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Product Specification

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# Technical Information

## Grace's Insect Medium

With Sodium bicarbonate Without L-Glutamine

## Product Code: IML1001

**Application:-** Grace's Insect medium is a modification of the original formula developed by Wyatt. Grace (1962) improved the medium by introducing ten water soluble vitamins in Wyatt's formula. Grace successfully established four strains of cells from ovarian tissue of Australian emperor gum moth using this medium. These were the first continuous cell lines developed from insect tissue.
IML1001, Grace's Insect Medium can be used to culture cells derived from a variety of insects especially Lepidopterans and some species of Dipterans. It does not contain L-Glutamine. Originally the basal medium was supplemented with plasma from insects, the tissues of which were cultured or plasma from silkworm, *Bombyx mori*. Presently, the medium needs to be supplemented with 5-20% fetal bovine serum. Users are advised to review the literature for recommendations regarding medium supplementation and physiological growth requirements specific for different cell lines.

## Composition**

| Ingredients | mg/Litre |
|---|---|
| **INORGANIC SALTS** | |
| Calcium chloride dihydrate | 1320.000 |
| Magnesium chloride anhydrous | 1068.200 |
| Magnesium sulphate anhydrous | 1356.650 |
| Potassium chloride | 2240.000 |
| Sodium bicarbonate | 350.000 |
| Sodium phosphate monobasic monohydrate | 1007.000 |
| **AMINO ACIDS** | |
| DL-Serine | 1100.000 |
| Glycine | 650.000 |
| L-Alanine | 225.000 |
| L-Arginine hydrochloride | 700.000 |
| L-Asparagine monohydrate | 400.000 |
| L-Aspartic acid | 350.000 |
| L-Cystine dihydrochloride | 25.000 |
| L-Glutamic acid | 600.000 |
| L-Histidine hydrochloride monohydrate | 3376.000 |
| L-Isoleucine | 50.000 |
| L-Leucine | 75.000 |
| L-Lysine hydrochloride | 625.000 |
| L-Methionine | 50.000 |
| L-Phenylalanine | 150.000 |
| L-Proline | 350.000 |
| L-Threonine | 175.000 |
| L-Tryptophan | 100.000 |
| L-Tyrosine disodium salt dihydrate | 72.000 |
| L-Valine | 100.000 |
| ß-Alanine | 200.000 |


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|---|---|
| **VITAMINS** | |
| Choline chloride | 0.200 |
| D-Biotin | 0.010 |
| D-Pantothenic acid (hemicalcium) | 0.020 |
| Folic acid | 0.020 |
| Niacin | 0.020 |
| Pyridoxine hydrochloride | 0.020 |
| Riboflavin | 0.020 |
| Thiamine hydrochloride | 0.020 |
| myo-Inositol | 0.020 |
| p-Amino benzoic acid (PABA) | 0.020 |
| **OTHERS** | |
| Alpha-Ketoglutaric acid | 370.000 |
| D(+) Glucose | 700.000 |
| D-Fructose | 400.000 |
| Fumaric acid free acid | 55.000 |
| L-Malic acid free acid | 670.000 |
| Succinic acid | 60.000 |
| Sucrose | 26680.000 |

## Methodology

1. Add 20.55ml of 200mM L-glutamine (TCL1012) for 1 litre of medium.

## Material required but not provided

L-Glutamine solution 200mM (TCL1012)

Fetal Bovine Serum (BA3112/ BA12432)

## Quality control

**Appearance**

Yellow to pale yellow colored clear solution

**pH**

6.10 – 6.30

**Osmolality in mOsm/Kg $H_2O$**

350.00 -390.00

**Sterility**

No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification.

**Cultural Response**

The growth promotion capacity of the medium is assessed qualitatively by analyzing the cells for the morphology and quantitatively by estimating the cell counts and comparing it with a control medium through three subcultures.

**Endotoxin Content**

NMT 15EU/ml

## Storage and Shelf Life

- Store at 2-8°C away from bright light.
- Shelf life is 18 months.
- Use before expiry date given on the product label.


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## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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