WHAT IS CLAIMED IS:

1. A processing method of a workpiece using a protective film agent for laser dicing, the processing method comprising:

a preparing step of preparing a solution by mixing together a water-soluble resin, an organic solvent, and an ultraviolet absorber;

performing an ion-exchange treatment step that results in the content of sodium of the solution being greater than zero but equal to or lower than 100 parts per billion in weight ratio;

a protective film forming step of forming a protective film through applying the protective film agent for laser dicing that includes the solution on a front surface side of the workpiece having, on the front surface side thereof, a device region in which a device is disposed in each of a plurality of regions marked out by a plurality of planned dividing lines that intersect and a peripheral surplus region that surrounds the device region, wherein the protective film formed on the front surface side of the workpiece is configured and arranged for preventing debris from directly adhering to the front surface side of the workpiece;

a laser processing step of irradiating the front

surface side of the workpiece after the protective film forming step with a laser beam with such a wavelength as to be absorbed by the workpiece and processing the workpiece along the plurality of planned dividing lines; and

a cleaning step of cleaning the front surface side of the workpiece after the laser processing step, wherein said cleaning step includes removing the protective film from the front surface side of the workpiece.

2. The processing method according to claim 1, wherein the solution further includes an antioxidant.

3. The processing method according to claim 1, wherein the solution further includes ascorbic acid as an antioxidant whose content is greater than 0 wt % but less than 0.05 wt %.

4. The processing method according to claim 1, wherein the cleaning step includes spraying clean water upon the protective film.

5. A processing method of a workpiece using a protective film agent for laser dicing, the processing method comprising:

a preparing step of preparing a solution by mixing together a water-soluble resin, an organic solvent, and an ultraviolet absorber;

performing an ion-exchange treatment step that results in the content of sodium of the solution being greater than zero but equal to or lower than 100 parts per billion in weight ratio;

a protective film forming step of forming a protective film through applying the protective film agent for laser dicing that includes the solution on a front surface side of the workpiece having, on the front surface side thereof, a device region in which a device is disposed in each of a plurality of regions marked out by a plurality of planned dividing lines that intersect and a peripheral surplus region that surrounds the device region;

a laser processing step of irradiating the front surface side of the workpiece after the protective film forming step with a laser beam with such a wavelength as to be absorbed by the workpiece and processing the workpiece along the plurality of planned dividing lines; and

a cleaning step of cleaning the front surface side of the workpiece after the laser processing step, and

wherein the solution further includes ascorbic acid as an antioxidant whose content is greater than 0 wt % but less than 0.05 wt %.

6. The processing method according to claim 5, wherein the content of the ascorbic acid is less than 0.025 wt %.

7. The processing method according to claim 5, wherein the content of the ascorbic acid is less than 0.010 wt %.

8. The processing method according to claim 5, wherein the content of the ascorbic acid is less than 0.003 wt %.

9. A processing method comprising:

a preparing step of preparing a solution by mixing together a water-soluble resin, an organic solvent, and an ultraviolet absorber;

an ion-exchange treatment step of carrying out ion exchange of sodium ions in the solution by using a cation-exchange resin, wherein the ion-exchange treatment step results in the content of sodium of the solution being greater than zero but equal to or lower than 100 parts per billion in weight ratio;

a protective film forming step of forming a protective film through applying a protective film agent for laser dicing that includes the solution on a front surface side of the workpiece having, on the front surface side thereof, a device region in which a device

is disposed in each of a plurality of regions marked out by a plurality of planned dividing lines that intersect and a peripheral surplus region that surrounds the device region;

a laser processing step of irradiating the front surface side of the workpiece after the protective film forming step with a laser beam with such a wavelength as to be absorbed by the workpiece and processing the workpiece along the plurality of planned dividing lines; and

a cleaning step of cleaning the front surface side of the workpiece after the laser processing step.

10. The processing method according to claim 9, wherein the solution further includes an antioxidant.

11. The processing method according to claim 9, wherein the solution further includes ascorbic acid as an antioxidant whose content is greater than 0 wt % but less than 0.05 wt %.