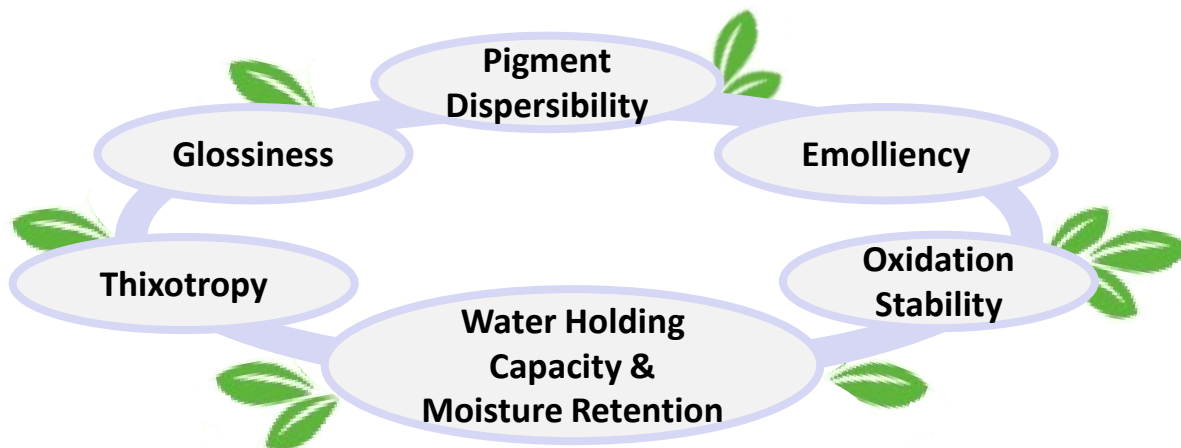


Plandool™ Series

100% Plant-Derived Paste Oil – Lanolin Alternative Oils-



Plandool™ series

Name	INCI Name	Features	QD (*1)	CN (*2)
Plandool™-G	BIS-BEHENYL/ ISOSTEARYL/ PHYTOSTERYL DIMER DILINOLEYL DIMER DILINOLEATE	Oligomer ester of dimer acid and dimer diol (see picture 1). Has as unique moisture and richness and blends well into skin if adding to oil phase due to its high molecular weight and melting point which is close to body temperature. Also adds unique smoothness to lip makeup products.	—	○
Plandool™-H (*3)	PHYTOSTERYL/ ISOSTEARYL/ CETYL/ STEARYL/ BEHENYL DIMER DILINOLEATE	Has DIMER DILINOLEATE chemical structure (Please see picture 2). Because molecular weight is lower than Plandool-G, it is less-greasy. Provides moisture and controls adhesion to skin, hair etc. Due to its non-greasy character, it is possible to manipulate texture in makeup and emulsion formulations. It provides hair moisture after rinsing hair in rinse-off products.	○	○
Plandool™-DP (*4)	BIS-DIGLYCERYL POLYACYLADIPATE-2	Suitable for makeup products because it is paste oil with excellent water holding capacity and pigment dispersibility. 'Key' material for skincare-makeup products.	○	○

(*1) Can be used as an additive in Japanese quasi drugs.

(*2) Listed in Inventory of Existing Cosmetics Ingredient in China 2014 (issued on Jun 30th 2014 by CFDA).

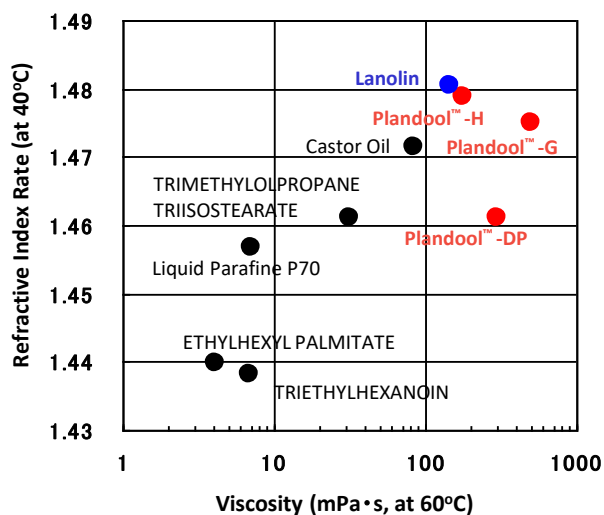
(*3) RSPO (MB) grade available

(*4) Only Plandool-DP is partially plant derived.

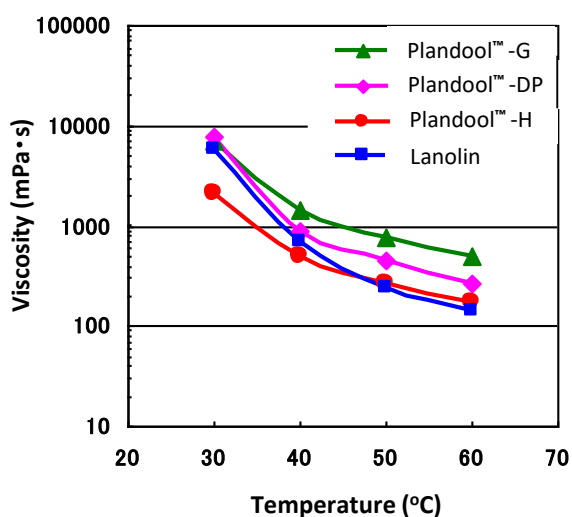
Physical Properties

Product Name	Viscosity (mPa · s)		Refractive Index Rate	Melting Point	Water Holding (%)
	30°C	60°C	40°C		
Plandool™-G	8,500	500	1.475	Approx. 40°C	250
Plandool™-H	2,000	200	1.478	Approx. 40°C	300
Plandool™-DP	8,000	300	1.461	Approx. 40°C	200

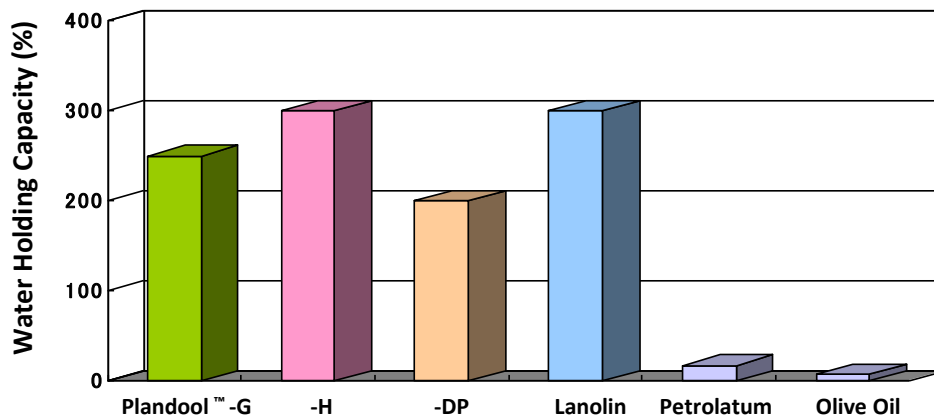
< Viscosity – Refractive Index Rate >



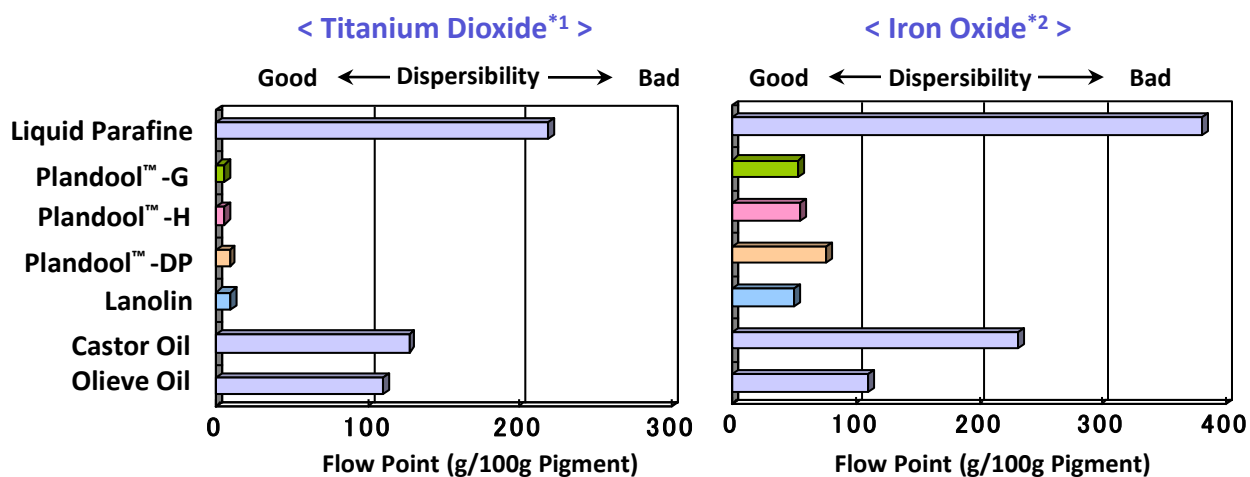
< Temperature – Viscosity >



Water Holding Capacity

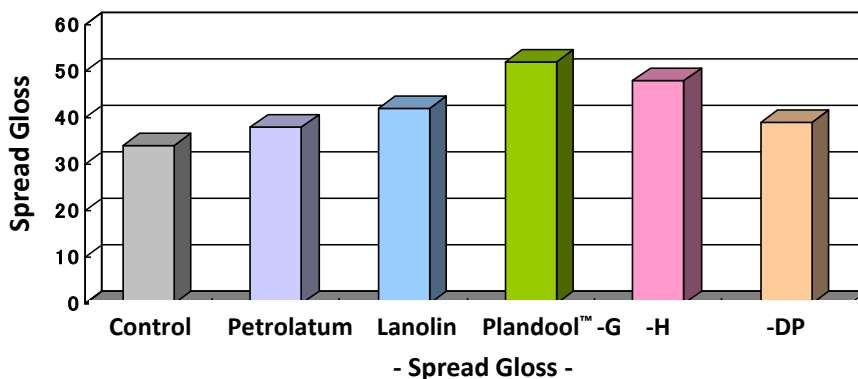


Pigment Dispersibility

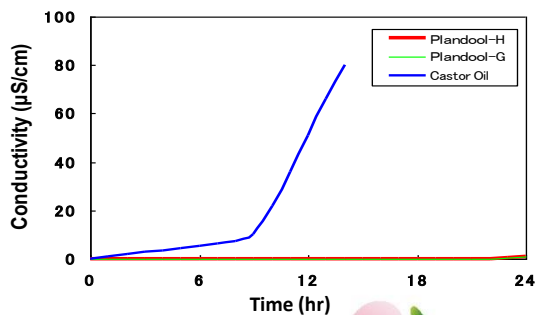


*1 DAITO KASEI KOGYO CO., LTD. Titanium CR-50 (without surface coating)
 *2 DAITO KASEI KOGYO CO., LTD. Iron Oxide No. 211 (without surface coating)

Glossiness



Oxidation Stability



Compatibility

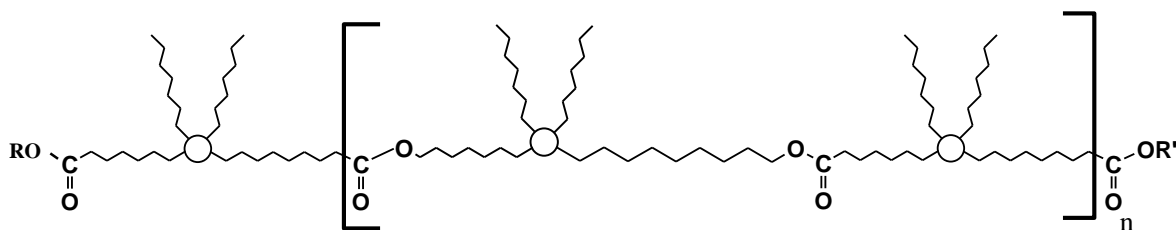
Oil	Plandool™-G		Plandool™-H		Plandool™-DP	
	Heat time	25°C	Heat time	25°C	Heat time	25°C
Ethanol	I	I	I	I	I	I
Glycerin	I	I	I	I	I	I
Oleyl Alcohol	S	S	S	S	S	S
CETYL ETHYLHEXANOATE	S	S	S	S	S	S
TRIETHYLHEXANOIN	S	S	S	S	S	S
Castor Oil	I	I	S	I	S	S
Olive Oil	S	S	S	S	S	S
Liquid Parafine P70	S	S	S	S	S	S
Polyisobutene	S	S	S	S	S	S
Cyclomethicone	I	I	I	I	I	I
Dimethicone	I	I	I	I	I	I
Phenyldimethicone	S	I	S	S	S	I
Cyclomethicone + CETYL ETHYLHEXANOATE (1:1)	S	S	S	S	S	S
Dimethicone + CETYL ETHYLHEXANOATE (1:1)	S	I	S	S	S	I

* Sample is added to solvent at 10%. Observe when heating and again at room temperature (25°C)

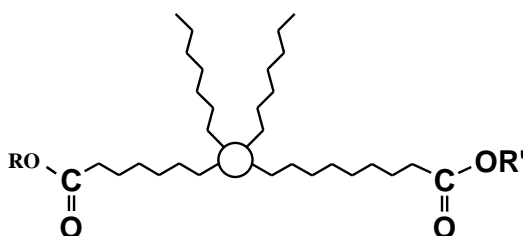
S: Soluble I: Insoluble

Chemical Structure of Plandool™ series

Picture 1: Plandool™ -G



Picture 2: Plandool™ -H



* NIPPON FINE CHEMICAL CO., LTD. cannot assume any liability expressed or implied in the presentation of this data nor take any responsibility for patents or the evaluation of finished products.
 * All rights reserved. Product descriptions are subject to change without prior notice. Please contact us before using product descriptions.
 * All statements, technical information and recommendations related to our products are based on information that is reliable, however the accuracy or completeness is not guaranteed.
 * Plandool™ is a product trade name of NIPPON FINE CHEMICAL CO., LTD.



Your Beauty Partner
Nippon Fine Chemical
 日本精化

TOKYO OFFICE

4-9, Kodemma-cho Nihonbashi, Chuo-ku, Tokyo 103-001, JAPAN
 Phone: +81-3-3664-7781 FAX: +81-3-3664-7886
 Web: <https://www.nipponseika-cosme.com/english/>

