



Technical Data Sheet

IMWITOR® PG3 DIS

INCI: Polyglyceryl-3 Diisostearate

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



IOI OLEOCHEMICAL

Personal Care



1. 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 free from palm oil/palm kernel oil, 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 odour.

2. APPLICATION

IMWITOR® PG3 DIS as a W/O-(co)-emulsifier 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.

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 W/O-based caring creams, sticks and ointments.

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|---|---|--|--|
| <input checked="" type="checkbox"/> Skin Care | <input checked="" type="checkbox"/> Body Care | <input checked="" type="checkbox"/> Sun Care | <input checked="" type="checkbox"/> Colour 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%
- Applicable for hot/hot, cold/cold and emulsification processes at reduced temperatures.
- Add IMWITOR® PG3 DIS to the oil phase. We recommend heating 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 homogenisation. When the whole water phase has been added, homogenise the formulation but avoid over-homogenisation. Cool the emulsion to room temperature under stirring.
- 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 optimised and the viscosity controlled by adding DYNASAN® 118, waxes (e.g. beeswax) or metal soaps (e.g. magnesium stearate, magnesium sulfate or aluminium tristearate).
- For oil phases from 25 to 35 %.





3. 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 as an alternative to petrolatum offers good skin protection, and SOFTISAN® 649 as a deposition aid for zinc oxide, fulfils all requirements for making babies' skin smooth again.

Phase A		%
SOFTIGEN®PURA ¹	Olus Oil	16.0
WITARIX® MCT 60/40 ¹	Caprylic/Capric Triglyceride	10.0
SOFTISAN® 649 ¹	Bis-Diglyceryl Polyacyladipate-2	5.0
IMWITOR® 600 ¹	Polyglyceryl-3 Polyricinoleate	2.5
IMWITOR® PG3 DIS ¹	Polyglyceryl-3 Diisostearate	1.0
Shea Butter	Butyrospermum Parkii (Shea) Butter	4.0
Beeswax	Beeswax	2.0
Tocopherol	Tocopherol	0.5
<hr/>		
Phase B		
Allantoin	Allantoin	0.2
Magnesium Sulfate x 7H ₂ O	Magnesium Sulfate	2.0
Preservative	Preservative	q.s.
Aqua dem.	Aqua	33.8
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Phase C		
Panthenol	Panthenol	3.0
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Phase D		
Zinc Oxide	Zinc Oxide	15.0
Titanium Dioxide	Titanium Dioxide	5.0

Procedure:

- Heat phases A and B separately to approx. 80°C.
- Add phase C to phase B.
- Add phase B/C to phase A, homogenise (5.000 – 8.000 rpm).
- Cool with gentle stirring to approx. 50°C, then add phase D in small amounts and homogenise again.
- Cool with gentle stirring to approx. 30°C.

Supplier References:

¹IOI Oleo GmbH



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SHEER INNOCENCE LIPSTICK

No. 810

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

Phase A		%
	MIGLYOL® DO ¹	Decyl Oleate 12.60
	WITARIX® MCT C8 pure coconut ¹	Tricaprylin 10.0
	MIGLYOL® 829 ECO ¹	Caprylic/Capric/Succinic Triglyceride 10.0
	SOFTISAN® 378 ¹	Caprylic/Capric/Myristic/Stearic Triglyceride 6.0
	IMWITOR® PG3 DIS ¹	Polyglyceryl-3 Diisostearate 10.0
	SOFTISAN® conditionHAIR ¹	PCA Glyceryl Oleate 2.0
	SOFTISAN® 649 ¹	Bis-Diglyceryl Polyacyladipate-2 0.5
	SOFTIGAN® 701 ECO ¹	Glyceryl Ricinoleate (and) Tocopherol 5.0
	Kahlwax 6607L Sunflower Seed Wax ²	Helianthus Annuus (Sunflower) Seed Cera (and) Ascorbyl Palmitate (and) Tocopherol 8.0
	Kahlwax 2039L Candelilla Wax ²	Euphorbia Cerifera (Candelilla) Cera 14.0
	Castor Oil	Ricinus Communis (Castor) Seed Oil 20.0
	Cosphaderm® T-70 NON GMO ECO ³	Tocopherol (and) Helianthus Annuus (Sunflower) Seed Oil 0.50
Phase B		
	Fiesta Copper Coral FCL-CCO ⁴	Synthetic Fluorophlogopite (and) Titanium Dioxide (CI 77981) (and) Red 40 (CI 16035) (and) Tin Oxide (CI 77861) 2.07
	Ecoperse Red 6 R6L-D94 ⁴	Red 6 Ba Lake (CI 15850:2) (and) Octyldodecyl Oleate 1.10
	Ecoperse White W-47051 ⁴	Titanium Dioxide (CI 77891) (and) Octyldodecyl Oleate 1.47
	Ecoperse Yellow 5 Y5L-69002 ⁴	FD&C Yellow 5 Al Lake (and) Octyldodecyl Oleate 0.27
	Majestic Rhubarb MCM-RIO ⁴	Mica (and) Iron Oxides Red (CI 77492) 1.08
	6800026 Raspberry Lips ⁵	Parfum (EU)/Fragrance (US) 0.40

Procedure:

- Mix and heat all materials to 80°C. If possible, disperse the powders first in WITARIX® MCT C8 pure coconut.
- Add the perfume immediately before filling the lipstick into the molds. Allow to cool down.

Supplier References:

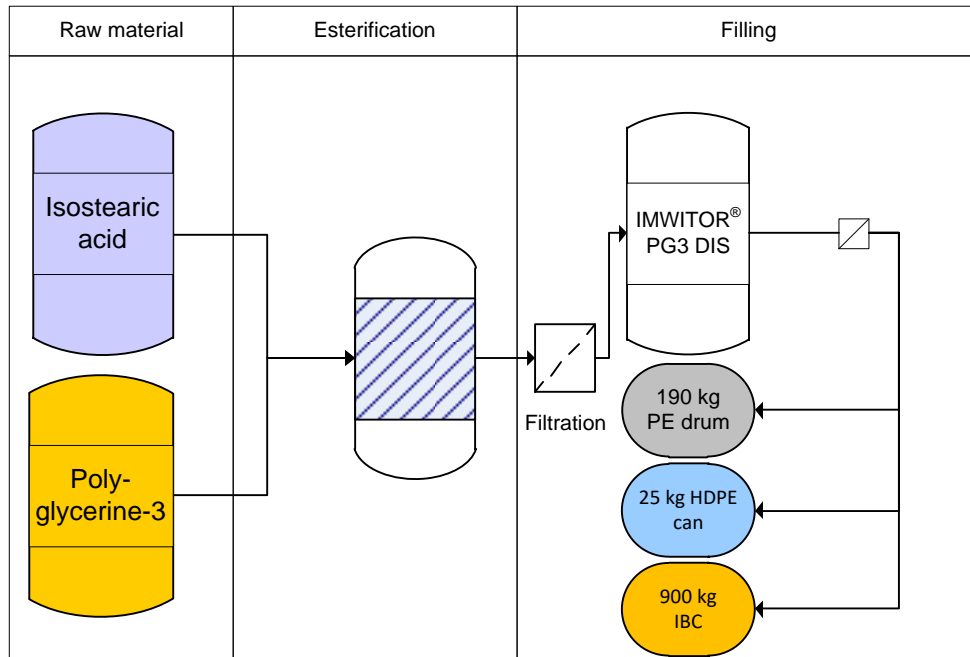
¹IOI Oleo GmbH, ²KahlWax, ³Cosphatec, ⁴Sandream, ⁵Bell



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4. FLOW CHART



5. HANDLING AND SHELF LIFE

Long-term storage: 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.

6. PACKAGING UNITS

Hobbock with 25 kg; 600 kg on CP3 pallet

Drum with 190 kg; 760 kg on CP3 pallet





7. REGULATORY STATEMENT

	IMWITOR® PG3 DIS
HS Code	34021300
CAS No.	63705-03-3
EU EINECS EC No.	/
REACH Status	exempted Polymer
Country of Origin	Germany
USA	registered for import and use in cosmetics
USA-GHS Compliance	Yes
Australia AICS CAS No.	63705-03-3
Canada DSL DSL/NDSL	DSL
Canada WHMIS 2015 Compliance	Yes
China IECIC Standard Chinese Name & Index	聚甘油-3 二异硬脂酸酯 03825
Japan Ingredient/ Labelling name	ジイソステアリン酸ポリグリセリル-3
Korean INCI name	폴리글리세릴-3디이소스테아레이트
Halal	No
Kosher	No

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