CLAIMS

1. A freeze-dried formulation, for preparing gas-filled microvesicles, comprising a mixture of the following lipid components: (a) distearoyl-phosphatidylcholine (DSPC), (b) dipalmitoylphosphatidyl-ethanolamine conjugated with polyethyleneglycol having a Mw of 5000 g/mol (DPPE-PEG5000) and (c) palmitic acid; said lipid components being in a respective molar amount a/b/c of 65 to 85/4 to 10/8 to 22; said formulation further comprising polyethylene glycol 4000 g/mol (PEG4000), wherein the mixture of lipid components has a weight of ~~from~~ 0.10% to 0.50% with respect to the weight of PEG4000.

2. The freeze-dried formulation of claim 1 wherein said respective molar amount is of 70-80/5-8/12-21.

3. The freeze-dried formulation of claim 1 wherein said respective molar amount is of 72-76/6-9/15-20.

4. The freeze-dried formulation of claim 1 wherein said respective molar amount is of 74 (+/- 1)/7.5 (+/- 0.5)/18.5(+/-1).

5. The freeze-dried formulation according to claim 1 wherein said weight of the mixture of lipid components is of ~~from~~ 0.12% to 0.45% ~~by~~ with respect to the weight of PEG4000.

6. The freeze-dried formulation according to claim 1 wherein said weight of the mixture of lipid components is of~~from more than~~ 0.3% to 0.5% with respect to the weight of PEG4000.

7. A suspension of gas-filled microvesicles wherein said microvesicles comprise a mixture of lipid components DSPC, DPPE-PEG5000 and palmitic acid in a respective molar amount of 65-85/4-10/8-22; said suspension further comprising polyethylene

glycol 4000 g/mol (PEG4000), wherein the mixture of lipid components has a weight of ~~from~~ 0.10% to 0.50% with respect to the weight of PEG4000.

8. The suspension of claim 7 wherein said respective molar amount is of 70-80/5-8/12-21.

9. The suspension of claim 7 wherein said respective molar amount is of 72-76/6-9/15-20.

10. The suspension of claim 7 wherein said respective molar amount is of 74 (+/- 1)/7.5 (+/- 0.5)/18.5(+/-1).

11. The suspension according to claim 7 wherein said weight of the mixture of lipid components is~~has a weight~~ of ~~from~~ 0.12% to 0.45% with respect to the weight of PEG4000.

12. The suspension according to claim 7 wherein said weight of the mixture of lipid components is~~has a weight~~ of ~~from more than~~ 0.3% to 0.5% with respect to the weight of PEG4000.

13. The suspension according to any of the preceding claims 7 to 12 wherein said gas-filled microvesicles have a resistance to pressure (Pc50 value) of 75 kPa or higher.

14. A sealed vial comprising from ~~about~~ 250 mg to ~~about~~ 350 mg of the freeze-dried formulation according to any of claims 1 to 6.