Institute of Personal Care Science

M: 14/2 Focal Ave, Coolum Beach
QLD 4573 Australia
P: (07) 5446 1373
E: info@personalcarescience.com.au
W: www.personalcarescience.com.au

CERTIFICATE IN COSMETIC PRESERVATIVES
EXAMPLE STUDY CHECKLIST AND ASSESSMENT

	Tick when each time completed	Item/Unit
Week 1		Watch Preservative lecture 1
		Read all of sections 1 and 2. Go through all worked examples and complete all activities.
		Work on Assessment Questions: Complete all parts of section 1.1
		Watch Preservative lecture 2
		Read all of section 3. Go through all worked examples and complete all activities.
		Work on Assessment Questions: Complete Q1.2, 1.3 and 1.4 (all parts)
Week 2		Watch Preservative lecture 3
		Read all of section 4. Go through all worked activities and complete all activities.
		Work on Assessment Questions: Complete all parts of Q1.5 and 1.6.
Happy studying ☺		

Assessment Questions for Section 1: Select preservatives for personal care formulas

1.1 Discuss how the following factors may affect preservative performance:

1.1.1 raw material microbial control

1.1.2 final product packaging

1.1.3 poor GMP

1.2 Briefly describe how PET is conducted. What type of packaging would specifically require re-challenge/retest at 21 days?

Institute of Personal Care Science

M: 14/2 Focal Ave, Coolum Beach
QLD 4573 Australia
P: (07) 5446 1373
E: info@personalcarescience.com.au
W: www.personalcarescience.com.au

1.3 Interpret the PET results below to **BP requirements** for a preservative used in a shampoo product.

Test Level	Organisms	48 hours	7 days	14 days	21 days	28 days
0.30%	*P. aeruginosa*	10^3	10	<10	<10	<10
	S. aureus	10^3	10	<10	<10	<10
	E. coli	10^2	<10	<10	<10	<10
	C. albicans	10^2	<10	<10	<10	10^2
	A. niger	10^2	10^3	10^6	10^6	10^7
0.40%	*P. aeruginosa*	10^2	<10	<10	<10	<10
	S. aureus	10^3	10	<10	<10	<10
	E. coli	10^2	<10	<10	<10	<10
	C. albicans	10^2	<10	<10	<10	<10
	A. niger	10^2	10	<10	<10	<10
0.50%	*P. aeruginosa*	<10	<10	<10	<10	<10
	S. aureus	<10	<10	<10	<10	<10
	E. coli	<10	<10	<10	<10	<10
	C. albicans	10	<10	<10	<10	<10
	A. niger	<10	<10	<10	<10	<10

Inoculum Concentration	**Organism**	**0 hours**	**21 days**
	P. aeruginosa	2.0×10^6	6.3×10^6
	S. aureus	2.3×10^6	3.7×10^6
	E. coli	1.3×10^6	4.6×10^6
	C. albicans	1.0×10^6	9.0×10^6
	A. niger	6.0×10^5	1.8×10^6

1.3.1 What is the **Minimum** Inhibitory Concentration (MIC) for this product?

1.3.2 Complete the statement:

At _____% test level, this product has passed to BP Criteria _____ (Pass- ___)

1.3.3 Justify your answer by completing the following statements:

- Greater than ___ log reduction in bacteria counts by day ___
- Greater than ___ log reduction in fungi counts by day ___
- _____ increase thereafter

M: 14/2 Focal Ave, Coolum Beach
QLD 4573 Australia
P: (07) 5446 1373
E: info@personalcarescience.com.au
W: www.personalcarescience.com.au

1.5 Complete the following formulas, showing the preservatives and ancillary agents you would use to protect each formula.

1.5.3 Shampoo: client wants it to be PEG, Propylene Glycol and Paraben free; finished product = 5.5 – 6

Phase	%w/w	Material function	Role
A	3.0	Tegosoft PC31 (Polyglyceryl-3 Caprate) (superfatting agent)	Functional, supportive
A	0.5	Fresh floral fragrance	Added extra
B	21.0	Medialan LD (Sodium lauroyl sarcosinate 30%) (anionic surfactant)	Functional
B	21.0	Genagen CAB (Cocamidopropyl betaine 30%) (amphoteric surfactant)	Functional
B	5.0	Plantacare 2000 UP (Decyl glucoside 52%) (non-ionic surfactant)	Functional, added extra
C	To 100.0	Water (solvent)	Functional, structural
D	5.0	Glycerin	Functional, supportive
D	0.8	Xanthan gum (Cosphaderm XSoft)	Structural, supportive
E		Make your preservative selection here	Supportive
E		Additional preservative selection if required	Supportive
E		Ancillary agent if required	Supportive
E		Additional ancillary agent if required	Supportive
E	q.s.	pH adjuster to pH 5.5 - 6	Supportive

1.6 Find the EU limits (list all conditions and inputs) for the following preservatives:

Preservative	EU Limit
Sorbic acid	
Methylisothiazolinone	
Iodopropynyl butylcarbamate	