



HEMOPET

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INDICATIONS AND USE OF CANINE UNIVERSAL BLOOD PRODUCTS

PRODUCT	INDICATIONS	SHELF-LIFE	VOLUME (mL)	WHOLE BLOOD EQUIVALENTS (mL)	DIRECTIONS	DOSE
PACKED RED BLOOD CELLS (PRBC)	<ul style="list-style-type: none"> This is the preferred source of red blood cells for routine needs. Use when PCV is at or below 15%. Transfusion alert begins when PCV reaches 20% Acute blood loss anemia (e.g. trauma, surgery; acute hemolytic disease). Chronic anemia (e.g. internal and external parasitism, bone marrow failure, chronic hemolytic disease). 	42 days Stored in nutrient solution which extends shelf life.	Standard <ul style="list-style-type: none"> Cells ~ 125 Anticoag. ~ 22 Nutrient ~ 45 <u>Residual Plasma ~ 8</u> TOTAL FLUID ~ 200	~ 250	<ul style="list-style-type: none"> Warm to room temperature before use, do NOT microwave. Give as is or dilute with 50 – 125 mL 0.9% NaCL (saline) to reduce viscosity. Mix gently and use transfusion set with filter or syringe tip filter during the administration. Give plasma or crystalloid/colloid solutions simultaneously in a separate line or sequentially. Do NOT mix with or administer in same line with Lactated Ringer's solution or any solution containing divalent cations. 	<ul style="list-style-type: none"> 3 – 5 mL/lb once or twice daily at 10 mL /lb over 4 hours for normovolemic patients. Rate for hypovolemic patients: 10 mL/lb/hr. Rate for acute needs: 4-6 mL/minute. Rate for cardiac or other compromised functions: up to 2 mL/lb/hr.
FRESH FROZEN PLASMA (FFP) Also available in HIGH VON WILLEBRANDS FACTOR for patients with von Willebrands disease (vWD). Also available in 60 mL units and 12 mL tubes for small dogs and neonates.	<ul style="list-style-type: none"> Source of all coagulation factors, albumin, globulins, electrolytes, and other plasma nutrients. Preferred for treatment or short-term prophylaxis of bleeding disorders and to provide globulins (passive immunity) to alleviate or protect against acute or chronic infectious diseases especially viral disease (e.g. parvovirus) Not recommended for routine volume expansion. 	1 year For all coagulation factors , proteins, albumin, and immunoglobulins. Plus 4 years After 1 years time, converts to frozen plasma for providing protein and albumin, also colostrum and immunoglobulins for neonates for an additional 4 years.	Standard <ul style="list-style-type: none"> Plasma ~ 120 <u>Anticoag. ~ 12</u> TOTAL FLUID ~ 132 Standard <ul style="list-style-type: none"> Plasma ~ 60 <u>Anticoag ~ 6</u> TOTAL FLUID ~ 66 Standard Tube <ul style="list-style-type: none"> Plasma ~ 12 <u>Anticoag. ~ 1</u> TOTAL FLUID ~ 13	N/A	<ul style="list-style-type: none"> Warm to room temperature before use, do NOT microwave. Thaw slowly in cool water bath or overnight in refrigerator. Use of a transfusion set with filter or syringe filter is optional. Use IV or IP. For neonates – can be given orally in first 36 hours of life. Do NOT mix with or administer in same line with Lactated Ringer's solution or any solution containing divalent cations. 	<ul style="list-style-type: none"> 3 - 5 mL/lb once or twice daily given as above. For severe hemorrhagic disorders, dosage is given for 3 – 5 days or until bleeding ceases. For passive immunity in orphaned neonates or severe viral diseases, give 0.25 mL/oz of neonatal weight up to a maximum of 10 mL, and 3-5 mL/lb thereafter if needed. Repeat as needed daily or 1-2 times per week.
WHOLE BLOOD (WB)	<ul style="list-style-type: none"> Equivalent to packed red blood cells as a source of red cells to treat acute or chronic anemia. Also contains coagulation factors, some white cells and platelets when used immediately after collection or within 24 hours. Use when PCV is at or below 15%. Transfusion alert begins when PCV reaches 20%. 	28 days	Standard <ul style="list-style-type: none"> Blood ~ 250 <u>Anticoag. ~ 35</u> TOTAL FLUID ~ 285	~ 250	<ul style="list-style-type: none"> Warm to room temperature before use, do NOT microwave. Use transfusion set with filter or syringe tip filter during the administration. Use IV, IP or intramedullary. Do NOT mix with or administer in same line with Lactated Ringer's solution or any solution containing divalent cations. 	<ul style="list-style-type: none"> 3 - 5 mL/lb once or twice daily given as above or not more than 10 mL/lb over a 24 hour period.

PRODUCT	INDICATIONS	SHELF-LIFE	VOLUME (mL)	WHOLE PLASMA EQUIVALENTS (mL)	DIRECTIONS	DOSE
PLATELET RICH PLASMA (PRP)	<ul style="list-style-type: none"> Severe thrombocytopenia or platelet dysfunction with active bleeding or prophylaxis of such animals under going surgery. NOT routinely recommended to treat immune thrombocytopenia except for immediate acute needs (ie. a platelet count of 10,000 or less) as platelets are rapidly destroyed. Repeated use is NOT advised as immune sensitization to platelets and white blood cells is likely to develop. To sustain oncology patients with thrombocytopenia secondary to use of chemotherapeutics, PRP should always be filtered to reduce white blood cell content as it may be needed repeatedly. 	<p>72 hours Best used within 24 hours.</p> <p>If not used as PRP within 72 hours, freeze unit for an equivalent to Frozen Plasma as a source of proteins, albumin and globulins only with a shelf life of 4 years.</p>	<p>Special</p> <ul style="list-style-type: none"> PRP ~ 85 <u>Anticoag.</u> ~ 9 <p>TOTAL FLUID ~ 94</p>	~ 120	<ul style="list-style-type: none"> Do NOT freeze PRP. Warm to room temperature before use, do NOT microwave. Use IV. Give SLOWLY, especially for the first 10 – 30 minutes as platelet fragments and released histamine or serotonin in PRP can cause shivering, salivation, urticaria or restlessness. The risk for alloimmunization is significantly reduced if the PRP is passed through a special leukocyte reduction filter that removes most of the white blood cells. Do NOT mix with or administer in same line with Lactated Ringer's solution or any solution containing divalent cations. 	<ul style="list-style-type: none"> 3 – 5 mL/lb given once or twice.
CRYO-PRECIPIRATE (CRYO)	<ul style="list-style-type: none"> Treatment or pre-surgical prophylaxis of severe bleeding caused by Hemophilia A (factor VIII) deficiency, and fibrinogen deficiencies. Rich in fibronectin, which may be beneficial for cases of severe burns or sepsis. 	1 year	~ 12.5 mL	~ 60 Prepared from 120 mL plasma with an assumed loss of 50% activity during preparation.	<ul style="list-style-type: none"> Thaw slowly and dilute 1:1 with 0.9% NaCl. SLOWLY infuse IV by syringes using syringe filter to remove any cell or fibrin particulates. Do NOT mix with or administer in same line with Lactated Ringer's solution or any solution containing divalent cations. 	<ul style="list-style-type: none"> Approximately 3–5 mL or whole plasma equivalents/lb, given twice daily until bleeding stops (i.e. a 15 lb dog should receive one unit, 12 mL, or 30 mL whole plasma equivalents twice daily).
CRYO-SUPERNATANT PLASMA (CRYOSUP)	<ul style="list-style-type: none"> Equivalent to FFP, except deficient in factor VIII and von Willebrand factor. Use for all coagulopathies expect hemophilia A and VWD. 	1 year plus 4 years For coagulation factors, plus another 4 years for protein, albumin, globulins.	<p>Special</p> <ul style="list-style-type: none"> Plasma ~ 108 <u>Anticoag.</u> ~ 10 <p>TOTAL FLUID ~ 118</p>	~ 120	<ul style="list-style-type: none"> Same as FFP. 	<ul style="list-style-type: none"> Same as FFP.
FROZEN PLASMA (FP)	<ul style="list-style-type: none"> Equivalent to FFP or Cryosuper-natant, as source of proteins, albumin and globulins only. Also known as Expired FFP. 	4 years	<p>Standard</p> <ul style="list-style-type: none"> Plasma ~ 120 <u>Anticoag.</u> ~ 12 <p>TOTAL FLUID ~ 132</p>	~ 120	<ul style="list-style-type: none"> Same as FFP. 	<ul style="list-style-type: none"> Same as FFP.

NOTE: Hemopet's healthy donor dogs are maintained in a closed colony. All donors have blood type DEA 4 (C) and are tested for all other known canine red blood cell antigens, including DEA 1.1 (A₁), DEA 1.2 (A₂), DEA 3 (B), and DEA 7 (Tr), the antigens associated with clinically significant transfusion incompatibilities in dogs. All donors receive on-site, 24 hours-a-day veterinary supervision and maintenance and have been serologically screened for canine brucellosis, Borrelia burgdorferi (Lyme disease), Dirofilaria immitis (heartworm disease), Ehrlichia canis, Rocky Mountain spotted fever, Coccidioides immitis, Mycoplasma haemocanis, Babesia canis, Babesia gibsoni, and plasma levels of von Willebrand factor.