

## 1. SUBSTANCE IDENTITY AND COMPANY INFORMATION

<b>PRODUCT NAME:</b>	Human Peripheral Blood Mononuclear Cells, Hepatitis B Virus		
<b>CATALOG #:</b>	PBMNC005C-HBV; PBMNC010C-HBV; PBMNC005F-HBV; PBMNC010F-HBV		
<b>COMPANY INFORMATION:</b>	<b>FOR INFORMATION CALL:</b>	530-626-7000	
StemExpress	<b>AFTER HOURS CONTACT:</b>	530-626-7000	
1743 Creekside Drive, Suite 200	<b>CHEMTREC EMERGENCY:</b>	800-424-9300	
Folsom, CA 95630			

## 2. HAZARDS IDENTIFICATION

**GHS Symbol:** 

**Signal Word:** Biohazard

### Health Hazards

#### **For Biosafety Level 1**

Handle as a potentially biohazardous material under at least Biosafety Level 1 containment.

The donor(s) have been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when handling product.

#### **For Biosafety Level 2**

Handle as a potentially biohazardous material under at least Biosafety Level 2 containment.

These human source materials are associated with human disease, hazards include: percutaneous injury, ingestion, mucous membrane exposure (U.S. Government Publication Biosafety in Microbiological and Biomedical Laboratories). The donor(s) have been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when manipulating these cell lines.

**Host Range:** Humans

**Infectious Dose:** Unknown

**Mode of Transmission:** HBV is transmitted by percutaneous or mucosal exposure to infected blood or other body fluid. HBV transmission has been observed with numerous forms of human contact such as perinatal/mother to child, sexual, needle sharing, and occupational/health-care-related.

**Incubation Period:** Usually 24-180 days (average 60-90 days).

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is derived from a human source. Cells are shipped in liquid cell culture medium, a mixture of components that may include, but is not limited to: inorganic salts, vitamins, amino acids, carbohydrates and other nutrients dissolved in water. Frozen cultures contain a 10% solution of dimethyl sulfoxide (10% DMSO) as a cryoprotectant.

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This substance contains no ingredients at concentrations to be considered hazardous as defined by OSHA 29 CFR 1910.1200 however this product should be handled according to good lab practices, with proper personal protective equipment, proper engineering controls and within the parameters of the purchaser's chemical hygiene plan.

## 4. FIRST AID MEASURES

**Report to your Safety Office and Seek Medical Attention Immediately**

**Surveillance:** Monitor for symptoms

**First Aid/ Treatment:** Following exposure to HBV the affected area should be washed immediately with soap and water. Mucous membranes and conjunctivae should be irrigated thoroughly with water. If the material involved is known to contain HBV or be positive for HBsAg then hepatitis B immunoglobulin (HBIG) should be given, ideally within 48 hours of exposure.

**Immunization:** Two types of HB vaccine have been licensed and shown to be highly effective against all subtypes of HBV. Vaccination against HBV should now be the norm in laboratory personnel.

**Ingestion:** If person is unconscious seek emergency medical attention; never give anything by mouth to an unconscious person. If the person is conscious wash mouth out with copious amounts of water and call a physician. Do not induce vomiting unless directed to do so by a physician.

**Inhalation:** If person is unconscious seek emergency medical attention, if person is conscious remove to fresh air and call a physician.

**Dermal Exposure:** Immediately wash skin with copious amounts of water followed by washing with soap and copious amounts of water. Remove all contaminated clothing.

**Eye Exposures:** Flush eyes with copious amounts of water for at least 15 minutes with eyelids separated and call a physician.

**Puncture Wound:** Wash thoroughly with soap and water. Allow to bleed freely. Call a physician.

## 5. FIRE FIGHTING MEASURES

**General:** Wear self-contained breathing apparatus in pressure demand, MSHA/NIOSH approved. During a fire, irritating and toxic gases may be generated by thermal decomposition.

**Extinguishing Media:** Water spray, carbon dioxide, dry chemical powder, Halon (where regulations permit), or appropriate foam.

**Autoignition Temperature:** N/A

**Explosion Limits:** N/A

**Flash Point:** Data not available

## 6. ACCIDENTAL RELEASE MEASURES

**Use Personal Protective Equipment:** Including chemical splash goggles, chemical resistant gloves, and appropriate clothing to prevent skin exposure. In addition, a respiratory protection program that complies with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## **Methods for Cleaning Up**

**Patient/Victim:** Wash with soap and water. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Do not take clothing home.

**Equipment/Environment:** Allow aerosols to settle; wearing protective clothing, gently cover spill with paper towel and apply 1% sodium hypochlorite, starting at perimeter and working towards the center; allow sufficient contact time before clean-up (30 min).

**Note: The use of additional PPE may be necessary for cleaning solutions.**

## **7. HANDLING AND STORAGE**

**Spills:** Allow aerosols to settle and, wearing protective clothing, gently cover spill with paper towels and apply an appropriate disinfectant, starting at the perimeter and working towards the center. Allow sufficient contact time before clean up.

**Disposal:** Decontaminate all wastes that contain or have come in contact with the infectious organism by autoclave, chemical disinfection, gamma irradiation, or incineration before disposing.

**Storage:** The infectious agent should be stored in leak-proof containers that are appropriately labeled.

## **8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**RISK GROUP CLASSIFICATION:** Risk Group 2.

**CONTAINMENT REQUIREMENTS:** Biosafety Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious material, animals, or cultures.

**PROTECTIVE CLOTHING:** Lab coat. Gloves when direct skin contact with infected materials or animals is unavoidable. Eye protection must be used where there is a known or potential risk of exposure to splashes.

**OTHER PRECAUTIONS:** All procedures that may produce aerosols or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited. Additional precautions should be considered with work involving animals or large scale activities.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Aqueous Liquid or Frozen

**Color:** Not Available

**pH:** No Data Available

**Melting Point:** No Data Available

**Boiling Point:** No Data Available

**Freezing Point:** No Data Available

**Flash Point:** No Data Available

**Ignition Temperature:** No Data Available

**Lower/Upper Explosion limit:** No Data Available

**Water Solubility:** No Data Available

## 10. STABILITY AND VIABILITY

**Susceptibility to Disinfectants:** Treatment of HBV diluted in phosphate buffered saline with 1% non-ionic detergent (Triton X-100) plus 0.3% tri-n-butyl-phosphate leads to HBV inactivation. HBV is also inactivated by formaldehyde, glutaraldehyde, sodium hypochlorite (5,000 ppm available chlorine), quaternary ammonium compounds, and alcohols (70-80%).

**Physical Inactivation:** Moist heat at 98°C for 1 minute will partially inactivate HBV in a 1:10 serum dilution. Incubation at 60°C for 10 hours (pasteurization) will also inactivate HVB.

**Survival Outside of Host:** HBV can survive and remain infectious on environmental surfaces for at least 7 days

## 11. TOXICOLOGICAL INFORMATION

**Toxicity Data:** Data not available

**Sensitization of Product:** Data not available

**Effects of Short Term Exposure:** Data not available

**Chronic Exposure–Teratogen:** Data not available

**Effects of Long Term or Repeated Exposure:** Data not available

**Chronic Exposure–Mutagen:** Data not available

**Chronic Exposure–Reproductive Hazard:** Data not available

No Information was found in relation to: RTECS, LD50/LC50, Carcinogenicity, Epidemiology, Teratogenicity, Reproductive effects, Mutagenicity, or Neurotoxicology.

**Note:** The toxicological properties of this substance have not been fully investigated.

## 12. LABORATORY HAZARD

**Sources/ Specimens:** Blood, cerebrospinal fluid, saliva, semen, synovial fluid, breast milk, bile, feces, nasopharyngeal washings, sweat, peritoneal, pleural, pericardial, amniotic, and unfixed tissues and organs.

**Primary Hazards:** Percutaneous (e.g. needle stick) or mucous membrane exposures to blood that might contain HBsAg.

**Special Hazards:** There is a potential for infection via aerosols and HBV contaminated surfaces.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Hazardous waste generators are required to determine if a discarded chemical is classified as a hazardous waste according to 40 CFR Part 261.3. In addition, waste generators must consult about and comply with all state and local regulations to ensure compliance.

## 14. TRANSPORT INFORMATION

For information on regulations regarding the transportation of etiologic agents and related materials, such as specimens for testing, please refer to regulations issued in the DOT's final rule "Hazardous Materials: Infectious Substances; Harmonization with the United Nations Recommendations" (49 CFR Parts 171–178; June 2, 2006). This rule augments and supersedes other rules established for other federal agencies for governing safe transport of infectious substances.

<https://www.cdc.gov/vaccines/pubs/surv-manual/appx/appendix24-etiological-agent.pdf>

## 15. REGULATORY INFORMATION

This substance is not listed on the TSCA Inventory. It is for research and development use only. This substance is not SARA listed.

**US Federal Regulations: SARA 313:** This product is not regulated by SARA CAA, Section 112, Hazardous Air Pollutants (HAPs) (40 CFR 61): This product does not contain HAPs.

**US State Regulations:** California Proposition 65: This product does not contain chemicals listed under Proposition 65.

## 16. OTHER INFORMATION

### SUPPLEMENTAL REFERENCES:

BMBL: 5<sup>th</sup> Edition: <https://www.cdc.gov/biosafety/publications/bmb15/BMBL.pdf>

CDC: <https://www.cdc.gov/niosh/topics/bbp/>

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