SUMMARY

In one aspect, there is provided a self-preserved oil dispersion including a dispersed oil phase, an aqueous phase and at least one surfactant, wherein said oil dispersion comprises boric acid or salt thereof, in an amount ranging from 0.005% to 0.075% in weight of the total weight of the oil dispersion, wherein said amount of boric acid is a preservative effective amount so that the oil dispersion is ~~self-~~preserved, and wherein the dispersion is free of ~~sorbic acid~~conventional preservative agent. The dispersion may be free of sorbic acid.

According to one embodiment, the oil dispersion of the disclosure has a sufficient preservative activity to comply with USP and/or Ph. Eur. preservative efficacy requirements, said pharmacopeias being herein incorporated by reference. In an embodiment, compliance with USP and/or Ph. Eur. means that the dispersion shall have sufficient preservative activity to inhibit the growth and decrease the population of Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Candida albicans, Aspergillus niger or Aspergillus.

According to one embodiment, the oil dispersion of the disclosure is an oil-in-water emulsion.

According to one embodiment, the amount of boric acid in the oil dispersion of the disclosure ranges from 0.008 to 0.05%, preferably from 0.01 to 0.05%, more preferably from 0.01 to 0.02% w/w.

According to one embodiment, boric acid, in the meaning of this disclosure, include any form of boric acid or salt thereof, especially sodium borate, sodium metaborate, calcium borate, borax, tricopper diborate, trioleyl borate, lithium borate, tris(trimethylsilyl) borate, ethyl borate, potassium tetrafluoroborate, disodium dihydrogen borate, manganese borate, oleyl borate, tripentyl borate, tributyl borate, trimethyl borate, tridodecyl borate, triazanium borate or a mixture thereof.

According to one embodiment, the oil phase comprises an oil selected from mineral oil such as petrolatum or liquid paraffin; medium chain triglycerides (MCT); triglycerides oils, vegetable oils such as castor oil, corn oil, olive oil, soybean oil, sesame oil, cotton seed oil, sweet almond oil or any suitable vegetable oil; fatty acid, isopropyl myristate,

CLAIMS

1. An oil dispersion including a dispersed oil phase, an aqueous phase and at least one surfactant, wherein said oil dispersion comprises boric acid or salt thereof, in an amount ranging from 0.005% to 0.075% in weight of the total weight of the oil dispersion, wherein said amount of boric acid is a preservative effective amount so that the oil dispersion is ~~self-~~preserved, and wherein the dispersion is free of ~~sorbic acid~~conventional preservative agent.

2. The oil dispersion according to claim **1**, having sufficient preservative activity to comply with USP and/or Ph. Eur. preservative efficacy requirements.

3. The oil dispersion according to claim **1** or claim **2**, wherein the dispersion is an oil-in-water emulsion.

4. The oil dispersion according to anyone of claims **1** to **3**, wherein the amount of boric acid ranges from 0.008 to 0.05%, preferably from 0.01 to 0.05%, more preferably from 0.01 to 0.02% w/w.

5. The oil dispersion according to anyone of claims **1** to **4**, wherein boric acid in the form of boric acid or salt thereof, especially sodium borate, sodium metaborate, calcium borate, borax, tricopper diborate, trioleyl borate, lithium borate, tris(trimethylsilyl) borate, ethyl borate, potassium tetrafluoroborate, disodium dihydrogen borate, manganese borate, oleyl borate, tripentyl borate, tributyl borate, trimethyl borate, tridodecyl borate, triazanium borate or a mixture thereof.

6. The oil dispersion according to anyone of claims **1** to **5**, wherein the oil phase comprises an oil selected from mineral oil such as petrolatum or liquid paraffin; medium chain triglycerides (MCT); triglycerides oils, vegetable oils such as castor oil, corn oil, olive oil, soybean oil, sesame oil, cotton seed oil, sweet almond oil or any suitable vegetable oil; fatty acid, isopropyl myristate, oily fatty alcohols, esters of sorbitol and fatty acids, oily sucrose esters or a mixture thereof.

7. The oil dispersion according to anyone of claims **1** to **6**, comprising a cationic surfactant.