (i.e. sweating).

Rice Bran wax SP-9002: hardens the stick, increases its stability at higher temperatures, dries out the skin feel and influences the pay-off.
=> **Excellent stabilizer.**

Laurel wax SP-9001: softens the stick (Penetration), increases the pay-off, does not change the stability (sweating) of the Control formula at higher temperature.
=> **Excellent skin feel adjuster.**

Vegerite SP-3001 & SP-3002: softens the stick (creaminess), keep the strength of sticks while increasing the breakage value (stability). Do not bring “crystalline skin feel (low SFI as compared to SP-9002).
=> **Combine oil holding capacity, pay-off and stick mechanical properties improvement (resilience, strength and stability).**

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