COEI-1-AZOTE Nitrogen

Nitrogenum

N = 14.007

SIN NO. 941

1. Objective, Origin and Scope of Application

Neutral gas used to render inert or to degas. It can be used pure or mixed with carbon dioxide.

2. Labelling

The label should mention the nature of this gas and reference its composition and purity, as well as its safety and storage conditions.

3. Properties

Colorless, odorless, flavorless gas. It is not flammable and does not maintain combustion.

The weight of a liter of nitrogen under normal conditions is 1.250 g.

Under a pressure of 760 mm of mercury at 20 °C, a volume of water dissolves a 0.01507 volume of nitrogen, while a volume of alcohol dissolves a 0.1224 volume of nitrogen.

4. Tests

The purity of nitrogen used for oenological purposes should be 99 parts per 100 by volume.

Before undertaking any measurement, the gas should be allowed to escape for several moments in order to clean out the lines.

Gas detection and quantitative analysis: oxygen, carbon monoxide, argon, carbon dioxide, etc. are most rapidly detected using gas phase chromatography. (See this method in the Annex.)

The following chemical methods can also be used.

4.1. Phosphorous-containing Hydrogen, Arsenical Hydrogen and Reducing Substances

Let 1 liter of nitrogen to flow into a mixture of 10 ml of ammoniacal silver nitrate (R) and 15 ml of water.

Regulate the flow of gas so that the gas flows into the solution in approximately 15 minutes.

There should be no clouding or brown coloration when compared with an identical control solution through which no gas will flow.

4.2. Oxygen

Prepare a flask to test for oxygen as follows:

Place 2 turned pieces of copper of approximately 2 cm^2, 16 ml of ammoniacal copper sulfate solution (R) and 2 ml of hydrazine dichlorhydrate in a 24 ml flask.

Stop the flask with a rubber stopper which can easily be pierced with a hypodermic needle. Seal the collar with a metal cap, then cover the cap with wax to ensure a perfectly airtight seal. Shake the flask, then let it sit in the dark until the color disppears completely, after approximately eight days.

Conducting the test:

Pierce the flask stopper with a 8/10 mm hypodermic needle (take care not to dip the needle into the liquid). This will allow gas to escape after bubbling. Next, insert a second hypodermic needle of the same diameter and plunge it into the liquid. After a minute of bubbling, there should be no significant coloring. In the presence of oxygen, the liquid will rapidly turn blue and the color becomes more intense over time.

The nitrogen must incorporate less than 10 ml/l oxygen.

5. Packing and Storage

Nitrogen is delivered in high-strength steel canisters which are painted black and equipped with a needle valve tap. The strength of the canisters should be checked periodically.