SI Pharmacy Technician - Full Discipline Demo

Compounding - Emulsions

Final Report - Answer Guide

Institution Science Interactive University

SessionSI Pharmacy Technician - Full Discipline DemoCourseSI Pharmacy Technician - Full Discipline Demo

Instructor Sales SI Demo

Test Your Knowledge



Classify each statement about emulsions as either true or false.

Correct answers:

1 An emulsion is composed of two immiscible solids and an emulsifier.

The two most common types of emulsions are oil-in-water (abbreviated as o/w) and water-in-oil (abbreviated as w/o).

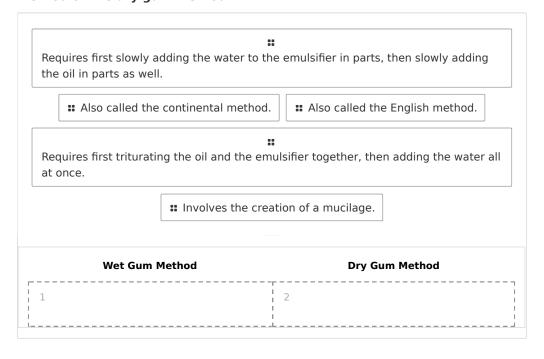
2

The liquid that makes up the greater portion of the emulsion is called the dispersed phase.

Emulsions are used exclusively for pharmaceutical purposes.



Classify each statement based on whether it pertains to the wet gum method or the dry gum method.



Correct answers:

1

Requires first slowly adding the water to the emulsifier in parts, then slowly adding the oil in parts as well.

2 Also called the continental method.

Requires first triturating the oil and the emulsifier together, then adding the water all at once.

Exploration

The boundary that forms between these two phases is called the _____.

interfacedispersed phasecontinuous phase



○ True			✓
□ False			
Exercise 1			
n this exercise, did	you make a water-in-oi	il or an oil-in-water emulsio	n? Explain your answe
Vhat are the advan	tages to producing an e	emulsion using the dry gum	method?
What would have ha	appened if you had tried	d to perform this exercise w	ithout the gum acacia
Photo 1: Dry (Gum Emulsion		







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In this exercise,	did you make a	water-in-oil o	r an oil-in-water	emulsion?	Explain your	answer.



What are the advantages to producing an emulsion using the wet gum method?					
n a pharmacy, v	what would be you	r next step afte	r creating the	primary emulsion	?

Photo 2: Wet Gum Emulsion (SAMPLE ANSWER BELOW)



Competency Review

washed away with water.	
O True	
○ False	~
is a commonly used emulsifier.	
Oil	
○ Water	
Gum acacia	✓
 Mucilage 	
In the wet gum method, the homogenized mixture of water and emulsif is called the primary emulsion.	ier
○ True	
○ False	✓

Water-in-oil emulsions will not leave a greasy trail and can be easily



_	produces a slight crackling sound when triturated when performing both the dry gum and the wet gum methods.	ı
	True	~
	○ False	
V	When using the dry gum method, the water was added quickly all at onc	e.
	True	✓
	False	
	The method was the faster method of producing an emulsion.	
	o dry gum	~
'	o wet gum	
	neither	
	When using the wet gum method, you mixed the oil in gradually but mixen the water in quickly and all at once.	ed
	True	
	False	*
	When using the wet gum method, the oil is added gradually but should briturated with a strong, fast pace.	e
	True	~
	False	

An emulsion is formed when the mixture becomes creamy white and

Extension Questions

In addition to oil-in-water and water-in-oil emulsions, there are also double emulsions called water-in-oil-in-water (w/o/w or WOW) and oil-in-water-in oil (o/w/o or OWO). WOW's are more commonly used because food and supplements are usually composed of a continuous aqueous phase. WOW's have



recently been receiving enhanced news coverage due to their ability to potentially reduce the amount of fat in common foods.

Based on what you already know about emulsion creation, how do you think a WOW emulsion is made. Explain your reasoning.

(SAMPLE ANSWER BELOW)

Student responses should include a stepwise procedure that reflects an elongated o/w procedure. At some point, students should indicate that water is added to the oil to create an intermediate emulsion. This intermediate emulsion is then added to water to create the final emulsion. Other steps such as including an emulsifying agent should also be mentioned.

