

Lipipor™ NLF Filter



Filter for Parenteral Nutrition

- ▶ Retention of particles, microorganisms and oversized lipid droplets
- ▶ Safe administration of nutrient lipid containing solutions
- ▶ 1.2 µm polyethersulphone membrane
- ▶ Air elimination
- ▶ For paediatric and neonatal care

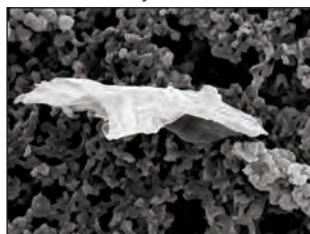
Pall Lipipor NLF Filter for Parenteral Nutrition

- ▶ The use of 1.2 µm filters in nutrient lipid emulsions has been advocated by professional organisations.¹
- ▶ Particulate contamination arises from infusion systems, components, manipulations² and precipitates, due to interactions between nutrient components³ or drugs. Particles have been shown to cause damage to endothelial cells, trigger inflammation reactions and thrombus formation.⁴ Particulate contamination leads to loss of functional capillary density, especially in tissue with a pre-existing ischaemic insult and may lead to loss of organ function and organ failure.^{5,6}

Gross precipitation in admixtures has proven fatal and may not be visible when lipid is present.³

Figure 1

Particle Retained on a Pall Infusion Filter Membrane Used Clinically



- ▶ Air can become entrained in infusions due to degassing, disconnection or run-dry. It may not be visible in lipid-containing preparations. Air bubbles have been shown to cause tissue ischaemia and to induce inflammation.⁷
- ▶ Enlarged lipid droplets may arise in admixtures due to emulsion instability and due to the use of plastic bag containers.⁸ The U.S. Pharmacopoeia suggests that the proportion of lipid present as droplets > 5 µm should not exceed 0.05% of the total fat present.⁹ The infusion of unstable All-In-One (AIO) admixtures has been shown to cause tissue injury and oxidative stress to reticuloendothelial system organs.¹⁰
- ▶ Microbiological contamination can inadvertently occur in infusion systems due to manipulations. Parenteral nutrition is an acknowledged risk for fungaemia, with *Candida* species being the most common organisms involved.¹¹ *Malassezia furfur* is emerging as an increasingly important pathogen in neonates. These fungi are able to survive and grow in lipid-containing preparations.¹²

Technical Specifications

Filter Medium

1.2 µm polyethersulphone Supor® membrane

Tubing Extension

Non-phthalate microbore

Hold-up Volume (filter housing and extension tubing)

0.8 mL

Flow Rate

Maximum recommended pumped flow rate is 75 mL/hr for lipid containing admixtures

Max Working Pressure

2 bar (30 psi)

Connectors

ISO male luer outlet and ISO female luer inlet

Usage

Single patient use: 24 hours maximum

Ordering Information

Reorder Code	Description	Packaging
NLF2E	With microbore extension tubing, slide clamp, luer inlet and outlet	50 units per case
NLF2NTE	With luer inlet and outlet with collar	50 units per case

References

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