



Raw Material Guide Sheet - DPCF

Check	Item	Rec. usage %	Processing/notes
	Preservatives		
	Euxyl PE9010 [Phenoxyethanol, Ethylhexylglycerin]	0.5 – 1.0% (liquid)	pH < 12; stable in heat
	Geogard ECT [Benzyl Alcohol, Salicylic Acid, Glycerin, Sorbic Acid]	0.6 – 1.0% (liquid)	pH 3 – 8; stable in heat
	Gums/Thickeners		
	Carbomer (anionic)	0.2 – 0.4% (powder)	Low shear only; needs neutralising
	Guar hydroxypropyltrimonium chloride (cationic)	0.1 – 1.0% (powder)	May need acidification
	Hydroxyethylcellulose (non-ionic)	0.2 – 2.0% (powder)	Needs neutralising
	Xanthan gum (anionic)	0.1 – 1.0% (powder)	pH <7.0
	Lipids		
	Almond oil	0.5 – 5.0% (liquid)	
	Avocado oil	0.5 – 5.0% (liquid)	
	Beeswax beads <i>(Note: not in New Zealand Pack due to customs regulations; if you are in NZ please source beeswax locally from Pure Nature: https://www.purenature.co.nz/)</i>	0.5 – 5.0% for moisturisers; more for balms (solid)	HLB <5.0
	Caprylic/capric triglyceride	0.5 – 20.0% (liquid)	
	Castor oil	Up to 80% in balms (liquid)	
	Dimethicone (100cs)	0.5 – 10.0% (liquid)	
	Macadamia oil	0.5 – 5.0% (liquid)	
	Shea butter	0.5 – 5.0% (semi-solid)	
	Other additives		
	Disodium EDTA (chelating agent)	0.05 – 0.2% (powder)	
	Glycerin (humectant)	0.5 – 20.0% (liquid)	
	Polyquaternium-7 (conditioning agent) (9.0% active; remainder water)	1.0 - 3.0% (liquid)	
	Tocopherol (Vitamin E) – antioxidant	0.1 – 2.0% (liquid)	



Check	Item	Rec. usage %	Processing/notes
	Anionic emulsifier		
	Stearic acid	0.5 – 5.0% (solid)	HLB = 15
	Glyceryl stearate citrate	1.5 - 3.0% (solid)	HLB = 12
	Non-ionic emulsifiers		
	Cetearyl alcohol	2.0 – 5.0% (solid)	HLB = 15.5
	Cetearyl alcohol (70%) and cetareth-20 (30%)	2.0 – 12.0% (solid)	HLB = 15
	Cetearyl olivate (60%) and sorbitan olivate (40%) [Olivem 1000]	0.5 – 5.0% (solid)	HLB = 9
	Sorbitan stearate	0.5 – 5.0% (powder)	HLB = 4.7
	Anionic surfactants		
	Sodium cocoyl glutamate (30% active; remainder water)	2.0 – 34.0% (liquid)	
	Sodium lauroyl sarcosinate (34% active; remainder water)	2.0 – 30.0% (liquid)	
	Sodium lauryl ether sulphate (70% active; remainder water)	1.0 – 15.0% (liquid)	
	Non-ionic surfactants		
	Coco-Glucoside (52% active; remainder water)	1.0 – 10.0% (liquid)	
	PEG-7 Glyceryl Cocoate	1.0 – 5.0% (liquid)	
	Polysorbate 20	0.5 – 5.0% (liquid)	HLB = 16.7
	Amphoteric surfactant		
	Cocamidopropyl Betaine (30% active; remainder water)	2.0 – 20.0% (liquid)	
	Cationic surfactant		
	Behentrimonium Chloride [Behentrimonium Chloride (80%) and Isopropyl Alcohol (20%)	1.0 – 5.0% (solid)	
	Essential oils		
	Dry skin/hair blend	Face products ≤0.5% Body products ≤1.5% Wash off products ≤1.8%	Add <40°C
	Normal skin/hair blend		
	Oily skin/hair blend		
	Lavender essential oil		Add <40°C; needs antioxidant added
	Lemongrass essential oil		
	Petitgrain essential oil		



	pH adjusters		
	Citric acid – you need to prepare a 50% solution	q.s.	Refer to next page
	Tromethamine – use in place of NaOH – you need to prepare a 30% solution	q.s	Refer to next page

Additional items:

Item	Check
Safety Glasses	
Gloves x 6	
Pipettes x 12	
pH testing strips x 1 packet	
50g jars x 8	
100mL bottles x 7	
Empty bottles for pH buffer solution x 2 (One bottle labelled citric acid 50%; the other labelled tromethamine 30%)	
20g jars for finished practical samples x 3	
50mL bottles for finished practical samples x 3	
Reverse Engineering Sample	
Smelling Strips x 3	

Please refer to the Safety Data Sheets found in DropBox to ensure safe handling when using the raw materials.

If you have any questions, please contact Student Services, via email:

support@personalcarescience.com.au

Disclaimer: IPCS holds no responsibility for inappropriate use or storage of the chemicals supplied with this course. SDS have been provided to ensure safe handling and storage and it is a condition of use of the practical activity pack that the user holds full responsibility for ensuring safe and correct use and storage of the chemicals contained within the practical activity pack.



To prepare your buffer solutions:

NOTE: ALWAYS ADD POWDERS **TO** WATER WHEN PREPARING BUFFER SOLUTIONS

NEVER water to powder. Wear safety glasses and gloves when preparing these solutions; if you get any powder or solution on your skin wash off thoroughly immediately.

Observe all other safety precautions on the SDS.

Citric acid 50%w/v solution:

1. Measure out 25g purified water in a bowl.
2. Add 25g citric acid to the water.
3. Heat gently and stir to dissolve.
4. Allow to cool completely then pour off into container and cap.

Tromethamine 30%w/v solution:

1. Measure out 35g purified water in a bowl.
2. Add 15g tromethamine to the water.
3. Heat gently and stir to dissolve.
4. Allow to cool completely then pour off into container and cap.