Technology of polyglycerins 1/4

Nature-derived polyglycerols

Glycerol is a colorless, odorless, and viscous liquid with excellent moisture retention. Various types of polyglycerols, with various polymerization degrees, are available. They can be used as raw materials for polyglycerol fatty acid esters and work as humectants for cosmetics.

Feature	DIGLYCERIN S MB	PGL-S MB	POLYGLYCERIN #750 MB
INCI	DIGLYCERIN	POLYGLYCERIN-3	POLYGLYCERIN-10, WATER
Chinese INCI	双甘油	聚甘油-3	聚甘油-10
CAS n°	59113-36-9	25618-55-7	25618-55-7
Origin	Coconut, palm MB	Coconut, palm MB	Coconut, palm MB
QD n°	500201	521062	521062
NOI (ISO 16128)	1	1	1
REACH	Registered	Registered	Exempted





Sensorial characteristics of polyglycerins

Diglycerin S MB

Features:

Excellent penetration to skin

Foam enhancement

Give softness to skin

PGL-S MB

Features:

Excellent spreadabillity
Give smooth feel
Give emollient feel

Features:

Firmness of skin (film-like feel), excellent alternative to PEG for texture modifier

Polyglycerin #750 MB

HO OH OH HO



FUNCTIONAL INGREDIENTS

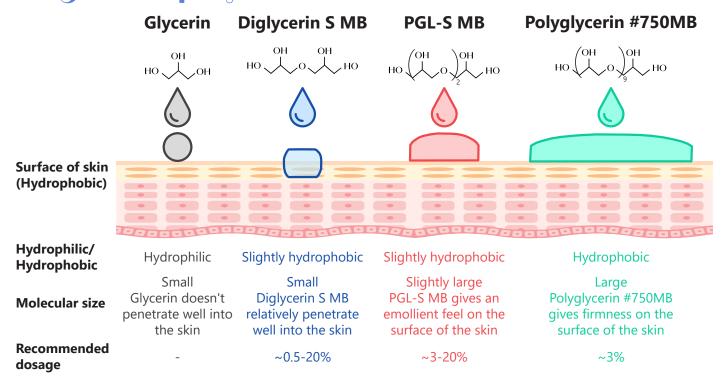
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L-1 Basic Formulation for Moisturizing Lotion

Polyglycerins impart a variety of textures depending on their degree of polymerization.

	INCI Name	Product name	wt-%	
Moisturizer Texture modifier	DIGLYCERIN	DIGLYCERIN S MB	0.50	Improving skin affinity and softness of skin
Moisturizer Texture modifier	POLYGLYCERIN-3	PGL-S MB	7.00	Improving smoothness, thickness and emollient feel
Moisturizer Texture modifier	POLYGLYCERIN-10, WATER	POLYGLYCERIN #750MB	3.00	Imparting skin firmness
Moisturizer	GLYCERIN	Cosmetic Grade Concentrated Glycerin	10.00	
	BUTYLENE GLYCOL		5.00	
	WATER		up to 100	

Degree of polymerization vs effect on texture





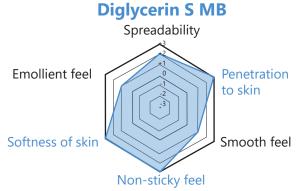
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G-1 Moisturizing Gel

By selecting the type of polyglycerin, various feels in use such as "fluffy" or "smooth" can be adjusted.

PHASE	INCI Name	Product name	wt-%	
А	DIGLYCERIN or POLYGLYCERIN-3	DIGLYCERIN S MB or PGL-S MB	7.00	Gives softness Gives emollient
	GLYCERIN		10.00	
	BUTYLENE GLYCOL		5.00	
	CARBOMER / EMULSIFYING POLYMER / NEUTRALIZER		0.75	
	WATER		up to 100	
В	POLYGLYCERYL-10 MYRISTATE	S FACE M-1001 MB	0.50	
	MACADAMIA SEED OIL POLYGLYCERY-6 ESTERS BEHENATE	S FACE VL-211 MB	2.00	
	SQUALANE		3.00	
C	PRESERVATIVE		QS	

Features of feel in use (Moisturizing Gel)



Score of control: 0 Greater number = better score

PGL-S MB Spreadability Emollient feel Penetration to skin Softness of skin Non-sticky feel

In a few words

Diglycerin S MB : for skin penetration / non-sticky feel / skin softness

PGL-S MB : for spreadability / smooth feel / emollient feel



FUNCTIONAL INGREDIENTS

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G-4 Moisture serum

Non-sticky and rich moisture serum formulated with PGL-S giving high moisture retention and emollient feel in use.

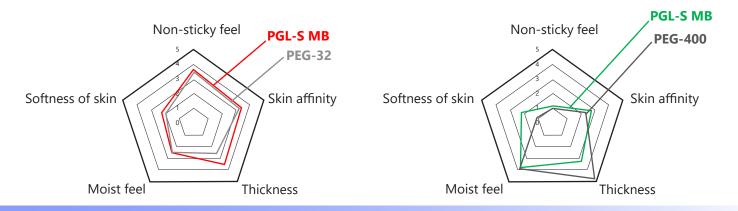
	INCI Name	Product name	wt-%	
Feel modifier	POLYGLYCERIN-3	PGL-S MB	15.00	Gives emollient
Moisturizer	GLYCERIN	Cosmetic Grade Concentrated Glycerin	2.00	
	DIPROPYLENE GLYCOL		5.00	
	THICKENER		0.40	
Emulsifier	POLYGLYCERYL-10 ISOSTEARATE	S FACE IS-1001P MB	0.50	
	OIL		1.50	
	10%-POTASSIUM HYDROXIDE		0.14	
	WATER		up to 100	

Comparison of effect on texture with PEG

Evaluated formulation: 10% aqueous solution

PGL-S MB vs PEG-32

#750MB vs PEG-400



In a few words

Polyglycerins can be used as texture and feel modifiers instead of PEG.

Request info: ice.cs@iwasecosfa.com - Request sample: ice.sample@iwasecosfa.com