

Product Code: [10-xxxxxx and 05-xxxxxx, various]

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Product Name: Cell Culture Media products

1. Information on the Substance/Preparation and Company

1.1 Catalog #	Product name
10-12xxxx	HBSS (without Ca ²⁺ or Mg ²⁺ ; Hanks Balanced Salt Solution)
10-15xxxx	DMEM Planting Medium (10% FBS; Dulbecco's Modified Eagle Medium)
10-20xxxx	Cell Planting Medium
10-200100EU1	Supplement for Cell Planting Medium Base (11-mL)
10-200100EU2	Cell Planting Medium Base (100-mL)
10-210125	MRC-5 Cell Growth Medium
10-22xxxx	ELVIS® Replacement Medium
10-290030	TurboTreat® (A Mink Lung Cell Pretreatment Medium)
10-31xxxx	RM-01 Refeed Medium (Zero-Serum)
10-32xxxx	RM-02 Refeed Medium (2% FBS)
10-33xxxx	RM-03T R-Mix™ Refeed Medium
10-34xxxx	Chlamydia Isolation Medium
10-35xxxx	RM-05 Refeed Medium (10% FBS)
10-36xxxx	Zero-Serum Refeed Medium – PS
10-38xxxx	Super E-Mix™ Refeed Medium
10-39xxxx	Zero-Serum Refeed Medium – PSGA
10-95xxxx	EMEM (no L-glutamine; Earle's Minimum Essential Medium)
05-360075	R-Mix™ Rinse Buffer, for ReadyCells®
05-370100	R-Mix™ Refeed Medium, for ReadyCells®

Note: Medium products may be available in various volumes, where xxxx is either 0100 = 100-mL, 0500 = 500-mL or 1000 = 1000-mL.

1.2 Company	Diagnostic HYBRIDS, Inc. 1055 East State Street, Suite 100 Athens, OH 45701, USA (740) 589-3300 or (866) 344-3477
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1.3 In emergencies	Call your local emergency center
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2. Components and Hazardous Ingredients

Hazardous Ingredients	Classification Substance	EINECS Nr.
Bovine Serum	(none listed)	(unlisted)
Amphotericin B	Xi, R:22-36/37/38; S26	215-742-2
Cyclohexamide	T+, N, Mut.Cat.3, Repr.Cat.2; R:28, 51/53, 61, 68; S:45, 51, 61	200-636-0
Gentamicin	Xn, R:61, 42/43, 36; S:23, 36/37/39, 45	215-778-9
Penicillin G	Xi, Xn, Resp.Sens.1, SkinSens.1; R:42/43, 36/37; S45	204-038-0
Streptomycin Sulfate	Xn, Acute Tox.4; R:22, 52	223-286-0
L-Glutamine	Xi, R:36/37/38; S:26, 36	200-292-1
HEPES	Xi, R:36/37/38; S:26, 36	230-907-9
Phenol Red	Xi, R:36/37/38; S:26, 36	205-609-7
Sodium butyrate	Xi, R:36/37/38; S:26	205-857-6
Trypsin	Xn, R:36/37/38, 45; S:22-24-26-36/37	232-994-9
[Proprietary ingredients]	[Not applicable]	[Not applicable]

Classification key: Toxic (T); Very toxic (T+); Harmful (Xn); Irritant (Xi); Dangerous for the environment (N); Oxidizing agent (O); Explosive (E); Flammable (F)
Proprietary ingredients: Contains non-hazardous quantities of proprietary ingredients [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].

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Components Products	10-12xxxx	10-15xxxx	10-20xxxx	10-210125	10-22xxxx	10-290030	10-31xxxx	10-32xxxx	10-33xxxx	10-34xxxx	10-35xxxx	10-36xxxx	10-38xxxx	10-39xxxx	10-95xxxx	05-360075	05-370100
Bovine Serum		X	X	X	X	X		X		X	X		X				
Amphotericin B					X			X		X	X			X			
Cyclohexamide										X							
Gentamicin		X	X	X		X		X		X	X			X			
Penicillin G					X			X	X		X	X	X	X		X	X
Streptomycin Sulfate					X			X	X	X	X	X	X	X		X	X
L-Glutamine		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
HEPES		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Phenol Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trypsin									X								X

3. Hazards Identification

- Contains non-hazardous quantities of proprietary ingredients [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].
- The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains FBS, with one or more antimicrobials (penicillin, streptomycin, gentamicin and/or amphotericin B).
- Bovine Serum may cause eye and skin irritation. May be harmful if inhaled and may be irritating to mucous membranes and upper respiratory tract. May be harmful if swallowed.
- Amphotericin B may cause severe allergic reaction with potentially lethal side effects.
- Cyclohexamide has possible risk of irreversible effects. May cause harm to the unborn child. Very toxic if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Gentamicin may cause harm to the unborn child. May cause sensitization by inhalation and skin contact. Irritating to eyes.
- Penicillin G may cause allergic skin reaction, allergic respiratory reaction, slight irritation to the digestive tract, respiratory tract, eyes, and skin.
- Streptomycin sulfate is very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
- L-Glutamine may cause allergic skin and/or respiratory reaction. Irritating to eyes, respiratory system, and skin.
- Trypsin may cause skin, eye, and mucous membranes and upper respiratory tract irritation (lung sensitizer).

4. First Aid Measures

- Eye contact:* ▪ Rinse immediately with water for 15 minutes, occasionally lifting the upper and lower eyelids
- Consult a doctor/medical service
- Skin contact:* ▪ Rinse with plenty of water
- Remove clothing before washing
- Consult a doctor/medical service
- After inhalation:* ▪ Remove the victim into fresh air
- Consult a doctor/medical service
- After ingestion:* ▪ Consult a doctor/medical service

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5. Fire Fighting Measures

- Suitable extinguishing media:* ▪ All non combustible extinguishing media allowed
Unsuitable extinguishing media: ▪ No data available
Special exposure hazards: ▪ No data available
Instructions: ▪ Take account of contaminated fire fighting water
▪ Use fire fighting water moderately and contain it
Special protective equipment for firefighters: ▪ No data available

6. Accidental Release Measures

- Personal protection:* ▪ See 8.2, below
Environmental precautions: ▪ Discharge according to local regulations
Clean-up: ▪ Take up liquid spill into absorbent material
▪ Discharge absorbed material according to local regulations
▪ Wash clothing and equipment after handling

7. Handling and Storage

- Handling:* ▪ *If solution is spilled:* take up with an absorbent material; if contact is possible, wear gloves as protection.
▪ Discharge according to local regulations
▪ Remove and clean contaminated clothing
▪ Handle and open the container with care
Storage: ▪ 2° to 8°C, in the dark; except for *Supplement for Cell Planting Medium Base* (10-200100EU1) which is stored at -70°C
▪ Keep away from: heat sources
Additional Reference: ▪ CDC-NIH Manual, *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), 5th edition, 2007, [<http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm>]

8. Exposure Controls/Personal Protection

8.1 Exposure Limits

Chemical/Component	TLV/NIOSH REL	OSHA PEL	CAS No.
Bovine Serum	Not listed	Not listed	Not available
Amphotericin B	Not listed	Not listed	1397-89-3
Cyclohexamide	Not listed	Not listed	66-81-9
Gentamicin	Not listed	Not listed	113-98-4
Penicillin G	Not listed	Not listed	69-57-8
Streptomycin Sulfate	Not listed	Not listed	3810-74-0
L-Glutamine	Not listed	Not listed	56-85-9
HEPES*	Not listed	Not listed	7365-45-9
Phenol Red	Not listed	Not listed	143-74-8
Sodium butyrate	Not listed	Not listed	156-54-7
Trypsin	Not listed	Not listed	9087-70-1
Proprietary Ingredients	Not listed	Not listed	Not available

Note: Information in above table from NIOSH Pocket Guide to Chemical Hazards, 2005.

* 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid, N-(2-Hydroxyethyl)piperazine-N'-(2-ethanesulfonic acid)

8.2 Control of Exposure

- Eye protection:* ▪ Safety glasses or Face shield
Hand protection: ▪ Gloves should be waterproof
▪ Suitable materials: Butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, PVC
▪ Hands should be washed after working with this product.

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- Skin protection:* ■ Protective clothing
- Respiratory protection:* ■ Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product
- Insufficient ventilation: wear respiratory protection

9. Physical and Chemical Properties

Clear, aqueous liquid; cherry-peach to light red in color, except for *TurboTreat*[®] (10-290030) or *Supplement for Cell Planting Medium Base* (10-200100EU1) which is clear to light straw/yellow in color; odorless; there should be no signs of turbidity.

Note: Boiling and Freezing Points for all aqueous components are near those of pure water.

10. Stability and Reactivity

- *Stability:* Hazardous polymerization will not occur. Stable if stored in specified conditions (see labeling).
- *Reactivity/Hazardous decomposition products:* No hazardous decomposition products are formed in high quantities.
- *Conditions/Materials to avoid:* Strong oxidizing agents; also see Section 3. Hazards Identification

11. Toxicological Information

Acute toxicity:

<i>Bovine Serum</i>	None identified	None identified
<i>Amphotericin B</i>	LD ₅₀ oral, rat	>5000 mg/kg
<i>Cyclohexamide</i>	LD ₅₀ oral, rat	2 mg/kg
<i>Gentamicin</i>	LD ₅₀ oral, rat LD ₅₀ IV, rat	>5000 mg/kg 96 mg/kg
<i>Penicillin G</i>	LD ₅₀ oral, rat	6,916 mg/kg
<i>Streptomycin Sulfate</i>	LD ₅₀ oral, rat LD ₅₀ IP, rat LD ₅₀ oral, mouse	430 mg/kg 1,219 mg/kg 430 mg/kg
<i>L-Glutamine</i>	LD ₅₀ oral, rat LD ₅₀ oral, mouse	7500 mg/kg 21700 mg/kg
<i>Phenol Red</i>	None identified	None identified
<i>Trypsin</i>	LD ₅₀ oral, rat LD ₅₀ oral, mouse	>5,000 mg/kg 1,450 mg/kg

Chronic toxicity:

<i>Bovine Serum</i>	Target Organ(s): None identified
<i>Amphotericin B</i>	Target Organ(s): kidneys
<i>Cyclohexamide</i>	Target Organ(s): nerves, kidney, adrenal cortex, cardiovascular system
<i>Gentamicin</i>	Target Organ(s): nerves, kidney, ears
<i>Penicillin G</i>	Target Organ(s): nerves, kidney, ears
<i>Streptomycin Sulfate</i>	Target Organ(s): skin, eyes, kidneys, ears
<i>L-Glutamine</i>	Target Organ(s): None identified
<i>Phenol Red</i>	Target Organ(s): eyes, skin, respiratory system
<i>Trypsin</i>	Target Organ(s): skin, respiratory sensitizer, lungs,

Note: Toxicity levels listed in the table above are for the ingredients when in their pure state.

Routes of exposure

- Ingestion, inhalation, eyes and skin
- Caution! Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals. Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburn-like response to edematous, vesiculated lesions or bullae.

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Acute effects/symptoms

Amphotericin B: Known to have severe and potentially lethal side effects consisting of high fever, shaking chills, hypotension, anorexia, nausea, vomiting, headache, dyspnea, and tachypnea.

Cyclohexamide: May cause congenital malformation in the fetus. Presumed human reproductive toxicant.

Gentamicin: May cause skin, eye, and mucous membranes and upper respiratory tract irritation. May be harmful if swallowed.

Penicillin G and Streptomycin Sulfate: May cause skin, eye, and mucous membranes and upper respiratory tract irritation. May be harmful if swallowed.

Trypsin: May cause skin, eye, and mucous membranes and upper respiratory tract irritation (lung sensitizer).

Chronic effects

Amphotericin B: Multiple organ damage associated with therapeutic doses with significant nephrotoxicity and/or hepatotoxicity. Several forms of anemia and other blood dyscrasias have been reported.

Cyclohexamide: May cause significant toxic side effects, including DNA damage, teratogenesis, and other reproductive effects (including birth defects and toxicity to sperm).

Gentamicin: Aminoglycosides are associated with significant nephrotoxicity and/or ototoxicity. The chemical, physical, and toxicological properties have not been thoroughly investigated.

Penicillin G and Streptomycin Sulfate: Aminoglycosides are associated with significant nephrotoxicity and/or ototoxicity. The chemical, physical, and toxicological properties have not been thoroughly investigated.

Trypsin: Mutagenic effects: Classified POSSIBLE for human.

12. Ecological Information

Aquatic toxicity:

<u>Cyclohexamide</u> :	(not available)	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<u>Streptomycin Sulfate</u> :	LC ₅₀ (96 h):	>180 mg/L (<i>Oncorhynchus mykiss</i> ; rainbow trout)
	LD ₅₀ (48 h):	650 mg/L (<i>Daphnia magna</i> ; water flea)
		Toxic to daphnia and other aquatic invertebrates
<u>Sodium butyrate</u>	LC ₅₀ (24 h):	5,000 mg/L (<i>Lepomis macrochirus</i> ; bluegill)
	EC ₅₀ (24 h):	1,950 mg/L (<i>Daphnia magna</i> ; water flea)
		Toxic to daphnia and other aquatic invertebrates.

Other Information:

- Effect on the ozone layer: Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect: No data available
- Effect on waste water purification: No data available

13. Waste Disposal Considerations

Disposal methods:

- Dispose of material according to local regulations.

14. Transport Information

USA: No restrictions.

Canada: No restrictions.



EU: No restrictions.



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15. Regulatory Information

Classification according to directives 67/548/EEC and 1999/45/EC

Symbol	Risk and Safety Precaution
 Xn – harmful Xi – irritant	R22: Harmful if swallowed R36/37/38: Irritating to eyes, respiratory system and skin R42/43: May cause sensitization by inhalation and skin contact R52: Harmful to aquatic organisms R61: May cause harm to the unborn child R68: Possible risks of irreversible effects
 N	S23: Do not breathe aerosols S24/25: Avoid contact with skin and eyes S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S29: Do not empty into drains S35: This material and its container must be disposed of in a safe way S36/37/39: Wear suitable protective clothing, gloves and eye/face protection S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

Symbol	Chlamydia Isolation Medium (10-34xxxx)
 T+	R28: Very toxic if swallowed R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment R61: May cause harm to the unborn child R68: Possible risks of irreversible effects
 N	S35: This material and its container must be disposed of in a safe way S36/37/39: Wear suitable protective clothing, gloves and eye/face protection S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible) S53: Avoid exposure - obtain special instructions before use S61: Avoid release to the environment. Refer to special instructions/Safety datasheets.

16. Other Information

- Based on: US 29 CFR 1910:1200(g); Canadian Hazardous Product Act, Part II; Directive 911155/EEC et seq.
- This product is designed for use by professionals.
- The above information is believed to be accurate and represents the information available to date, but Diagnostic Hybrids does not purport it to be all-inclusive; this should be used only as a guide.
- Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product.
- Contact Diagnostic Hybrids, Inc. if additional information is required.

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