

# PN3

BRINGING **MORE** TO PARENTERAL NUTRITION (PN)

The **FIRST** and **ONLY**  
3-chamber bag for PN  
for adults



**Kabiven®**  
(Amino Acids, Electrolytes,  
Dextrose, and Lipid Injectable  
Emulsion), for intravenous use

**Perikabiven®**  
(Amino Acids, Electrolytes,  
Dextrose, and Lipid Injectable  
Emulsion), for intravenous use

# The **FIRST** and **ONLY** 3-chamber bag for PN for adults

Fresenius Kabi pioneered the use of an all-in-one, 3-chamber bag to help streamline the delivery of nutrition therapy to patients. The innovative design keeps components separated until the bag is ready for activation.

## Designed for convenience.

The Kabiven and Perikabiven 3-chamber PN bags help clinicians efficiently deliver **3 macronutrients** in volumes and concentrations that help meet the needs of adult PN patients by reducing waste.<sup>1,2,3</sup>

**Dextrose**  
Provides source of calories from carbohydrates

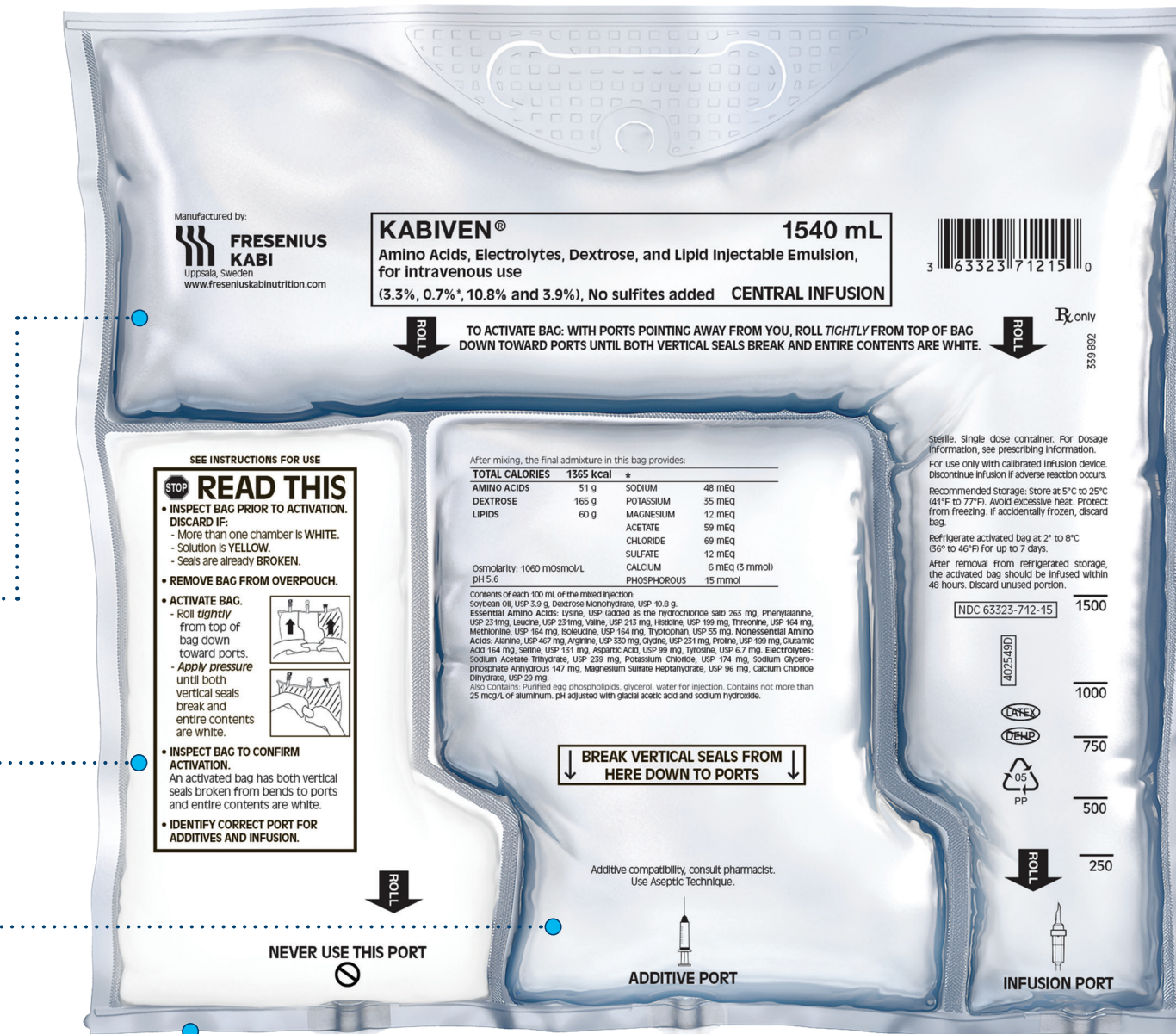
**Lipids**  
A long-standing source of lipids used worldwide for 50 years; registered in the U.S. since 1975

**Amino Acids & Electrolytes**  
A source of essential and nonessential amino acids and electrolytes

**Shelf Life**  
24-months

- KABIVEN and PERIKABIVEN are contraindicated in:
- Concomitant treatment with ceftriaxone in neonates (28 days of age or younger)
  - Known hypersensitivity to egg, soybean, peanut, or any of the active or inactive ingredients.
  - Severe disorders of lipid metabolism characterized by hypertriglyceridemia (with serum triglyceride concentration >1,000 mg/dL).
  - Inborn errors of amino acid metabolism.
  - Cardiopulmonary instability
  - Hemophagocytic syndrome

Please see Important Safety Information for Kabiven and Perikabiven on the following page.



SEE INSTRUCTIONS FOR USE

**STOP READ THIS**

• **INSPECT BAG PRIOR TO ACTIVATION.**  
DISCARD IF:  
- More than one chamber is WHITE.  
- Solution is YELLOW.  
- Seals are already BROKEN.

• **REMOVE BAG FROM OVERPOUCH.**

• **ACTIVATE BAG.**  
- Roll **tightly** from top of bag down toward ports.  
- **Apply pressure** UNTIL both vertical seals break and entire contents are white.

• **INSPECT BAG TO CONFIRM ACTIVATION.**  
An activated bag has both vertical seals broken from bends to ports and entire contents are white.

• **IDENTIFY CORRECT PORT FOR ADDITIVES AND INFUSION.**

After mixing, the final admixture in this bag provides:

<b>TOTAL CALORIES</b>	<b>1365 kcal</b>	<b>SODIUM</b>	<b>48 mEq</b>
<b>AMINO ACIDS</b>	<b>51 g</b>	<b>POTASSIUM</b>	<b>35 mEq</b>
<b>DEXTROSE</b>	<b>165 g</b>	<b>MAGNESIUM</b>	<b>12 mEq</b>
<b>LIPIDS</b>	<b>60 g</b>	<b>ACETATE</b>	<b>59 mEq</b>
		<b>CHLORIDE</b>	<b>69 mEq</b>
		<b>SULFATE</b>	<b>12 mEq</b>
		<b>CALCIUM</b>	<b>6 mEq (5 mmol)</b>
		<b>PHOSPHOROUS</b>	<b>15 mmol</b>

Osmolality: 1060 mOsm/L  
pH 5.6

Consists of each 100 mL of the mixed injection:  
Soybean Oil, USP 9.9 g; Glycerol Monoleate, USP 10.8 g; Essential Amino Acids, USP (based as the hydrochloride salt): 265 mg; Phenylalanine, USP 25 mg; Leucine, USP 25 mg; Valine, USP 25 mg; Histidine, USP 10 mg; Threonine, USP 164 mg; Methionine, USP 94 mg; Isoleucine, USP 164 mg; Tyrosine, USP 95 mg; Nonessential Amino Acids: Alanine, USP 467 mg; Arginine, USP 50 mg; Aspartic Acid, USP 159 mg; Glutamic Acid, 164 mg; Serine, USP 131 mg; Aspartic Acid, USP 99 mg; Tyrosine, USP 6.7 mg; Electrolytes: Sodium Acetate Trihydrate, USP 259 mg; Potassium Chloride, USP 174 mg; Sodium Chloride Phosphate Anhydrous, 147 mg; Magnesium Sulfate Heptahydrate, USP 96 mg; Calcium Chloride Dihydrate, USP 59 mg.

Also Contains: Purified egg phospholipids, glycerol, water for injection. Contains not more than 25 mcg/L of aluminum, pH adjusted with glacial acetic acid and sodium hydroxide.

BREAK VERTICAL SEALS FROM HERE DOWN TO PORTS

NEVER USE THIS PORT

ADDITIVE PORT

INFUSION PORT

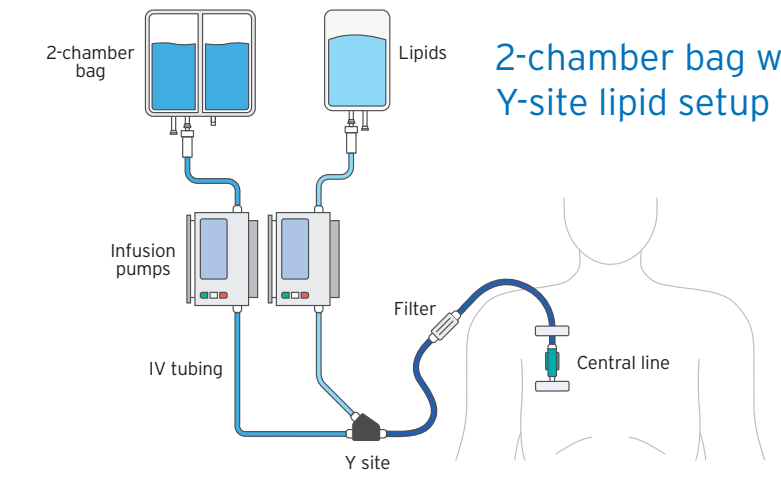
**Clear Overwrap**  
Allows for quick visual inspection

**Self-Sealing Additive Port**  
Semi-rigid port design, sterile for first use  
The septum may be pierced up to 10 times.<sup>1</sup>

**Self-Sealing Infusion Port**  
Semi-rigid port design, sterile for first use

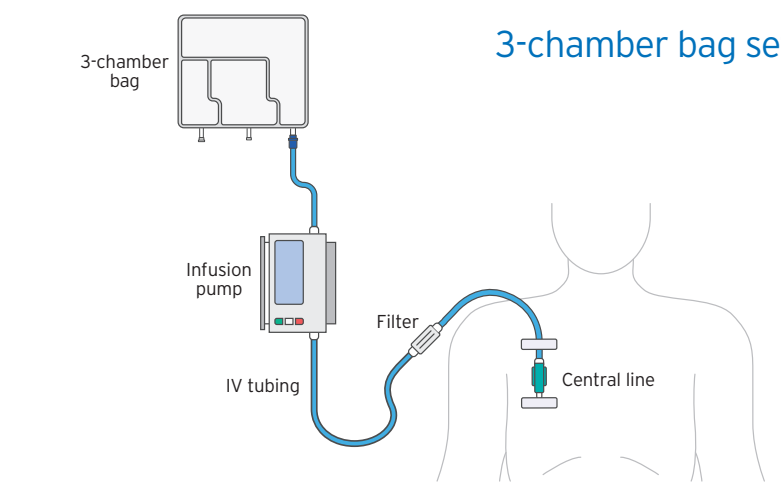
An all-in-one solution in a 3-chamber bag can help **simplify**:

- Calculations for dietitians
- Prescription writing for clinicians
- Compounding for pharmacists
- Administration for nurses



- 2-chamber bag** ports are not marked, and the infusion ports are not resealable
- 2 PN bags (amino acids/dextrose/electrolytes + lipids)
  - 2 non-vented DEHP-free IV tubing sets (1 with a 1.2 micron filter)
  - 2 infusion pumps
  - 2 rates on the pumps

Adding lipids either directly into a 2-chamber bag or via a Y-site reduces the final concentration of macronutrients and electrolytes per liter delivered.



- 3-chamber bag** ports are color coded and marked with arrows for infusion/additive port. The infusion port utilizes flow-stop, which prevents leakage after removal of the needle or spike
- 1 PN bag
  - 1 DEHP-free IV tubing set with an integrated or added 1.2 micron filter
  - 1 infusion pump
  - 1 rate on the pump

**Safety Information**

**Clinical Decompensation with Rapid Infusion of Intravenous Lipid Emulsion in Neonates and Infants:** Acute respiratory distress, metabolic acidosis, and death after rapid infusion of intravenous lipid emulsions have been reported.

**Pulmonary Embolism Due to Pulmonary Vascular Precipitates:** If signs of pulmonary distress occur, stop the infusion and initiate a medical evaluation.



**62%**  
reduction  
in pharmacy  
staff time<sup>3</sup>



**37%**  
reduction  
in costs<sup>3</sup>

## Evaluating time, labor, and cost savings

In a multicenter, prospective, time and motion study evaluating PN delivery systems, the 3-chamber bag delivery system was associated with a 62% reduction in pharmacy staff time and workload as well as a 37% reduction in costs compared with hospital-compounded bags (representing PN prepared with automated compounding devices).

The cost per bag included labor, PN products, medical consumables, and equipment. One hundred thirty-six PN prescriptions were prepared during the study (66 for 3-chamber bags and 70 for hospital-compounded bags). The clinical efficacy of 3CBs versus compounded PN was not evaluated.<sup>3</sup>

## Exploring guidelines and consensus recommendations

**ASPEN PN Clinical Guidelines:** "We suggest that **commercially available premade multichambered PN formulations** be considered as an available option for patients alongside compounded (customized or standardized) PN formulations to best meet an organization's patient needs."<sup>4</sup>

**ASPEN PN Safety Consensus Recommendation:** "**Standardized, commercially available PN products** may be viable options to manually compounded sterile PN products when compliance with USP Chapter <797> and accepted guidelines from patient safety organizations is not feasible."<sup>5</sup>

**INDICATIONS AND USAGE**

KABIVEN and PERIKABIVEN are each indicated as a source of calories, protein, electrolytes and essential fatty acids for adult patients requiring parenteral nutrition when oral or enteral nutrition is not possible, insufficient, or contraindicated. KABIVEN and PERIKABIVEN may be used to prevent essential fatty acid deficiency or treat negative nitrogen balance in adult patients.

Limitations of Use

Neither KABIVEN nor PERIKABIVEN is recommended for use in pediatric patients <2 years including preterm infants because the fixed content of the formulation does not meet nutritional requirements in this age group.

**IMPORTANT SAFETY INFORMATION**

KABIVEN is indicated for intravenous infusion into a **central vein**. PERIKABIVEN is indicated for intravenous infusion into a **peripheral or central vein**. It is recommended to mix the contents thoroughly by inverting the bags upside down to ensure a homogenous admixture. Ensure the vertical seals between chambers are broken and the contents of all three chambers for KABIVEN and PERIKABIVEN are mixed together prior to infusion. The dosage of KABIVEN and PERIKABIVEN should be individualized based on the patient's clinical condition (ability to adequately metabolize amino acids, dextrose and lipids), body weight and nutritional/fluid requirements, as well as additional energy given orally/enterally to the patient. Prior to administration of KABIVEN and PERIKABIVEN, correct severe fluid, electrolyte and acid-base disorders. Before starting the infusion, obtain serum triglyceride levels to establish the baseline value. Do not exceed the recommended maximum infusion rate of 2.6 mL/kg/hour for KABIVEN and 3.7 mL/kg/hour for PERIKABIVEN.

KABIVEN and PERIKABIVEN are contraindicated in:

- Concomitant treatment with ceftriaxone in neonates (28 days of age or younger)
- Known hypersensitivity to egg, soybean, peanut, or any of the active or inactive ingredients.
- Severe disorders of lipid metabolism characterized by hypertriglyceridemia (with serum triglyceride concentration >1,000 mg/dL).
- Inborn errors of amino acid metabolism.
- Cardiopulmonary instability
- Hemophagocytic syndrome

Clinical Decompensation with Rapid Infusion of Lipid Injectable Emulsions in Neonates and Infants: Acute respiratory distress, metabolic acidosis, and death after rapid infusion of intravenous lipid emulsions have been reported.

Parenteral Nutrition-Associated Liver Disease: Increased risk in patients who receive parenteral nutrition for greater than 2 weeks. Monitor liver tests; if abnormalities occur, consider discontinuation or dosage reduction.

Pulmonary Embolism and Respiratory Distress due to Pulmonary Vascular Precipitates: If signs of pulmonary distress occur, stop the infusion and initiate a medical evaluation.

Hypersensitivity reactions: Monitor for signs or symptoms and discontinue infusion if reactions occur.

Precipitation with Ceftriaxone: Do not administer ceftriaxone simultaneously with KABIVEN or PERIKABIVEN via a Y-site.

Infection, fat overload, hyperglycemia and refeeding complications: Monitor for signs and symptoms; monitor laboratory parameters.

The most common adverse reactions for KABIVEN (≥3%) are nausea, pyrexia, hypertension, vomiting, decreased hemoglobin, decreased total protein, hypokalemia, decreased potassium, and increased gamma glutamyltransferase. The most common adverse reactions for PERIKABIVEN (≥3%) are hyperglycemia, hypokalemia, pyrexia, and increased blood triglycerides.

**To report SUSPECTED ADVERSE REACTIONS, contact Fresenius Kabi USA, LLC at 1-800-551-7176, option 5, or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).**

Coumarin and coumarin derivatives, including warfarin: Anticoagulant activity may be counteracted; monitor laboratory parameters.

**This Important Safety Information does not include all the information needed to use KABIVEN and PERIKABIVEN safely and effectively. Please see full prescribing information for KABIVEN and PERIKABIVEN (amino acids, electrolytes, dextrose and lipid injectable emulsion), for intravenous use at [www.FreseniusKabiNutrition.com/KabivenPI](http://www.FreseniusKabiNutrition.com/KabivenPI) and [www.FreseniusKabiNutrition.com/PerikabivenPI](http://www.FreseniusKabiNutrition.com/PerikabivenPI).**

**ORDERING INFORMATION**

	Kabiven (central PN)				Perikabiven (peripheral or central PN)	
Volume	1026 mL	1540 mL	2053 mL	2566 mL	1440 mL	1920 mL
NDC Code	63323-712-10	63323-712-15	63323-712-20	63323-712-25	63323-714-14	63323-714-19
Product Number	831220310	831221310	831222310	831223310	831231310	831232310
Number of Bags/Case	4 bags/case	4 bags/case	4 bags/case	3 bags/case	4 bags/case	4 bags/case

**FOR MORE INFORMATION**

**To Order:** 1.888.386.1300  
**For coding/billing info:** [www.kabicare.us](http://www.kabicare.us) or call 1.833.Kabicare (1.833.522.4227)  
**Medical Information phone:** 1.800.551.7176 (option 4)  
**Medical Information email:** [Nutrition.MedInfo.USA@fresenius-kabi.com](mailto:Nutrition.MedInfo.USA@fresenius-kabi.com)

**References:**

1. Kabiven Prescribing Information, Fresenius Kabi USA, LLC. 2023.
2. Perikabiven Prescribing Information, Fresenius Kabi USA, LLC. 2023
3. Cogle SV, Martindale RG, Ramos M, et al. JPEN J Parenter Enteral Nutr. 2021; 45(7):1552-1558.
4. Boullata JI, Gilbert K, Sacks G, et al. JPEN J Parenter Enteral Nutr. 2014; 38(3):334-377.
5. Ayers P, Adams S, Boullata J, et al. JPEN J Parenter Enteral Nutr. 2014; 38(3):296-333.

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