

NESSLER'S REAGENT (FOR DETECTION OF AMMONIA AND AMMONIUM SALT)

PRODUCT CODE 868740

Intended Use

Nessler's Reagent is used to detect production of ammonia and ammonia salts.

Principle And Interpretation

Bacteria, particularly those growing naturally in an environment exposed to urine may decompose urea by means of the enzyme urease. The occurrence of this enzyme can be tested by growing the organism in the presence of urea and testing for alkali (NH₃) production by means of a suitable pH indicator. An alternative method is to test for the production of ammonia from urea by means of Nessler's reagent and/or to detect NH₃ production due to L-arginine breakdown.

PARAMETER

LIMIT

Description	Greenish yellow coloured, slightly opalescent liquid,(ppt is developed slowly on storage which does not affect the sensitivity of the reagent.
Solubility	Miscible with water.
Wt. per ml at 20°C	About 1.13 gm
Sensitivity test	Passes test.

Directions

1. Emulsify a 24 hours old culture of organism to be tested for urease test in 0.5 ml substrate in a test tube containing 2% urea.
2. Place the tube in a water bath at 37°C for 3 hours.
3. Remove the tube and add 0.1 ml of Nessler's reagent and similar amount to the negative control and blank tubes.
4. Read the results after 3-5 minutes after adding the Nessler's Reagent. Both negative and control tubes must be absolutely colourless.
5. When isolated colonies are to be examined, the volume of substrate is reduced to 0.3 ml and only one drop of Nessler's reagent is added.
6. For detecting NH₃ production in L-arginine breakdown, Remove a loopful from a 4 day L-arginine culture and place into 0.5 ml of ammonia free distilled water.
7. Add 1 drop of Nessler's reagent. run the same check on the control.

Results

A positive reaction for presence of ammonia is a colour ranging from a pale yellow to a dark brown precipitate.

Note(s) : 1] Assay (if applicable) method mentioned.

2] Use supernatant liquid only. It is packed with a small amount of precipitate in order to maintain its sensitivity during storage.

DANGER





Hazard statements : Fatal in contact with skin. Fatal if inhaled. Fatal if swallowed. May cause allergic skin reaction. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure. May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life. Toxic to aquatic life with long lasting effects. Causes serious eye damage

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a wellventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/ face protection. Use personal protective equipment as required. Wear respiratory protection.

Response : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Gently wash with plenty of soap and water. IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/ attention. Immediately call a POISON CENTER or doctor/physician. Get medical advice/attention if you feel unwell. Specific treatment is urgent (see MSDS). Rinse

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mouth.If skin irritation or rash occurs: Get medical advice/attention.Remove/Take off immediately all contaminated clothing.Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Collect spillage.	
Disposal: -----	
Hazard Pictogram(s) :     GHS05 GHS06 GHS08 GHS09	

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