CLAIMS

1. A D-psicose crystal comprising:

98% (w/w) or more D-psicose and 0.001% (w/w) to 0.05% (w/w) ethanol based on 100% (w/w) of the entire crystal.

2. The D-psicose crystal of claim 1,

wherein a mean particle size (MA) is 200 μm or more.

3. A preparation method for a D-psicose crystal comprising:

a first step of mixing a D-psicose-containing solution and an organic solvent; and

a second step of adding a seed to the mixed solution according to the first step and then cooling the same to obtain a massecuite containing the D-psicose crystal.

4. The preparation method of claim 3,

wherein the mixing in the first step is performed at 40°C to 60°C, and a final temperature cooled according to the second step is 10°C to 20°C.

5. The preparation method of claim 3,

wherein in the second step, the seed is grown in a metastable zone by adjusting a cooling rate.

6. The preparation method of claim 5,

wherein in the second step, the cooling rate is 0.05°C/hour to 1.4°C/hour.

7. The preparation method of claim 3,

wherein in the second step, the cooling and the crystallization are performed for 20

hours to 70 hours.

8. The preparation method of claim 3,

wherein the D-psicose-containing solution contains 95% (w/w) or more D-psicose.

9. The preparation method of claim 3,

wherein a weight percentage of a finally obtained D-psicose crystal compared to the D-psicose content existing in the D-psicose-containing solution in the first step is 65% (w/w) or more.

10. The preparation method of claim 3,

wherein the organic solvent is an alcohol.

11. The preparation method of claim 3,

wherein the organic solvent includes at least one selected from ethanol, methanol, and propyl alcohol.

12. The preparation method of claim 3,

wherein the organic solvent is a mixture with a water : organic solvent ratio of 1:0.5 or more in the D-psicose-containing solution.

13. The preparation method of claim 3,

wherein in the D-psicose-containing solution, a concentration of the D-psicose is 80 brix to 85 brix.

14. The preparation method of claim 3, further comprising:

a third step of separating and drying the D-psicose crystal from the massecuite.

15. The preparation method of claim 14, further comprising:

a fourth step of recovering the organic solvent from a crystal mother liquor in which the D-psicose crystal is separated according to the third step, and then reusing the recovered organic solvent as the organic solvent of the first step.

16. The preparation method of claim 14, further comprising:

a fifth step of removing the organic solvent from a crystal mother liquor in which the D-psicose crystal is separated according to the third step, and then reusing the crystal mother liquor in preparing a D-psicose-containing solution.

17. The preparation method of claim 14,

wherein a concentration of the organic solvent in the D-psicose crystal is adjusted to 0.05% (w/w) or less by the drying.

CLAIMS

1. A D-psicose crystal comprising:

98% (w/w) or more D-psicose and 0.001% (w/w) to 0.05% (w/w) ethanol based on 100% (w/w) of the entire crystal.

2. The D-psicose crystal of claim 1,

wherein a mean particle size (MA) is 200 μm or more.

3. A preparation method for a D-psicose crystal comprising:

a first step of mixing a D-psicose-containing solution and an ethanol; and

a second step of adding a seed to the mixed solution according to the first step and then cooling the same to obtain a massecuite containing the D-psicose crystal.

4. The preparation method of claim 3,

wherein the mixing in the first step is performed at 40°C to 60°C, and a final temperature cooled according to the second step is 10°C to 20°C.

5. The preparation method of claim 3,

wherein in the second step, the seed is grown in a metastable zone by adjusting a cooling rate.

6. The preparation method of claim 5,

wherein in the second step, the cooling rate is 0.05°C/hour to 1.4°C/hour.

7. The preparation method of claim 3,

wherein in the second step, the cooling and the crystallization are performed for 20

hours to 70 hours.

8. The preparation method of claim 3,

wherein the D-psicose-containing solution contains 95% (w/w) or more D-psicose.

9. The preparation method of claim 3,

wherein a weight percentage of a finally obtained D-psicose crystal compared to the D-psicose content existing in the D-psicose-containing solution in the first step is 65% (w/w) or more.

10. The preparation method of claim 3,

wherein the ethanol is a mixture with a water : ethanol ratio of 1:0.5 or more in the D-psicose-containing solution.

11. The preparation method of claim 3,

wherein in the D-psicose-containing solution, a concentration of the D-psicose is 80 brix to 85 brix.

12. The preparation method of claim 3, further comprising:

a third step of separating and drying the D-psicose crystal from the massecuite.

13. The preparation method of claim 12, further comprising:

a fourth step of recovering the ethanol from a crystal mother liquor in which the D-psicose crystal is separated according to the third step, and then reusing the recovered ethanol as the ethanol of the first step.

14. The preparation method of claim 12, further comprising:

a fifth step of removing the ethanol from a crystal mother liquor in which the D-psicose crystal is separated according to the third step, and then reusing the crystal mother liquor in preparing a D-psicose-containing solution.

15. The preparation method of claim 12,

wherein a concentration of the ethanol in the D-psicose crystal is adjusted to 0.05% (w/w) or less by the drying.