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PRODUCT CODE  
**SHAMconc B2-PRL-CLR**

# SHAMconc B2-PRL-CLR

## TECHNICAL DATA SHEET

### DESCRIPTION

**SHAMconc B2-PRL-CLR** is a **Pearly Family Shampoo - Concentrate**.

This pour-able liquid concentrate consists of Anionic, Amphoteric & Non-Ionic surfactants, Pearlier, Water Conditioners, Sterilizers and Preservative. It dissolves in water in 15 minutes with agitation, or 3-5 hours without.

Once fully dissolved: **OPTIONAL:** Stir in a measured quantity of Fragrance of Choice and the addition of a measured quantity of Salt ( $\pm 2\%$ ), to produce a finished Pearly Family Shampoo in keeping with market standards.

### FORMULATION/COMPOSITION

**SHAMconc B2-PRL-CLR** recommended Dilutions:

- 1:9 (10%) – Economy Product (6.0% Active)
- 1:7 (12.5%) – Standard Product (7.5% Active)
- 1:5.67 (15%) – Premium Product (9.0% Active)

### PHYSICAL & CHEMICAL PROPERTIES

<b>Form</b>	Heavy Liquid	<b>Precautions</b>	May cause irritation due to high concentration.	
<b>Colour</b>	Pearly White, Opaque		<b>Handling</b>	Non-Flammable. Keep containers closed to prevent ingress of water. Due to the highly concentrated nature of the product, it is recommended that processing staff wear gloves, eye protection & respiration apparatus when handling the raw concentrate.
<b>Odour</b>	Unisex			
<b>Flash Point</b>	N/A - Not flammable			
<b>pH value at 20°C</b>	5.0 – 5.5			
<b>Relative density</b>	0.90 - 1.00 g/cm <sup>3</sup>	<b>Packing</b>		20 Kg Bucket - Polypropylene 200 Kg Open top drum – High Density Polyethylene
<b>Solubility</b>	Fully soluble in water			
<b>Viscosity</b>	8 500cps @ 25°C Brookfield RVT #6 Spindle @ 5 RPM			
<b>Total Surfactants</b>	60%			

This data does not constitute a specification - please see current "Certificate of Analysis". For further data please also request a copy of the MSDS (Material Safety Data Sheet).

### MANUFACTURER/SUPPLIER

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### SAFETY & HANDLING

Always consult the Material Safety Data Sheet before Use

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### Dilution Chart: SHAMconc B2-PRL-CLR (Pearly Family Shampoo)

Batch Size (in Litres)	Economy			Standard			Premium		
% USE	10%			12.5%			15%		
RATIO	1:9			1:7			1:5.67		
Batch Size that you wish to make (in Litres)	Conc	Water	2.4% Salt	Conc	Water	2.0% Salt	Conc	Water	1.6% Salt
2	0.2	1.8	<b>0.05</b>	0.25	1.75	<b>0.04</b>	0.3	1.7	<b>0.03</b>
5	0.5	4.5	<b>0.12</b>	0.63	4.38	<b>0.1</b>	0.75	4.25	<b>0.08</b>
10	1	9	<b>0.24</b>	1.25	8.75	<b>0.2</b>	1.5	8.5	<b>0.15</b>
20	2	18	<b>0.48</b>	2.5	17.5	<b>0.4</b>	3	17	<b>0.30</b>
50	5	45	<b>1.2</b>	6.25	43.75	<b>1</b>	7.5	42.5	<b>0.75</b>
100	10	90	<b>2.4</b>	12.5	87.5	<b>2</b>	15	85	<b>1.5</b>
200	20	180	<b>4.8</b>	25	175	<b>4</b>	30	170	<b>3</b>
250	25	225	<b>6</b>	31.25	218.75	<b>5</b>	37.5	212.5	<b>3.75</b>
300	30	270	<b>7.2</b>	37.50	262.5	<b>6</b>	45	255	<b>4.5</b>
500	50	450	<b>12</b>	62.5	437.5	<b>10</b>	75	425	<b>7.5</b>
1000	100	900	<b>24</b>	125	875	<b>20</b>	150	850	<b>15</b>
2000	200	1800	<b>48</b>	250	1750	<b>40</b>	300	1700	<b>30</b>
3000	300	2700	<b>72</b>	375	2625	<b>60</b>	450	2550	<b>45</b>

### DISCLAIMER / NON-WARRANTY

This product has been subjected to limited tests and has been shown to perform well. The information contained herein is to our best knowledge true and accurate, but since the conditions of use are beyond our control, Ecwamix Chemical Systems cc. disclaims any liability in connection with the use of this product and/or information. Warranty extends only as far as to the replacement of material shipped if not compliant with the specification as set out in the attached "Certificate of Analysis" and within the expiry period of the said product. All recommendations or suggestions are made without guarantee. It is good practice to conduct one's own application tests on a small area prior to using the product.



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### PROPERTIES/APPLICATIONS/USE

Using the chart above, first decide on the size of the batch that you wish to make (Batch Size column).

Now decide on the dilution (strength) of your finished product (% Use rows across the top).

Let's assume you decide to make 200 Litres of **Standard Shampoo** at a strength of 1:7 (12.5%). If you look across from the number **200**, in the Batch Size block, to the Conc column under **1:7** you will see that you need **25Kg** of **SHAMconc B2-PRL-CLR**. The Water column to its right tells you that you need **175 Litres of water**, and the Salt column to the right of that tells you that you will need **4KG of Salt**:

1. Fill the tank with the required amount of **Water** (175Lt/Kg).
2. Using your scale, weigh 25Kg of **SHAMconc B2-PRL-CLR** into a bucket/s, and weigh 4kg of salt into another clean bucket.
3. Place your mixer in the mixing tank and start it running at a moderate speed.
4. Now steadily pour in the **SHAMconc B2-PRL-CLR**, scraping out as much from the bucket/s as possible. Leave the mixer running for at least 15 minutes.
5. Switch off the mixer after 15 minutes and allow the mixture to stand for about half an hour, the bubbles will come to the top!
6. **OPTIONAL:** Stir in a measured quantity of fragrance of choice.
7. Start the mixer again at a low speed and begin to slowly pour in the salt. After about half the salt has been poured in, the mixture will begin to thicken. You will need to increase the speed of the mixer while adding the remaining salt, keeping the mixture moving all the time. **NB: you don't want to mix too fast, or you may cause lots of bubbles in your product. Don't panic if you do, they will float to the top, but it will take a few hours!**
8. Once all the salt has been added, continue mixing for 5 minutes at the highest speed you can, without sucking in air. **If necessary, add more water to bring the batch up to the 200 Litre mark.**
9. Now switch off the mixer and let the batch stand for 10 minutes then check with a spoon to see if your product is thick enough, just remember that it will get slightly thicker once it has stood for about 12 hours.

**Congratulations, you have just manufactured your first batch of Shampoo!**

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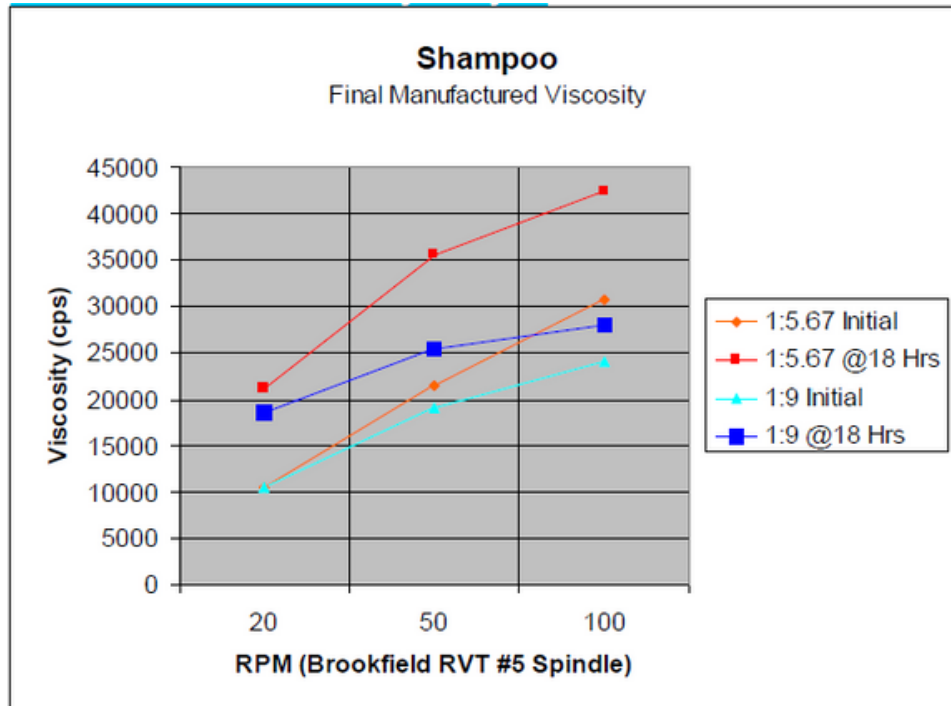


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### FINISHED PRODUCT – VISCOSITY ANALYSIS



A common habit of literally every consumer is to judge the quality of a product, such as a Liquid Hand Soap, by its viscosity (thickness). Ironically, it is very easy these days to create a vastly more powerful product with a viscosity like that of water, as much as it is possible to make plain water as thick as a Liquid Hand Soap. And unfortunately, the latter situation does occur, with many low-quality products using auxiliary thickeners to hide the fact that they don't contain sufficient active material. Building stable and acceptable viscosity into a Liquid Hand Soap has long been a problem that has plagued the manufacturers of economy products. The reason for this is that they rarely understand the interactions of the various ingredients with respect to their contribution to the viscosity of the end product. It is also true to say that some systems use more active ingredient than may be necessary, in order to guarantee a suitable and stable viscosity - this is obviously an unnecessary expense. With many systems, the final addition of salt (to increase the viscosity) is a very delicate issue. It is at this point that the entire batch can be ruined by the addition of too much salt, too little often appears good for a while but then slips backwards to a watery product some days later. We believe we've taken the guesswork out of the equation! The above graphs indicate that our product, even at the lower dilution of 1:9, yields viscosities 15% higher than is required. This test was conducted to establish how high the viscosity could be driven and how much salt the system could tolerate before collapsing. Despite an almost 50% **over dosage** of salt the system simply yielded a very high viscosity that actually **increased further** after 18 hours! The results obtained indicate that our product will reliably deliver suitable and stable viscosity, and further tolerate an unusually high margin of error. These factors substantially reduce the manufacturing risks and simplify the process.

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