

**WAXES - RAW MATERIALS AND
INGREDIENTS FOR COSMETICS
PRODUCT INFORMATION**

CERATROM® „BIOGADE“ BW

CHARACTERISATION

wax and emulsifier (gel-network-builder) based on pure beeswax

INTRODUCTION



Beeswax is used by the honey bee to construct the combs, where they store the honey and their brood is growing. Because of its good and well known properties beeswax is approved for the application in the area of food as well as an important ingredient in cosmetic and pharmaceutical preparations.

The main use of beeswax in cosmetics is found in water-in-oil formulations.

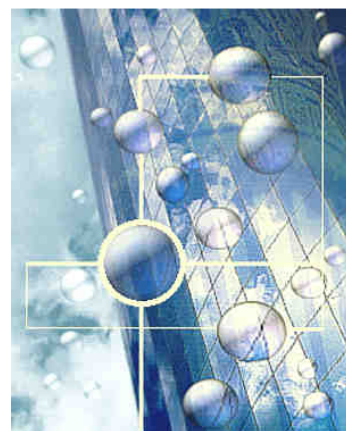
Formulations oil-in-water using beeswax are commonly done by adding synthetic materials (e.g. ethoxylated products). A new and innovative combination of beeswax and naturally derived co-emulsifiers enables the formulator to prepare beeswax emulsions of the oil-in-water type without synthetic materials in an easy way.

This combination we may introduce as a prepared product complex named **Ceratrom® „Biogade“ BW.**

EFFECTIVENESS SYSTEM

Ceratrom® „Biogade“ BW should be understood as an innovative new formulation system well suited for many applications. It enables for the first time the creation of oil-in-water- emulsions based on beeswax in an easy way.

Ceratrom® „Biogade“ BW forms an extensive lammelar liquid crystal structure in the aqueous phase of the emulsion. This network structure lowers interfacial tension and suspends oil droplets resulting in extremely efficient product stabilisation. The composition of Ceratrom® „Biogade“ BW performs in emulsions the substantivity of a skin like membrane and provides for retention of skin moisture and an increase in an active resistance. Ceratrom® „Biogade“ BW is made with naturally de-



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rived, non-irritant ingredients, so this formulation system provides the possibility to create the whole range of cosmetic preparations: This range includes sun protective products containing a high part of sunscreens, skin care products for eyes, face, night creams, etc., baby care cosmetics.

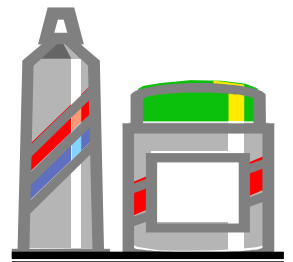
PROPERTIES

Congealing Point *)	(ISO 2207)	55 - 60	°C
Drop Point *)	(DAB 10)	59 - 65	°C
Penetration at 25°C	(DIN 51579)	15 - 20	o,1 mm
Acid Value *)	(DAB 10)	50 - 60	mgKOH/g
Saponification Value	(DAB 10)	140 - 170	mgKOH/g
Hydroxyl Value	(DAB 10)	70 - 80	mgKOH/g
Density at 20 °C		approx. 0,93	g/ml

*) part of the delivery specification

**RECOMANDATIONS FOR
FORMULATIONS**

The dosage of Ceratrom® „Biogade“ BW may be adjusted between 1 and 6 percent. The manufacture is following the usual procedures: The water part is warmed up to 80 °C. Ceratrom® „Biogade“ BW and the other wax-/oil-ingredients are molten and warmed up separately to 80 / 85 °C and slowly added and emulsified into the water. The batch is homogenized by an ultra turax or similar dissolving equipment and cooled down to ambient temperature.



APPLICTIONS

All types of skin care emollients and cosmetic oil-in-water emulsion, as well as systems based on pure vegetable ingredients can be efficiently prepared by using Ceratrom® „Biogade“ BW. According the requirements the following systems are possible:

- O/W-emulsions without preserving agents
- O/W-emulsions based on pure natural/ vegetable sources
- O/W-emulsions of different characteristics, e.g. rich, smooth after-feel, protecting, fast skin affinity, etc.
- O/W-emulsions containing filler, like sunscreen

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**VARIATION OF
FORMULATION**

For enhanced stability, improvement of skin feeling and rheological modification the addition of organic or anorganic hydrocolloids is recommended. According the characteristics of the formulation natural hydrocolloides may be preferred, as e.g. Xanthan Gum, Gum Arabicum, etc..

The efficiency of the cream or lotion formulation can be additionally improved by choosing the right oil combination. The combination of oils like raisin kernel oil, avocado oil, corn oil, etc. is possible.



Additional formulation guidance showing details are supplied on request.

COMPATIBILITY

Ceratrom® „Biogade“ BW is mixable and compatible at molten stage with other waxes, fatty acid esters, resins, rosins, etc.. It is only less soluble in water, glycerol, alcohol, etc. at ambient temperature. At warm temperatures (70 to 90 °C) it is emulsify-able without the addition of further surfactants. Incompatibilities to hydrocolloides are not observed.

INCI-DESIGNATION

„beeswax + sodium stearyl lactylate + glycerol stearat + stearic acid“

**FULFILLED PURITY
REQUIREMENTS**

The ingredients of Ceratrom® „Biogade“ BW fulfill the purity requirements for their use as an additive in food and foodstuff.

FORM SUPPLIED

pellets, packed in 20 kg cartons

STORAGING

Ceratrom® „Biogade“ BW may be stored in its original packaging for more than three years at temperatures below 30°C.

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CERATROM® „BIOGADE“ BW (4)

PROTOTYPE CREAM
 FORMULATION
 (without Preserver)

	<u>I</u> <u>care and pro-</u> <u>tecting cream</u>	<u>II</u> <u>baby cream</u>	<u>III</u> <u>day cream,</u> <u>moisturizing</u>		
Phase A (Fat):	10,0	7,5	5,0	parts	Ceratrom®
	15,5	15,5		parts	„Biogade“ BW
				parts	Almond Oil
					Wheat Germ Oil
			5,0		Jobba Oil
			10,5		Grape Kernel Oil
	2,0	2,0	2,0	parts	Lecithin
	1,5	1,5	1,5	parts	Vitamine E Acetate
Phase B (Water)	58,4	60,9	63,4	parts	Water
	4,0	4,0	4,0	parts	Glycerol
	6,0	6,0	6,0	parts	Ethylalkohol
	2,0	2,0	2,0	parts	Panthenol
	0,2	0,2	0,2	parts	Alantoin
	0,2	0,2	0,2	parts	Natrosol 250 HAR
	0,2	0,2	0,2	parts	Keltrol
	100,0	100,0	100,0	parts	Emulsion

PROCESSING:

Combine fat phase (A) ingredients and heat up to 70 – 80 °C, then combine water phase (B) ingredients and heat to 70 – 80 °C.

Add fat phase (A) to water phase (B) and homogenize intensively. Continue homogenizing for 1 minute (time of homogenizing should be adjusted to actual conditions of equipment and batch size.) Continue mixing with propeller stirrer and cool down the batch to 40°C. Add preservative if required.

REMARK

The consistency and the temperature resistance of the cream may be adjusted by the addition of thickener. The following systems are possible:

I	0,2	%	Xantan Gum
	0,25	%	Carbomer ETD 2050 (Goodrich) (Polyacryl Acid)
II	0,2	%	Xantan Gum
	0,2	%	Natrosol 250 HAR (2-hydroxy-ethy-cellulose) (Hercules)
III	1,0	%	Vegum (Mg/Al-Silikat / Schichtsilikat)
	0,2	%	Xantan Gum
IV			Ceragen / Alginate Produkts
V			Methylcellulose