



IOI OLEOCHEMICAL

PERSONAL CARE

# TECHNICAL DATA SHEET

## IMWITOR® PG3 DIS

INCI: Polyglyceryl-3 Diisostearate



- W/O-(CO)-EMULSIFIER
- IMPROVES STABILITY
- 100% NATURAL & VEGAN



## DESCRIPTION

**IMWITOR® PG3 DIS** is a non-ionic (co-)emulsifier for W/O emulsions with an estimated HLB of 5. It shows excellent dispersing properties for pigments and inorganic UV-filters. It is made from renewable sources, 100% natural, vegan and produced exclusively in Germany.

It is a diester built from a polyglycerol-3 and two units of isostearic acid. IMWITOR® PG3 DIS is a slightly yellowish, viscous liquid having a weak, characteristic odor. Due to the multi-component mixture, turbidity can occur, which has no influence on performance nor quality.

## APPLICATION

**IMWITOR® PG3 DIS** is a W/O-(co)-emulsifier that can be used over a broad temperature range. Being able to carry out the emulsification process at a lower temperature, makes it possible to easily incorporate temperature-sensitive ingredients into the formulation and save time and energy simultaneously.

In combination with IMWITOR® 600 (Polyglyceryl-3 Polyricinoleate), stable emulsions with a light skin feel are formed. IMWITOR® PG3 DIS can be used to formulate stable water-in-oil caring creams, sticks and ointments.

<input checked="" type="checkbox"/> Skin Care	<input checked="" type="checkbox"/> Body Care	<input checked="" type="checkbox"/> Sun Care	<input checked="" type="checkbox"/> Color Cosmetics
<input checked="" type="checkbox"/> Baby Care	<input checked="" type="checkbox"/> Hair Care	<input type="checkbox"/> Bath Care	<input type="checkbox"/> Wet Wipes
<input type="checkbox"/> Self-Tanning	<input type="checkbox"/> Beard Care	<input type="checkbox"/> Deodorants	<input checked="" type="checkbox"/> Intimate Hygiene

**IMWITOR® PG3 DIS** is soluble in all fats and oils and insoluble in water.

## FORMULATION HINTS

- Recommended concentration of **IMWITOR® PG3 DIS**: 1 – 4%
- Add IMWITOR® PG3 DIS to the oil phase
- Applicable for cold and hot processes and emulsification at reduced temperatures
- Hot process: Heat the oil phase to 65 - 80°C and the water phase to 65 - 80°C. Pour the water phase in small portions into the oil phase under stirring or homogenization. When the whole water phase has been added, homogenize the formulation but avoid over-homogenization. Cool the emulsion to room temperature under stirring.
- Cold process: Mix IMWITOR® PG3 DIS with the oils prior emulsification
- The use as a co-emulsifier in combination with IMWITOR® 600 as the main emulsifier leads to very flexible and stable W/O emulsions. The heat stability can be optimized and viscosity controlled by adding DYNASAN® 118, waxes (e.g. beeswax) or metal soaps (e.g. magnesium stearate, magnesium sulfate or aluminum tristearate).
- For oil phases from 25 to 35%



# FORMULATION GUIDE

## BABY NAPPY CREAM NO. 594

All mothers and fathers are familiar with erythema in babies: in the first few years, infants need special skin care as part of nappy changing. Baby nappy cream soothes irritations in babies' delicate skin and prevents recurring rashes. The protective W/O formula containing SOFTIGEN®PURA and SOFTISAN® 649 offers caring film forming and protection and makes babies' skin smooth again.

	Trade Name	INCI	%
<b>PHASE A</b>	<b>SOFTIGEN®PURA</b>	<b>Caprylic/Capric Triglyceride (and) Hydrogenated Rapeseed Oil</b>	<b>16.0</b>
	<b>WITARIX® MCT 60/40</b>	<b>Caprylic/Capric Triglyceride</b>	<b>10.0</b>
	<b>SOFTISAN® 649</b>	<b>Bis-Diglyceryl Polyacyladipate-2</b>	<b>5.0</b>
	<b>IMWITOR® 600</b>	<b>Polyglyceryl-3 Polyricinoleate</b>	<b>2.5</b>
	<b>IMWITOR® PG3 DIS</b>	<b>Polyglyceryl-3 Diisostearate</b>	<b>1.0</b>
	Shea Butter	Butyrospermum Parkii Butter	4.0
	Beeswax	Beeswax	2.0
	Tocopherol	Tocopherol	0.5
<b>PHASE B</b>	Allantoin	Allantoin	0.2
	Magnesium Sulfate x 7H <sub>2</sub> O	Magnesium Sulfate	2.0
	Preservative	Preservative	q.s.
	Water demin.	Aqua	33.8
<b>PHASE C</b>	Panthenol	Panthenol	3.0
<b>PHASE D</b>	Zinc Oxide	Zinc Oxide	15.0
	Titanium Dioxide	Titanium Dioxide	5.0

### PREPARATION:

1. Heat phases A and B separately to approx. 80°C.
2. Add phase C to phase B.
3. Add phase B/C to phase A, homogenize (5.000 – 8.000 rpm).
4. Cool with gentle stirring to approx. 50°C, add phase D in small amounts and homogenize again.
5. Cool with gentle stirring to approx. 30°C.

### SUPPLIER:

**IOI Oleo GmbH: IMWITOR®, SOFTIGEN®,  
SOFTISAN®, WITARIX®**



**SHEER INNOCENCE LIPSTICK NO. 810**

This sheer lipstick gives your lips everything they could ever ask for. A subtle lip tint combined with great moisturizing properties due to SOFTISAN® conditionHAIR. SOFTISAN® 378 positively influences the melting behavior on the lips and SOFTIGEN® 701 ECO leads to a better gliding of the lipstick.

Trade Name	INCI	%
<b>PHASE A</b>		
MIGLYOL® DO	Decyl Oleate	12.60
WITARIX® MCT C8	Tricaprylin	10.0
MIGLYOL® 829 ECO	Caprylic/Capric/Succinic Triglyceride	10.0
SOFTISAN® 378	Caprylic/Capric/Myristic/Stearic Triglyceride	6.0
IMWITOR® PG3 DIS	Polyglyceryl-3 Diisostearate	10.0
SOFTISAN® conditionHAIR	PCA Glyceryl Oleate	2.0
SOFTISAN® 649	Bis-Diglyceryl Polyacyladipate-2	0.5
SOFTIGEN® 701 ECO	Glyceryl Ricinoleate (and) Tocopherol	5.0
Kahlwax 6607L Sunflower Seed Wax	Helianthus Annuus Seed Cera (and) Ascorbyl Palmitate (and) Tocopherol	8.0
Kahlwax 2039L Candelilla Wax	Euphorbia Cerifera Cera	14.0
Castor Oil	Ricinus Communis Seed Oil	20.0
Cosphaderm® T-70 NON GMO ECO	Tocopherol (and) Helianthus Annuus Seed Oil	0.5
<b>PHASE B</b>		
Fiesta Copper Coral FCL-CCO	Synthetic Fluorphlogopite (and) CI 77981 (and) CI 16035 (and) CI 77861	2.07%
Ecoperse Red 6 R6L-D94	CI 15850:2 (and) Octyldodecyl Oleate	1.10%
Ecoperse White W-47051	CI 7789) (and) Octyldodecyl Oleate	1.47%
Ecoperse Yellow 5 Y5L-69002	FD&C Yellow 5 Al Lake (and) Octyldodecyl Oleate	0.27%
Majestic Rhubarb MCM-RIO4	Mica (and) CI 77492	1.08%
6800026 Raspberry Lips	Parfum (EU)/Fragrance (US)	0.40%

**PREPARATION:**

1. Heat (60°C) and stir SOFTISAN® 378 prior use.
2. Mix and heat all materials to 80°C. If possible, disperse the powders first in WITARIX® MCT C8.
3. Add the perfume immediately before filling the lipstick into the molds.
4. Let allow to cool down (30 min @ refrigerator), then remove the sticks from the molds.

**SUPPLIERS:**

**IOI Oleo GmbH: IMWITOR®, MIGLYOL®, SOFTIGEN®, SOFTISAN®, WITARIX®**  
 KahlWax: Sunflower Seed Wax, Candelilla Wax  
 Cosphatec: Cosphaderm®  
 Sandream Impact: Fiesta Copper Coral, Ecoperse, Majestic Rhubarb  
 Bell: Parfum



## HANDLING AND SHELF LIFE

The shelf life for IMWITOR® PG3 DIS is at least twenty-four months if the product is stored below 25°C in a dry place in original, tightly closed containers, protected from light and moisture.

IMWITOR® PG3 DIS is a multi-component mixture of e.g., mono-, di-, triglycerides and free polyglycerol, which have different physical properties. Therefore, turbidity can appear which has no influence on performance nor quality.

## PACKAGING UNITS

Hobbock with 25 kg; 600 kg on CP3 pallet  
Drum with 190 kg; 760 kg on CP3 pallet

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Raw material approved by ECOCERT GREENLIFE, compliant with the COSMOS standard

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