

## SILICONE EMULSIFIERS USED IN MAKING PETROLATUM EMULSIONS

Petrolatum emulsions are of interest in many areas. They have outstanding feel on the skin.

### Effects of Varying Ratios of Petrolatum to Oil

The most effective emulsifier for petrolatum is Silube J208-612. It appears that it can handle a wide range of petrolatum / water ratios. By varying the ratio of petrolatum to water products with very different properties emerge.

Material	PET 090905-A	PET 090905-B	PET 090905-C
	% wt	% wt	% wt
Polysurf 67 CS	0.50	0.75	0.25
Tetrasodium EDTA Versene 100	0.40	0.40	0.40
Water	48.90	70.65	25.00
Propylene Glycol	2.00	2.00	
Silube J208-612	4.00	4.00	4.00
Petrolatum	44.00	22.00	70.15
Propylparaben	0.20	0.20	0.20
	100.00	100.00	100.00

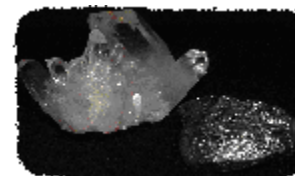
#### Results:

A is a very heavy lotion, with an outstanding skin feel.

B is a thin lotion with a cooling effect on the skin.

C is a heavy cream with the texture and feel of petrolatum.

The technology can be expanded to cover many other oils including the iso-alkanes and esters.





Effects of Varying Emulsifier

Formula A repeated, only this time to investigate the effect of the other Silube surfactants.

<b>Material</b>	<b>PET 090905-A</b>	<b>PET 090905-D</b>	<b>PET 090905-E</b>	<b>PET 090905-F</b>
Polysurf 67 CS	0.50	0.50	0.50	0.50
Tetrasodium EDTA Versene 100	0.40	0.40	0.40	0.40
Water	48.90	48.90	48.90	48.90
Propylene Glycol	2.00	2.00	2.00	2.00
Silube J208-612	4.00			
Silube J208-412		4.00		
Silube J208-212			4.00	
Silube J208-812				4.00
Petrolatum	44.00	44.00	44.00	44.00
Propylparaben	0.20	0.20	0.20	0.20
	100.00	100.00	100.00	100.00

The emulsions made with Silube J208-612, Silube J208-412 and Silube J208-212 all gave good emulsions. The Silube J208-812 formed a very grainy looking product with visible flecks of petrolatum. Consequently, it appears that the higher HLB material is not suitable to forming good emulsions with petrolatum.

Since the water and petrolatum ration are close to equal the nature of the emulsion (invert or regular) is effected by choice of emulsifier. Clearly, the product made with Silube J208-612 is an invert emulsion, and the product made with Silube J208-212 is a regular emulsion. The product made with the Silube J208-412 has some properties of both.

© Siltech LLC 2005 All Rights Reserved



Siltech Personal Care  
678 442 0210  
[www.siltechpersonalcare.com](http://www.siltechpersonalcare.com)