



SOAP QUALITY TESTING

General Information

Characteristics of a High Quality Bar Soap.



Hardness - This refers to the hardness of the soap.

Cleaning - This describes how well the soap binds to grease and other particle.

Lather - When soap mixes with water, bubbles and foam form the soap's lather. The lather is essential because it helps remove dirt and oil from the skin. A soap that creates much lather is usually more effective at cleaning.

Conditioners - Are ingredients that make the soap gentler on the skin. These ingredients help to moisturize the skin and make the soap gentler.

Fragrance - A good-smelling soap is more appealing to use. When choosing a soap, it is essential to consider the fragrance. Some people prefer a strong odor, while others prefer a light scent. The type of fragrance used in a soap is also necessary. Some scents, such as essential oils, can benefit the skin, while synthetic fragrances may cause skin irritation.



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Soap Quality Testing

Several tests are performed to determine the quality of soap.

1. Free Caustic Alkali Test
2. Moisture Content
3. Matter Insoluble in alcohol
4. Determination of Free Fatty Matter
5. Determination of pH
6. Microbial Test
7. Foaming Stability



Definitions

1. Free caustic alkali is the amount of alkali free to counter and avert the soap from becoming oily. This test is done to give assurance that the soap will not harm the skin when used.
2. Moisture content is the amount of water present in the soap.
3. Matter insoluble in alcohol is the determine of the ethanol insolubility matter in soap. This measure the amount of non soap products.
4. Free fatty matter is a measure for identifying tha amount of fatty matter present in soaps. Soap with higher FFM gives more lather, last longer and even clean your skin better and gentle.
5. Determination of pH is the measurement of acid or base in the soap.
- 6, Microbial Tes is the identification of bacteria present in the soap.
7. Foaming stability refer to as the time foam will maintain its initial properties as generated.



Evaluation Criteria

1. Free caustic alkali test should be $\leq 2\%$ (according to International Standards Organisation) indicating that the soap will not be harse on the skin.
2. Moisture content should be within 10-20% (increase shelf live and prevent microbial growth).
3. Matter insoluble in alcohol (MIA) - Low MIA is considered good (values ranged between 36-77% for some soap), high concentration indicates high content of impulse (impulse of alkali used for producing the soap). (ISO 673-1974)
4. Total fatty matter - High concentration $\geq 50\%$ is considered good (ISO) (low concentration will grasp all moisture present on the skin making it dry).
5. pH range - pH within the range of 6-9 is considered good. pH above ≥ 5 and ≤ 11 is dangerous to the skin.
6. Foam stability should maintain its original foam within the time durations.