CLAIMS

1. A process for obtaining a tungsten (VI) salt hydrate, the process comprising:

(a) Preparing a tungsten (VI) salt in an alkaline aqueous solution;

(b) Filtering the aqueous solution at a temperature at which the tungsten (VI) salt remains dissolved;

(c) Precipitating the tungsten (VI) salt hydrate from the filtrate resulting from step (b), at a temperature below 100ºC, particularly below 50ºC;

(d) Filtering the precipitated salt;

(e) Washing the resulting filter cake with a water-miscible solvent; and

(f) Drying the washed cake under conditions that allow the removal of the water-miscible solvent.

2. The process of claim 1, wherein the tungsten (VI) salt hydrate comprises an anion selected from the group consisting of tungstate and isopolytungstate, particularly the anion is tungstate.

3. The process according to any one of the preceding claims, wherein the tungsten (VI) salt hydrate comprises a cationic moiety selected from the group of cations: sodium, ammonium, potassium, magnesium, and calcium, zinc, copper, and silver.

4. The process of any one of the preceding claims, wherein the tungsten (VI) salt hydrate is dihydrate sodium tungstate.

5. The process of any one of the preceding claims, wherein step (a) is performed by dissolving a tungsten-containing compound selected from: WO_3, a paratungstate salt, and tungstic acid, in an alkaline aqueous solution.

6. The process of any one of the preceding claims, wherein the alkaline aqueous solution further includes cationic moieties selected from sodium, ammonium, copper, potassium, magnesium, and calcium, zinc and silver.

7. The process of any one of the preceding claims 5-6, wherein the alkaline aqueous solution is added in a molar excess with respect to the tungsten-containing compound.

8. The process of any one of the preceding claims, wherein step (a) is performed by heating to a temperature lower than the reflux temperature.

9. The process of any one of the preceding claims, wherein the filtering step (b) is performed at a temperature equal or above 30ºC but below the reflux temperature.

10. The process of any one of the preceding claims, wherein step (c) is performed by cooling or adding a water-miscible solvent.

11. The process of any one of the preceding claims, wherein the water-miscible solvent used in steps (c) and (e) comprises or consists (C_1-C_8)alkanol.

12. The process of any one of the preceding claims, wherein step (e) is repeated.

13. The process of any one of the preceding claims for obtaining $Na_2WO_4 \cdot 2H_2O$, the process comprising:

(i) Preparing the tungsten (VI) salt in an alkaline aqueous solution by dissolving the tungsten-containing compound selected from WO_3, a paratungstate salt or tungstic acid in a sodium alkaline aqueous solution at a temperature from 30 to 95ºC;

(ii) Filtering the aqueous solution at a temperature from 30 to 60ºC;

(iii) Precipitating the dihydrate tungsten (VI) salt from the filtrate resulting from step (b1) by adding a water/miscible solvent comprising or consisting of (C_1-C_8)alkanol;

(iv) Filtering the precipitated salt;

(v) Washing the resulting filter cake with a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol; and

(vi) Drying at a temperature below 50ºC, particularly from 15 to 25ºC, particularly from 18 to 22ºC.

14. The process of any one of claims 1 to 12 for obtaining $Na_2WO_4 \cdot 2H_2O$, the process comprising:

(a1) Preparing the tungsten (VI) salt in an alkaline aqueous solution by dissolving WO_3 in a sodium alkaline aqueous solution at a temperature from 80 to 95ºC;

(b1) Filtering the aqueous solution at a temperature from 50 to 90ºC;

(c1) Precipitating the dihydrate tungsten (VI) salt from the filtrate resulting from step (b1) by adding a water/miscible solvent comprising or consisting of (C_1-C_8)alkanol;

(d1) Filtering the precipitated salt;

(e1) Washing the resulting filter cake with a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol; and

(f1) Drying at a temperature from 18 to 22ºC; or, alternatively,

the process comprising:

(a2) Preparing the tungsten (VI) salt in an alkaline aqueous solution by dissolving APT in a sodium alkaline aqueous solution at a temperature from 50 to 70ºC;

(b2) Filtering the aqueous solution at a temperature from 35 to 60ºC;

(c2) Precipitating the dihydrate tungsten (VI) salt from the filtrate resulting from step (b2) by adding a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol;

(d2) Filtering the precipitated salt;

(e2) Washing the resulting filter cake with a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol; and

(f2) Drying at a temperature from 18 to 22ºC; or, alternatively,

the process comprising:

(a3) Preparing the tungsten (VI) salt in an alkaline aqueous solution by dissolving H_2WO_4 in a sodium alkaline aqueous solution at a temperature below 40ºC;

(b3) Filtering the aqueous solution at a temperature from 30 to 60ºC, particularly from 35 to 45ºC, particularly 35ºC;

(c3) Precipitating the dihydrate tungsten (VI) salt from the filtrate resulting from step (b3) by adding a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol;

(d3) Filtering the precipitated salt;

(e3) Washing the resulting filter cake with a water-miscible solvent comprising or consisting of (C_1-C_8)alkanol; and

(f3) Drying at a temperature below 50, below 49, below 48, below 47, below 46, below 45, below 44, below 43, below 42, below 41, below 40, below 39, below 38, below 37, below 36, below 35, below 34, below 33, below 32, below 31, below 30, below 29, below 28, below 27, below 26, below 25, below 24, below 23, below 22, below 21 or below 20 ºC; particularly at a temperature from 18 to 22ºC.

15. A pharmaceutical, veterinary or dietary sodium tungstate dihydrate comprising a water residual content from 10 to 15% by weight with respect to the total weight of the salt.

16. A pharmaceutical or veterinary or food composition comprising a therapeutically effective amount of the sodium tungstate dihydrate as defined in claim 15, together with one or more pharmaceutically or veterinarily or dietary acceptable excipients or carriers.

17. A sodium tungstate dihydrate as defined in claim 15 for use in therapy.

18. Use of a sodium tungstate dihydrate as defined in claim 15 in the manufacture of a medicament for the treatment of female infertility.