Claims :

1. Composition comprising non-replicating probiotic micro-organisms for use in the prevention or treatment of gastrointestinal infections in children, characterized in that the non-replicating probiotic microorganisms have been rendered non-replicating by a heat treatment at about 120 to 140°C for about 1-120 seconds.

2. Composition for use in accordance with claim 1, wherein the non-replicating probiotic microorganisms have been rendered non-replicating by a heat treatment for about 1-30 seconds

3. Composition for use in accordance with claim 2, wherein the non-replicating probiotic microorganism have been rendered non-replicating by a heat treatment for about 1-15 seconds.

~~2.~~4. Composition for use in accordance with claim 1 wherein the gastrointestinal infection results in diarrhea.

~~3. Composition in accordance with one of the preceding claims for use in protecting children from gastrointestinal infections.~~

~~4.~~5. Composition for use in accordance with one of the preceding claims for use in strengthening a child's ability to fight gastrointestinal infections.

~~5. Composition in accordance with one of the preceding claims for use in the reduction of time gastrointestinal infections will last.~~

~~6. Composition in accordance with one of the preceding claims for use in helping children to recover from gastrointestinal infections faster.~~

~~7. Composition in accordance with one of the preceding claims for use in helping children to get gastrointestinal infections less often.~~

~~8.~~ 6. Composition in accordance with one of the preceding claims comprising non replicating probiotic micro-organisms in an amount corresponding to about 10^6 to 10^{12} cfu/g of dry composition.

~~9. Composition in accordance with one of the preceding claims wherein the non-replicating probiotic micro-organisms were rendered non-replicating by a heat-treatment, preferably by a high temperature treatment at at least 71.5 °C for at least 1 second.~~

~~10. Composition in accordance with claim 9, wherein the heat treatment is a high temperature treatment at about 71.5-150 °C for about 1-120 seconds, and preferably is a high temperature/short time (HTST) treatment or a ultra-high temperature (UHT) treatment.~~

~~11. Composition in accordance with claim 9, wherein the heat treatment is carried out in the temperature range of about 70-150 °C for about 3 minutes - 2 hours, preferably in the range of 80-140°C from 5 minutes - 40 minutes.~~

~~12.~~7. Composition for use in accordance with one of the preceding claims wherein at least 90 %, preferably, at least 95 %, more preferably at least 98 %, most preferably at least 99 %, ideally at least 99.9 %, most ideally all of the probiotics are non-replicating.

~~13.~~8. Composition for use in accordance with one of the preceding claims wherein the probiotic micro-organisms are selected from the group consisting of bifidobacteria, lactobacilli, propionibacteria, or combinations thereof, for example *Bifidobacterium longum*, *Bifidobacterium lactis*, *Bifidobacterium animalis*, *Bifidobacterium breve*, *Bifidobacterium infantis*, *Bifidobacterium adolescentis*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus paracasei*, *Lactobacillus salivarius*, *Lactobacillus reuteri*, *Lactobacillus rhamnosus*,

Lactobacillus johnsonii, *Lactobacillus plantarum*, *Lactobacillus fermentum*, *Lactococcus lactis*, *Streptococcus thermophilus*, *Lactococcus lactis*, *Lactococcus diacetylactis*, *Lactococcus cremoris*, *Lactobacillus bulgaricus*, *Lactobacillus helveticus*, *Lactobacillus delbrueckii*, *Escherichia coli* and/or mixtures thereof.

~~14.~~9. Composition for use in accordance with one of the preceding claims wherein the probiotic micro-organisms are selected from the group consisting of *Bifidobacterium longum* NCC 3001, *Bifidobacterium longum* NCC 2705, *Bifidobacterium breve* NCC 2950, *Bifidobacterium lactis* NCC 2818, *Lactobacillus johnsonii* La1, *Lactobacillus paracasei* NCC 2461, *Lactobacillus rhamnosus* NCC 4007, *Lactobacillus reuteri* DSM17983, *Lactobacillus reuteri* ATCC55730, *Streptococcus thermophilus* NCC 2019, *Streptococcus thermophilus* NCC 2059, *Lactobacillus casei* NCC 4006, *Lactobacillus acidophilus* NCC 3009, *Lactobacillus casei* ACA-DC 6002 (NCC 1825), *Escherichia coli* Nissle, *Lactobacillus bulgaricus* NCC 15, *Lactococcus lactis* NCC 2287, or combinations thereof.

~~15.~~10. Composition for use in accordance with one of the preceding claims containing about 0,005 mg – 1000 mg non-replicating micro-organisms per daily dose.