



# Technical Data Sheet

## IMWITOR<sup>®</sup> 491/ 900 K

INCI: Glyceryl Stearate

- ❖ NON-IONIC CO-EMULSIFIERS
- ❖ CREATE STABILITY
- ❖ 100% NATURAL



IOI OLEOCHEMICAL

Personal Care



## 1. DESCRIPTION

IMWITOR® 491 and IMWITOR® 900 K are non-ionic co-emulsifiers for O/W emulsions with an estimated HLB of 4. They are 100% natural, vegan, available in RSPO MB certified quality and produced exclusively in Germany.

IMWITOR® glyceryl stearates are esters of the natural stearic and palmitic acid esterified with glycerol. Both types are white to light yellowish, solid, waxy masses/powders, nearly neutral in odour and taste. No additives, residues of antioxidants, stabilisers, solvents or unsaturated components are contained.

Test	IMWITOR® 491	IMWITOR® 900 K	Unit
Melting point	66 – 77 <sup>(1)</sup>	54 – 66 <sup>(2)</sup>	°C
Monoglycerides	min. 90.0 (USP)	40.0 – 55.0 (type II, Ph.Eur. and USP)	%

<sup>(1)</sup> Differential scanning calorimetry (DSC) <sup>(2)</sup> Ascending melting point

## 2. APPLICATION

Because of their surface-active properties, IMWITOR® glyceryl stearates can function as co-emulsifiers, solubilising and binding agents, dispersing adjuvants, softeners and consistency regulators and viscosity adjusters of O/W emulsions. They are widely used and can be found in lotions, creams, powders, skin cleansing products, foundations, mascara, eye shadow, eyeliner, hair conditioners and sun care products.

Thanks to their good skin compatibility (classified as GRAS (21 CFR § 184.1324 and 172.863) by the FDA,) there are no limits to their use:

- |  |  |  |  |
|--|--|--|--|
| <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 checked="" type="checkbox"/> Bath Care  | <input checked="" type="checkbox"/> Wet Wipes        |
| <input checked="" type="checkbox"/> Self-Tanning | <input checked="" type="checkbox"/> Beard Care | <input checked="" type="checkbox"/> Deodorants | <input checked="" type="checkbox"/> Intimate Hygiene |

Both IMWITOR® types are soluble in oils during heating and insoluble in water.

## FORMULATION HINTS

- Recommended concentration: 1 – 5% IMWITOR® 491 or IMWITOR® 900 K as a co-emulsifier.
- Without an auxiliary emulsifier, IMWITOR® 491 or IMWITOR® 900 K are considered as non-emulsifying. IMWITOR® 372 P or IMWITOR® 375 are suitable IOI main emulsifiers.
- Applicable for hot/cold and hot/hot processes.
- Add IMWITOR® glyceryl stearates to the oil phase. Heating is obligatory.
- Recommended pH level: pH 4.0 – 7.0





### 3. FORMULATION GUIDE

#### PAMPERING HAND CREAM

No. 772

This cream will pamper your hands without a sticky or greasy feel. A light but still nourished skin feel is achieved through the ultimate combination of emollients with IMWITOR® 900 K and IMWITOR® 375.

Phase A			%
	IMWITOR® 375 <sup>1</sup>	Glyceryl Citrate/Lactate/Linoleate/Oleate	2.5
	IMWITOR® 900 K <sup>1</sup>	Glyceryl Stearate	1.5
	MIGLYOL® Coco 810 <sup>1</sup>	Coco-Caprylate/Caprates	7.0
	MIGLYOL® T-C7 <sup>1</sup>	Triheptanoin	5.0
	SOFTISAN® 142 <sup>1</sup>	Hydrogenated Coco-Glycerides	4.0
	SOFTISAN® conditionHAIR <sup>1</sup>	PCA Glyceryl Oleate	0.5
	Nafol® 1618 <sup>2</sup>	Cetearyl Alcohol	2.5
	CORN PO4 PH "B" <sup>3</sup>	Distarch Phosphate	1.0
	Tocopherol	Tocopherol	0.5
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Phase B			
	SOFTISAN® GC8 PalmFree <sup>1</sup>	Glyceryl Caprylate	0.3
	Cosphaderm® LA-T <sup>4</sup>	Levulinic Acid (and) Glycerin (and) Sodium Levulinate (and) Aqua	0.8
	Keltrol® CG-RD <sup>5</sup>	Xanthan Gum	0.25
	Aqua dem.	Aqua	73.95
	Cosphaderm® CA natural <sup>4</sup>	Cinnamic Acid	0.2
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Phase C			
	Sodium Hydroxide 10% in water	Sodium Hydroxide	q.s.
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Phase D			
	Fragrance	Parfum (EU)/ Fragrance (US)	q.s.
	Citric Acid	Citric Acid	q.s.

#### Procedure:

- Prepare phase B under stirring and increase pH with phase C to max. pH 7.
- Heat phases A and B separately to approx. 75 °C. When Cosphaderm® CA natural is solved, add phase A to phase B with stirring, then homogenise.
- Cool with gentle stirring to below 40°C and add phase D. Homogenise for a short time. The pH value should be adjusted to pH 5.5 with citric acid.

#### Supplier References:

<sup>1</sup>IOI Oleo GmbH, <sup>2</sup>Sasol, <sup>3</sup>Agrana Stärke, <sup>4</sup>Cosphatec, <sup>5</sup>CP Kelco



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## LOTION FOR STRESSED HAIR

No. 782

This lotion tames even stubborn/unruly hair and leaves it silky and smooth. Thanks to the combination of IMWITOR® liteMULS and IMWITOR® 900 K, you can create a viscosity that works for your packaging. SOFTISAN® conditionHAIR conditions your hair and binds MIGLYOL® Coco 810 and MIGLYOL® T-C7 for better wet and dry combability and a glossy shine.

Phase A		%
IMWITOR® liteMULS <sup>1</sup>	Glyceryl Citrate/Lactate/Linoleate/Oleate (and) Polyglyceryl-3 Caprate (and) Polyglyceryl-4 Caprate (and) Glyceryl Caprylate	1.0
IMWITOR® 900 K <sup>1</sup>	Glyceryl Stearate	2.0
MIGLYOL® Coco 810 <sup>1</sup>	Coco-Caprylate/Caprate	2.0
MIGLYOL® T-C7 <sup>1</sup>	Triheptanoin	2.0
SOFTISAN® conditionHAIR <sup>1</sup>	PCA Glyceryl Oleate	0.7
Nafol® 1618 <sup>2</sup>	Cetearyl Alcohol	3.0
Coconut Oil	Cocos Nucifera (Coconut) Oil	1.0
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Phase B		
Aqua dem.	Aqua	ad 100.0
Glycerin 99.5	Glycerin	5.0
Cosphaderm® CA natural <sup>3</sup>	Cinnamic Acid	0.2
Cosphaderm® LA-T <sup>3</sup>	Levulinic Acid (and) Glycerin (and) Sodium Levulinate (and) Aqua	0.8
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Phase C		
Cosphaderm® X 34 <sup>3</sup>	Xanthan Gum	0.3
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Phase D		
Tocopherol	Tocopherol	q.s.
Fragrance	Parfum (EU)/ Fragrance (US)	q.s.
Citric Acid 20% in water	Citric Acid	q.s.

### Procedure:

- Prepare phase B under stirring and increase pH with NaOH to pH 7.
- Heat phases A and B separately to approx. 80°C. When Cosphaderm® CA natural is solved, add phase C to phase B, than add phase A to phase B/C and homogenise.
- Cool with gentle stirring to below 40°C and add phase D. Homogenise for a short time. The pH value should be adjusted to pH 5.5 with citric acid.

### Supplier References:

<sup>1</sup>IOI Oleo GmbH, <sup>2</sup>Sasol, <sup>3</sup>Cosphatec

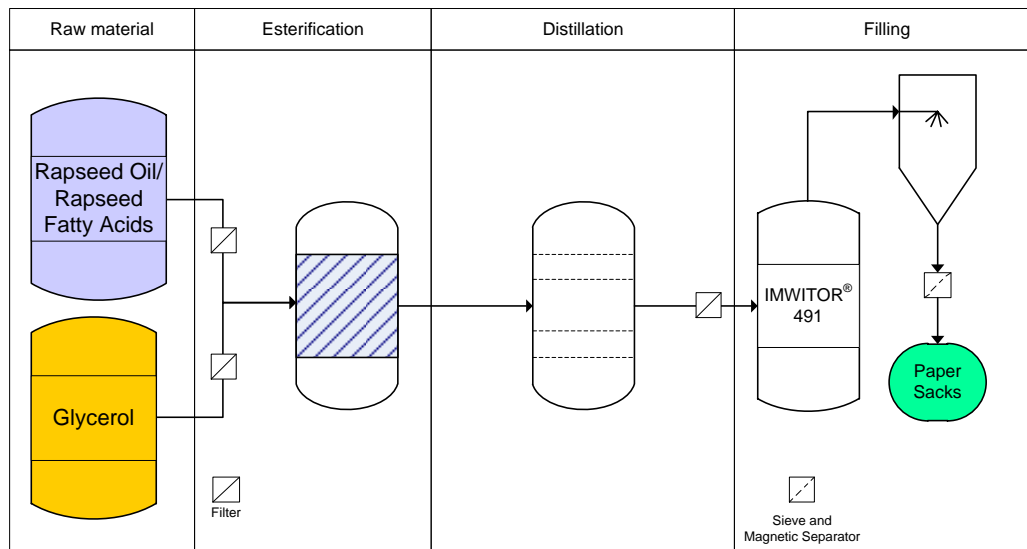


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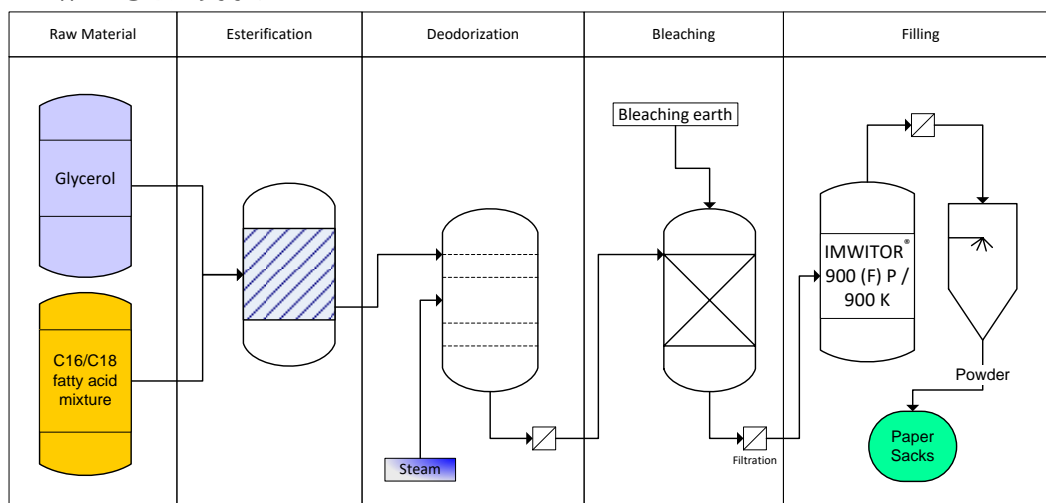


## 4. FLOW CHART

### IMWITOR® 491



### IMWITOR® 900 K



## 5. HANDLING AND SHELF LIFE

Long-term storage: the shelf life for IMWITOR® 491 and IMWITOR® 900 K 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

Paper bag with 25 kg; 450 kg on CP2 or DB pallet (IMWITOR® 491: 875 kg per pallet).





## 7. REGULATORY STATEMENT

	IMWITOR® 491	IMWITOR® 900 K
HS Code	34049000	34049000
CAS No.	31566-31-1	85251-77-0
EU EINECS EC No.	250-705-4	286-490-9
REACH Status	01-2119492307-33-XXXX	01-2119495562-30-0006
Country of Origin	Germany	Germany
USA	registered for import and use in cosmetics	registered for import and use in cosmetics
USA-GHS Compliance	Yes	Yes
Australia AICS CAS No.	31566-31-1	85251-77-0
Canada DSL DSL/NDSL	DSL	DSL
Canada WHMIS 2015 Compliance	Yes	Yes
China IECIC Standard Chinese Name & Index	甘油硬脂酸酯 02490	甘油硬脂酸酯 02490
Japan Ingredient/ Labelling name	ステアリン酸グリセリル	ステアリン酸グリセリル
Korean INCI name	글리세릴스테아레이트	글리세릴스테아레이트
Halal	Yes	Yes
Kosher	Yes	Yes

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