



# LIVESTOCK NUTRITION

## Analytical Techniques



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## Chapter - 1

# Standard Solutions - Definition and Preparation of Solutions of Various Strength of Common Acids, Alkalies and Alcohol

### Normal Solution in Analytical Chemistry

A normal solution is that one that contains one equivalent weight expressed in grams (one gram equivalent weight) to be dissolved substance per litre of solution, or one gram-milliequivalent weight per millilitre.

In the case of acid a 1N solution contains 1.008 gram of replaceable hydrogen per litre of solution. A 1N solution of a base is one that contains 17.008 of hydroxyl per litre. A 1N solution of a precipitating agent contains a weight of precipitating ion equivalent to 1.008 hydrogen. The quantity of pure reagent necessary per litre of 1N solution of a precipitating solution is calculated by dividing the gram molecular weight by the valency of the precipitating ion. In case of normal solution of oxidising and reducing agents, the amount is calculated by dividing the gram molecular weight by the total valency change in the ion concerned.

### Determination of Equivalent Weight

An equivalent weight of a substance is that weight equivalent in reacting power to an atom of hydrogen.

Milliequivalent weight is one-thousandth of the equivalent weight.

Gram-equivalent weight is the equivalent weight expressed in gram and is, therefore, that weight equivalent in reacting power to a gram-atom (1.008g)



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