Emulsifying Wax

General Notices

Anionic Emulsifying Wax

DEFINITION

Emulsifying Wax contains Cetostearyl Alcohol and either Sodium Lauryl Sulphate or sodium salts of similar sulphated higher primary aliphatic alcohols.

Extemporaneous preparation

The following formula and directions apply.

Cetostearyl Alcohol	90 g
Sodium Lauryl Sulphate	10 g
Purified Water	4 ml

Melt the Cetostearyl Alcohol and heat to about 95°. Add the Sodium Lauryl Sulphate, mix, add the Purified Water, heat to 115° and maintain at this temperature, stirring vigorously, until frothing ceases and the product is translucent. Cool quickly.

CHARACTERISTICS

An almost white or pale yellow, waxy solid or flakes, becoming plastic when warmed.

Practically insoluble in *water*, forming an emulsion; partly soluble in *ethanol (96%)*.

IDENTIFICATION

A. *Melting point* of the residue obtained in the test for Unsaponifiable matter, about 52°, Appendix V A.

B. Complies with the test for sulphated ash.

TESTS

Acidity

To 20 g add a mixture of 40 ml of *ether* and 75 ml of *ethanol (96%)* previously neutralised to *phenolphthalein solution R1* and warm gently until solution is effected. Titrate with 0.1M *sodium hydroxide VS* using *phenolphthalein solution R1* as indicator until a pink colour which persists for at least 15 seconds is obtained. Not more than 1.0 ml of 0.1M *sodium hydroxide VS* is required.

Alkalinity

Disperse 5.0 g in 25 ml of warm *ethanol (96%)* previously neutralised to *phenolphthalein solution R1* and cool. No colour is produced on the addition of 0.5 ml of *phenolphthalein solution R1*.

Alcohols

To 3.5 g of the residue obtained in the test for Unsaponifiable matter add 12 g of *stearic anhydride* and 10 ml of *xylene* and heat gently under a reflux condenser for 30 minutes. Cool, add a mixture of 40 ml of *pyridine* and 4 ml of *water*, heat under a reflux condenser for a further 30 minutes and titrate the hot solution with 1M *sodium hydroxide VS* using *phenolphthalein solution R1* as indicator. Repeat the operation without the residue. The

difference between the titrations is 12.8 to 14.2 ml.

Iodine value

Not more than 3.0 *(iodine monochloride method)*, Appendix X E.

Saponification value

Not more than 2.0, Appendix X G. Use 20 g.

Sodium alkyl sulphates

Not less than 8.7%, calculated as $C_{12}H_{25}O_4SNa$ with reference to the anhydrous substance, when determined by the following method. Dissolve 0.25 g as completely as possible in 15 ml of *chloroform*, add 30 ml of *water*, 10 ml of 1M *sulphuric acid* and 1 ml of *dimethyl yellow and oracet blue B solution* and titrate with 0.004M *benzethonium chloride VS*, shaking vigorously and allowing the layers to separate after each addition, until the chloroform layer acquires a permanent clear green colour. Each ml of 0.004M *benzethonium chloride VS* is equivalent to 1.154 mg of $C_{12}H_{25}O_4SNa$.

Sulphated ash

2.5 to 4.0%, Appendix IX A.

Unsaponifiable matter

Not less than 86.0%, calculated with reference to the anhydrous substance, Appendix X H. Use 5 g and omit the titration of the residue.

Water

Not more than 4.0% w/w, Appendix IX C. Use 0.6 g.