CLAIMS:

1. A method for producing a dosage form, comprising the steps of:

dry milling a solid biologically active material and a millable grinding matrix in a mill, for a time period sufficient to produce particles of the biologically active material dispersed in an at least partially milled grinding matrix,

wherein the biologically active material is meloxicam, and

wherein the median particle size, determined on a particle volume basis, is equal to or less than 5000nm.

2. The method of claim 1, wherein the average particle size, determined on a particle number basis, is equal to or less than a size selected from the group consisting of: 2000 nm, 1900 nm, 1800nm, 1700nm, 1600nm, 1500nm, 1400nm, 1300nm, 1200 nm, 1100nm, 1000nm, 900nm, 800nm, 700nm, 600nm, 500nm, 400 nm, 300nm, 200nm and 100 nm.

3. The method of claim 1, wherein the particles have a median particle size, determined on a particle volume basis, equal to or less than a size selected from the group consisting of: 4000nm, 3000nm, 2000 nm, 1900 nm, 1800nm, 1700nm, 1600nm, 1500nm, 1400nm, 1300nm, 1200 nm, 1100nm, 1000nm, 900nm, 800nm, 700nm, 600nm, 500nm, 400 nm, 300nm, 200nm and 100 nm.

4. The method of claim 3, wherein the Dx of the particle size distribution, as measured on a particle volume basis, is selected from the group consisting of less than or equal to 10,000nm, 5000nm, 3000nm, 2000nm, 1900 nm, 1800nm, 1700nm, 1600nm, 1500nm, 1400nm, 1300nm, 1200 nm, 1100nm, 1000nm, 900nm, 800nm, 700nm, 600nm, 500nm, 400 nm, 300nm, 200nm, and 100 nm; wherein x is greater than or equal to 90.

5. The method of any preceding claim, wherein the milling time period is a range selected from the group consisting of: between 10 minutes and 2 hours, between 10 minutes and 90 minutes, between 10 minutes and 1 hour, between 10 minutes and 45 minutes, between 10 minutes and 30 minutes, between 5 minutes and 30 minutes, between 5 minutes and 20 minutes, between 2 minutes and 10 minutes, between 2 minutes and 5 minutes, between 1 minute and 20 minutes, between 1 minute and 10 minutes, and between 1 minute and 5 minutes.

6. The method of any preceding claim, wherein the dry milling is undertaken in a jet mill, rod mill, roller mill, crusher mill, mechanically agitated attritor mill (horizontal or vertical), vibratory mill or nutating mill.

7. The method of any preceding claim, wherein the mill comprises a plurality of milling bodies.

8. The method of claim 7, wherein the milling bodies are steel balls having a diameter selected from the group consisting of: between 1 and 20 mm, between 2 and 15 mm and between 3 and 10 mm.

9. The method of any preceding claim, wherein the total combined amount of biologically active material and grinding matrix in the mill at a given time is equal to or greater than a mass selected from the group consisting of: 200 grams, 500 grams, 1kg, 2kg, 5kg, 10kg, 20kg, 30kg, 50kg, 75kg, 100kg, 150 kg, and 200kg.

10. The method of any preceding claim, wherein the grinding matrix is selected from the group consisting of: polyols, sugar alcohols, monosaccharides, disaccharides, trisaccharides, polysaccharides, carbohyrates, enteric polymer coatings, milk products, organic acids and conjugate salts of organic acids, hydrogen carbonates of pharmaceutically-acceptable alkali metals, ammonium salts and inorganic substances.

11. The method of any preceding claim, wherein the grinding matrix is a single material or is a mixture of two or more materials in any proportion.

12. The method of any preceding claim, wherein grinding matrix is selected from the group consisting of: mannitol, sorbitol, isomalt, xylitol, maltitol, lactitol, erythritol, arabitol, ribitol, glucose, fructose, mannose, galactose, anhydrous lactose, lactose monohydrate, sucrose, maltose, trehalose, maltodextrins, dextrin, inulin, dextrates, polydextrose, starch, wheat flour, corn flour, rice flour, rice starch, tapioca flour, tapioca starch, potato flour, potato starch, other flours and starches, milk powder, skim milk powders, other milk solids and derivatives, soy flour, soy meal or other soy products, cellulose, microcystalline cellulose, microcystalline cellulose based co blended materials, pregelatinized (or partially) starch, HPMC, CMC, HPC, citric acid, tartaric acid, malic acid, maleic acid fumaric acid, ascorbic acid, succinic acid, sodium citrate, sodium tartrate, sodium malate, sodium ascorbate, potassium citrate, potassium tartrate, potassium malate, potassium ascorbate, sodium carbonate, potassium carbonate, magnesium carbonate, sodium bicarbonate, potassium bicarbonate and calcium carbonate, dibasic calcium phosphate, tribasic calcium phosphate, sodium sulfate, sodium chloride, sodium metabisulphite, sodium thiosulfate, ammonium chloride, Glauber's salt, ammonium carbonate, sodium bisulfate, magnesium sulfate, potash alum, potassium chloride, sodium hydrogen sulfate, sodium hydroxide, crystalline hydroxides, hydrogen carbonates, ammonium chloride, methylamine hydrochloride, ammonium bromide, silica, thermal silica, alumina, titanium dioxide, talc, chalk, mica, kaolin, bentonite, hectorite, magnesium trisilicate, clay based materials or aluminium silicates, sodium lauryl sulfate, sodium stearyl sulfate, sodium cetyl sulfate, sodium cetostearyl sulfate, sodium docusate, sodium deoxycholate, N-lauroylsarcosine sodium salt, glyceryl monostearate, glycerol distearate glyceryl palmitostearate, glyceryl behenate, glyceryl caprylate, glyceryl oleate, benzalkonium chloride, CTAB, CTAC, Cetrimide, cetylpyridinium chloride, cetylpyridinium bromide, benzethonium chloride, PEG 40 stearate, PEG 100 stearate, poloxamer 188, poloxamer 338, poloxamer 407 polyoxyl 2 stearyl ether, polyoxyl 100 stearyl ether, polyoxyl 20 stearyl

ether, polyoxyl 10 stearyl ether, polyoxyl 20 cetyl ether, polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 61, polysorbate 65, polysorbate 80, polyoxyl 35 castor oil, polyoxyl 40 castor oil, polyoxyl 60 castor oil, polyoxyl 100 castor oil, polyoxyl 200 castor oil, polyoxyl 40 hydrogenated castor oil, polyoxyl 60 hydrogenated castor oil, polyoxyl 100 hydrogenated castor oil, polyoxyl 200 hydrogenated castor oil, cetostearyl alcohol, macrogel 15 hydroxystearate, sorbitan monopalmitate, sorbitan monostearate, sorbitan trioleate, sucrose palmitate, sucrose stearate, sucrose distearate, sucrose laurate, glycocholic acid, sodium glycholate, cholic ccid, Sodium cholate, sodium deoxycholate, deoxycholic acid, sodium taurocholate, taurocholic acid, sodium taurodeoxycholate, taurodeoxycholic acid, soy lecithin, phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, phosphatidylinositol, PEG4000, PEG6000, PEG8000, PEG10000, PEG20000, alkyl naphthalene sulfonate condensate/lignosulfonate blend, calcium dodecylbenzene sulfonate, sodium dodecylbenzene sulfonate, diisopropyl naphthaenesulphonate, erythritol distearate, naphthalene sulfonate formaldehyde condensate, nonylphenol ethoxylate (poe-30), tristyrylphenol ethoxylate, polyoxyethylene (15) tallowalkylamines, sodium alkyl naphthalene sulfonate, sodium alkyl naphthalene sulfonate condensate, sodium alkylbenzene sulfonate, sodium isopropyl naphthalene sulfonate, sodium methyl naphthalene formaldehyde sulfonate, sodium n-butyl naphthalene sulfonate, tridecyl alcohol ethoxylate (poe-18), triethanolamine isodecanol phosphate ester, triethanolamine tristyrylphosphate ester, tristyrylphenol ethoxylate sulfate, and bis(2-hydroxyethyl)tallowalkylamines.

13. The method of any preceding claim, wherein a milling aid or combination of milling aids is used, wherein the milling aid is selected from the group consisting of: colloidal silica, a solid or semi solid surfactant, a liquid surfactant, a surfactant that can be manufactured into a solid or semisolid, a polymer, a stearic acid and derivatives thereof.

14. The method of claim 13, wherein the surfactant is selected from the group consisting of: polyoxyethylene alkyl ethers, polyoxyethylene stearates, poloxamers, sarcosine based surfactants, polysorbates, alkyl sulfates and other sulfate surfactants, ethoxylated castor oil, polyvinylpyrrolidones, deoxycholate based surfactants, trimethyl ammonium based surfactants, lecithin and other phospholipids, bile salts, sodium lauryl sulfate, sodium docusate, sodium deoxycholate, N-lauroylsarcosine sodium salt, benzalkonium chloride, cetylpyridinium chloride, cetylpyridinium bromide, benzethonium chloride, PEG 40 stearate, PEG 100 stearate, poloxamer 188, lecithin, poloxamer 407, polyethyleneglycol 3000, polyethyleneglycol 8000, polyvinylpyrrolidone, sodium dodecylbenzenesulphonic acid, sodium octadecyl sulphate, sodium pentane sulphonate, and polysorbate 61.

15. The method of claim 13, wherein the milling aid has a concentration selected from the group consisting of: 0.1 -10 % w/w, 0.1 -5 % w/w, 0.1 -2.5 % w/w, 0.1 – 2% w/w, 0.1 -1 % w/w, 0.5 -5% w/w, 0.5 -3% w/w, 0.5 -2% w/w, 0.5 – 1.5% w/w, 0.5 -1 % w/w, 0.75 – 1.25 % w/w, 0.75 -1% w/w and 1% w/w.
16. The method of any preceding claim, wherein a facilitating agent is used or combination of facilitating agents is used, wherein the facilitating agent is selected from the group consisting of: surfactants, polymers, binding agents, filling agents, lubricating agents, sweeteners, flavouring agents, preservatives, buffers, wetting agents, disintegrants, effervescent agents, agents that may form part of a medicament, including a solid dosage form.
17. The method of claim 16, wherein the facilitating agent is added during dry milling at a time selected from the group consisting of: with 1-100% of the total milling time remaining, with 1-5 % of the total milling time remaining, with 1-10 % of the total milling time remaining, with 1-20 % of the total milling time remaining, with 1-30 % of the total milling time remaining, with 2-5% of the total milling time remaining, with 2-10% of the total milling time remaining, with 5-20% of the total milling time remaining and with 5-20% of the total milling time remaining.
18. The method of claim 16, wherein the facilitating agent is selected from the group consisting of: crosslinked PVP (crospovidone), cross linked carmellose (croscarmellose), sodium starch glycolate, Povidone (PVP), Povidone K12, Povidone K17, Povidone K25, Povidone K29/32 and Povidone K30.
19. A dosage form comprising meloxicam, produced by the method of any one of claims 1-18.
20. Use of the dosage form according to claim 19 in the preparation of a medicament for the treatment of pain and inflammation associated with osteoarthritis or rheumatoid arthritis.