

## IDENTIFICATION

- A. Relative density (see Tests).  
 B. Refractive index (see Tests).  
 C. Boiling point (2.2.12): 184 °C to 189 °C.  
 D. To 0.5 mL add 5 mL of *pyridine R* and 2 g of finely ground *nitrobenzoyl chloride R*. Boil for 1 min and pour into 15 mL of cold *water R* with shaking. Filter, wash the precipitate with 20 mL of a saturated solution of *sodium hydrogen carbonate R* and then with *water R* and dry. Dissolve in boiling *ethanol (80 per cent V/V) R* and filter the hot solution. On cooling, crystals are formed which, after drying at 100-105 °C, melt (2.2.14) at 121 °C to 128 °C.

## TESTS

**Appearance.** It is clear (2.2.1) and colourless (2.2.2, *Method II*).

**Relative density** (2.2.5): 1.035 to 1.040.

**Refractive index** (2.2.6): 1.431 to 1.433.

**Acidity.** To 10 mL add 40 mL of *water R* and 0.1 mL of *bromothymol blue solution R1*. The solution is greenish-yellow. Not more than 0.05 mL of 0.1 M *sodium hydroxide* is required to change the colour of the indicator to blue.

**Oxidising substances.** To 10 mL add 5 mL of *water R*, 2 mL of *potassium iodide solution R* and 2 mL of *dilute sulfuric acid R* and allow to stand in a ground-glass-stoppered flask protected from light for 15 min. Titrate with 0.05 M *sodium thiosulfate*, using 1 mL of *starch solution R* as indicator. Not more than 0.2 mL of 0.05 M *sodium thiosulfate* is required.

**Reducing substances.** To 1 mL add 1 mL of *dilute ammonia R1* and heat in a water-bath at 60 °C for 5 min. The solution is not yellow. Immediately add 0.15 mL of 0.1 M *silver nitrate* and allow to stand for 5 min. The solution does not change its appearance.

**Heavy metals** (2.4.8). Mix 4 mL with 16 mL of *water R*. 12 mL of the solution complies with test A for heavy metals (5 ppm *m/V*). Prepare the reference solution using *lead standard solution (1 ppm Pb) R*.

**Water** (2.5.12). Not more than 0.2 per cent, determined on 5.00 g by the semi-micro determination of water.

**Sulfated ash** (2.4.14). Heat 50 g until it burns and ignite. Allow to cool. Moisten the residue with *sulfuric acid R* and ignite; repeat the operations. The residue weighs not more than 5 mg (0.01 per cent).

## STORAGE

Store in an airtight container.

01/2008:2122

## PROPYLENE GLYCOL DICAPRYLOCAPRATE

### Propylenglycoli dicaprylocapras

## DEFINITION

Propylene glycol diesters of saturated fatty acids, mainly caprylic (octanoic) acid and capric (decanoic) acid, of vegetable origin.

## CHARACTERS

**Appearance:** almost colourless to light yellow, oily liquid.

**Solubility:** practically insoluble in water, soluble in fatty oils and in light petroleum, slightly soluble in anhydrous ethanol.

## IDENTIFICATION

- A. Refractive index (2.2.6): 1.439 to 1.442.  
 B. Relative density (2.2.5): 0.910 to 0.930.  
 C. Viscosity (2.2.9): 9 mPa.s to 12 mPa.s.  
 D. Composition of fatty acids (see Tests).

## TESTS

**Appearance.** The substance to be examined is clear (2.2.1) and not more intensely coloured than reference solution BY<sub>6</sub> (2.2.2, *Method II*).

**Acid value** (2.5.1): maximum 0.2.

**Hydroxyl value** (2.5.3, *Method A*): maximum 10.

**Iodine value** (2.5.4): maximum 1.0.

**Peroxide value** (2.5.5, *Method A*): maximum 1.0.

**Saponification value** (2.5.6): 320 to 340.

**Unsaponifiable matter** (2.5.7): maximum 0.3 per cent, determined on 5.0 g.

**Alkaline impurities.** Dissolve 2.00 g of the substance to be examined in a mixture of 1.5 mL of *ethanol (96 per cent) R* and 3.0 mL of *ether R*. Add 0.05 mL of *bromophenol blue solution R*. Not more than 0.15 mL of 0.01 M *hydrochloric acid* is required to change the colour of the indicator to yellow.

**Composition of fatty acids.** Gas chromatography (2.4.22, *Method C*). Prepare reference solution (a) as indicated in Table 2.4.22-2.

**Column:**

- **material:** fused silica,
- **size:** *l* = 30 m, Ø = 0.32 mm,
- **stationary phase:** *macrogol 20 000 R* (film thickness 0.5 µm),

**Carrier gas:** *helium for chromatography R*.

**Flow rate:** 1.3 mL/min.

**Split ratio:** 1:100.

**Temperature:**

	Time (min)	Temperature (°C)
Column	0 - 1	70
	1 - 35	70 → 240
	35 - 50	240
Injection port		250
Detector		250

**Detection:** flame ionisation.

**Composition of the fatty acid fraction of the substance to be examined:**

- **caproic acid:** maximum 2.0 per cent,
- **caprylic acid:** 50.0 per cent to 80.0 per cent,
- **capric acid:** 20.0 per cent to 50.0 per cent,
- **lauric acid:** maximum 3.0 per cent,
- **myristic acid:** maximum 1.0 per cent.

**Water** (2.5.12): maximum 0.1 per cent, determined on 5.00 g.

**Total ash** (2.4.16): maximum 0.1 per cent, determined on 2.0 g.

## STORAGE

Protected from light.

01/2008:2087

## PROPYLENE GLYCOL DILAURATE

### Propylenglycoli dilauras

## DEFINITION

Mixture of propylene glycol mono- and diesters of lauric (dodecanoic) acid.

**Content:** minimum 70.0 per cent of diesters and maximum 30.0 per cent of monoesters.