

tion.

It is volatile.

Identification (1) Mix 1 mL of Ethanol with 2 mL of iodine TS and sodium hydroxide TS: a light yellow precipitate is produced.

(2) Heat 1 mL of Ethanol with 1 mL of acetic acid (100) and 3 drops of sulfuric acid: the odor of ethyl acetate is perceptible.

Specific gravity d_{15}^{15} : 0.814 – 0.816

Purity (1) Clarity of solution—Mix 10 mL of Ethanol with 30 mL of water, and allow to stand for 30 minutes between 5°C and 10°C: the mixture remains clear.

(2) Acid or alkali—Add 20 mL of freshly boiled and cooled water and 3 drops of phenolphthalein TS to 20 mL of Ethanol: no color develops. Add 0.10 mL of 0.1 mol/L sodium hydroxide VS to this solution: a red color develops.

(3) Chloride—Add 2 drops of dilute nitric acid and 2 drops of silver nitrate TS to 10 mL of Ethanol, and allow to stand for 5 minutes: the solution remains unchanged.

(4) Heavy metals—Proceed with 30 mL of Ethanol according to Method 1, and perform the test. Prepare the control solution with 3.0 mL of Standard Lead Solution (not more than 1.2 ppm).

(5) Fusel oil constituents—Mix 10 mL of Ethanol with 5 mL of water and 1 mL of glycerin, and drop 0.3 mL of this mixture on odorless filter paper. Allow the mixture to volatilize at an ordinary temperature: no foreign odor remains. Carefully superimpose 5 mL of Ethanol on 5 mL of sulfuric acid in a test tube: no red color develops at the zone of contact.

(6) Aldehyde and other foreign reducing substances—To 10 mL of Ethanol at 15°C add 0.30 mL of 0.02 mol/L potassium permanganate VS, and allow to stand at 15°C for 20 minutes: the red color of the solution remains. Add 5 mL of sodium hydroxide TS to 10 mL of ethanol (95), and allow to stand for 5 minutes: no yellow color develops.

(7) Volatile impurities—Ethanol meets the requirements of the test.

(8) Residue on evaporation—Evaporate 40 mL of Ethanol, exactly measured, in a tared dish on a water bath, and dry for 1 hour at 105°C: the mass of the residue does not exceed 1.0 mg.

Containers and storage Containers—Tight containers.

Storage—Light-resistant, and remote from fire.

Dehydrated Ethanol

Dehydrated Alcohol

無水エタノール



$\text{C}_2\text{H}_6\text{O}$: 46.07

Ethanol [64-17-5]

Dehydrated Ethanol contains not less than 99.5 vol% (by specific gravity) of $\text{C}_2\text{H}_6\text{O}$ at 15°C.

Description Dehydrated Ethanol is a clear, colorless liquid. It has a characteristic odor and a burning taste.

It is miscible with water and with diethyl ether.

It is flammable and burns with a light blue flame on ignition.

It is volatile.

Boiling point: 78 – 79°C

Identification (1) Mix 1 mL of Dehydrated Ethanol with 2 mL of iodine TS and 1 mL of sodium hydroxide TS: a light yellow precipitate is produced.

(2) Heat 1 mL of Dehydrated Ethanol with 1 mL of acetic acid (100) and 3 drops of sulfuric acid: the odor of ethyl acetate is perceptible.

Specific gravity d_{15}^{15} : not more than 0.797.

Purity (1) Clarity of solution—Mix 10 mL of Dehydrated Ethanol with 30 mL of water, and allow to stand for 30 minutes between 5°C and 10°C: the mixture remains clear.

(2) Acid or alkali—Add 20 mL of freshly boiled and cooled water and 3 drops of phenolphthalein TS to 20 mL of Dehydrated Ethanol: no color develops. Add 0.10 mL of 0.1 mol/L sodium hydroxide VS to this solution: a red color develops.

(3) Chloride—Add 2 drops of dilute nitric acid and 2 drops of silver nitrate TS to 10 mL of Dehydrated Ethanol, and allow to stand for 5 minutes: the solution remains unchanged.

(4) Heavy metals—Proceed with 30 mL of Dehydrated Ethanol according to Method 1, and perform the test. Prepare the control solution with 3.0 mL of Standard Lead Solution (not more than 1.2 ppm).

(5) Fusel oil constituents—Mix 10 mL of Dehydrated Ethanol with 5 mL of water and 1 mL of glycerin, and drop 0.3 mL of this mixture on odorless filter paper. Allow the mixture to volatilize at an ordinary temperature: no foreign odor remains. Carefully superimpose 5 mL of Dehydrated Ethanol on 5 mL of sulfuric acid in a test tube: no red color develops at the zone of contact.

(6) Aldehyde and other foreign reducing substances—To 10 mL of Dehydrated Ethanol at 15°C add 0.30 mL of 0.02 mol/L potassium permanganate VS, and allow to stand at 15°C for 20 minutes: the red color of the solution remains. Add 5 mL of sodium hydroxide TS to 10 mL of Dehydrated Ethanol, and allow to stand for 5 minutes: no yellow color develops.

(7) Volatile impurities—Dehydrated Ethanol meets the requirements of the test.

(8) Residue on evaporation—Evaporate 40 mL of Dehydrated Ethanol, exactly measured, in a tared dish on a water bath, and dry for 1 hour at 105°C: the mass of the residue does not exceed 1.0 mg.

Containers and storage Containers—Tight containers.

Storage—Light-resistant, and remote from fire.