1. PRODUCT INFORMATION – MANUFACTURER DETAILS

- Product Name: LabCell™ Ham's F12
- Product Code: 13005
- Purpose of Use: Synthetic cell culture medium, supports optimal growth of CHO cells.
- Manufacturer/ Supplier: BacterLab Division – LABone Scientific Equipment Co., Ltd.
- Address: 228/13/3 Nguyen Thi Lang, Phu Loi Hamlet, Tan Phu Trung Commune, Cu Chi District, Ho Chi Minh City, Vietnam.

2. HAZARDS

- Classification: Not hazardous under normal conditions.
- Acute Effects: Slightly toxic upon direct contact with eyes and respiratory tract due to irritation. Non-toxic to skin and gastrointestinal tract.
- Chronic Effects: Non-carcinogenic, non-mutagenic, and non-teratogenic. No recorded health effects from repeated or prolonged exposure.
- Hazard Warnings: None.
- Precautionary Advice: Follow laboratory safety protocols; avoid ingestion or inhalation.

3. TYPICAL COMPOSITIONS

For 1 liter of medium (reference)

	Ham's F12	Ham's F12.1 mg/l	Ham's F12.12 mg/l
1	Glycine	7,51	7,51
	L-Alanine	9	9
	L-Arginine Monohydrochloride	211	211
	L-Asparagine Monohydrate	15,01	15,01
	L-Aspartic Acid	13,3	13,3
	L-Cysteine Monohydrochloride Monohydrate	35	35
	L-Glutamic Acid	14,7	14,7
	L-Glutamine	146	/
	L-Histidine Monohydrochloride Monohydrate	20,96	20,96
	L-Isoleucine	3,94	3,94
	L-Leucine	13,1	13,1
	L-Lysine Monohydrochloride	36,5	36,5
	L-Methionine	4,48	4,48
	L-Phenylalanine	4,96	4,96
	L-Proline	34,5	34,5
	L-Serine	10,5	10,5
	L-Threonine	11,9	11,9
	L-Tryptophan	2,04	2,04
	L-Tyrosine Disodium Salt Dihydrate	7,78	7,78

	L-Valine	11,7	11,7
2	Calcium Chloride Dihydrate	44,1	44,1
	Cupric Sulfate Pentahydrate	0,0025	0,0025
	Ferrous Sulfate Heptahydrate	0,834	0,834
	Magnesium Chloride Hexahydrate	123	123
	Potassium Chloride	224	224
	Sodium Bicarbonate	1176	1176
	Sodium Chloride	7599	7599
	Sodium Phosphate Dibasic Anhydrous	142,04	142,04
	Zinc Sulfate Heptahydrate	0,863	0,863
3	Choline Chloride	13,96	13,96
	D-Biotin	0,0073	0,0073
	D-Ca Pantothenate	0,48	0,48
	Folic Acid	1,32	1,32
	Myo-Inositol	18	18
	Nicotinamide	0,037	0,037
	Pyridoxine Hydrochloride	0,062	0,062
	Riboflavin	0,038	0,038
	Thiamine Hydrochloride	0,34	0,34
	Vitamin B12	1,36	1,36
4	D-Glucose Anhydrous	1802	1802
	Hypoxanthine	4,08	4,08
	Linoleic Acid	0,084	0,084
	Phenol Red Solution Salt	1,3	1,3
	Putrescine + 2HCL	0,161	0,161
	Sodium Pyruvate	110	110
	Thioctic Acid	0,21	0,21
	Thymidine	0,73	0,73

pH: 7,3 ± 0,3 at 25°C

4. FIRST AID MEASURES

- Respiratory: Move to fresh air. Seek medical attention if irritation persists.
- Skin: Wash thoroughly with water and soap.
- Eyes: Rinse eyes immediately with running water for at least 15 minutes, keeping eyelids open. Seek medical attention if irritation persists.
- Ingestion: Rinse mouth and drink plenty of water or milk. Do not induce vomiting. Seek medical attention if irritation persists.

5. FIRE SAFETY

- Fire/ Explosion Hazards: Non-flammable and non-explosive.
- Combustion Products: Carbon oxides (CO, CO_2).
- Flammability Limits: None.
- Firefighting Media: Water, foam, dry chemical, or CO_2.
- Protective Equipment: Standard firefighting protective gear.

6. SPILL MANAGEMENT

- Small Spills: Collect using suitable tools into a container for disposal. Wash contaminated surfaces with water.
- Personal Precautions: Use protective gloves; avoid direct contact with the product.
- Environmental Measures: Prevent spillage into drains or water systems.
- Cleaning Procedure: Collect with non-reactive tools and dispose according to regulations

7. HANDLING AND STORAGE

- Precautionary Measures: Avoid ingestion. If ingested, bring the product label to the medical facility. Avoid contact with skin, eyes, and clothing. Wash hands after use. Keep out of reach of children.
- Storage: Store at a cool temperature (2 – 8°C) in a dry, clean, well-ventilated area. Avoid direct sunlight.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

- Exposure Limits: None specified.
- Personal Protective Equipment:
  - Eye Protection: Safety goggles.
  - Skin Protection: Laboratory gloves.
  - Respiratory Protection: Medical masks.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form: Liquid
- Color: Bright red, transparent
- Odor: Odorless
- pH: 7,3 ± 0,3 at 25°C
- Solubility: Soluble in water

10. STABILITY AND REACTIVITY

- Reactivity: Stable under normal conditions.
- Incompatible Materials: Strong acids and bases.
- Chemical Stability: Stable under recommended storage conditions.
- Conditions to Avoid: Avoid humidity and direct sunlight.
- Hazardous Decomposition Products: None under normal usage.

11. TOXICOLOGICAL INFORMATION

- Respiratory: Non-irritating.
- Gastrointestinal: Generally non-irritating; may cause diarrhea in rare cases. Do not ingest.
- Eyes: May cause irritation characterized by redness and swelling. Avoid contact with eyes.
- Acute Toxicity: Not classified.
- Chronic Toxicity: No known effects.
- Carcinogenicity: Not classified as a carcinogen.

12. ENVIRONMENTAL IMPACT

- Ecotoxicity: Not expected to cause significant environmental harm.
- Biodegradability: Biodegradable.
- Bioaccumulation Potential: Low.
- Soil Mobility: Low.
- The product is water-insoluble. Components are nutrient substrates for microorganisms and are not known to have adverse environmental impacts.

13. WASTE DISPOSAL

- Dispose of waste according to medical waste disposal regulations. Avoid environmental release.
- Always wash hands after handling the product.
- Do not dispose into drains or the environment.

14. TRANSPORT INFORMATION

- UN Number: Not regulated.
- Hazard Class: Not classified.
- Packaging: Retain original packaging during transportation.

15. REGULATORY INFORMATION

Follow safety regulations for laboratory use and product handling.

16. OTHER INFORMATION

All information/ data in this MSDS is accurate and based on current data. However, the company provides no warranties regarding merchantability or other assurances.

Users are advised to verify suitability for specific purposes independently.

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