WHAT IS CLAIMED IS:

1. A method of processing a wafer having a plurality of devices provided in respective areas demarcated on a face side of the wafer by a plurality of intersecting projected dicing lines established on the face side, the method comprising:

a protective film applying step of coating the face side of the wafer with a protective film agent and thereafter drying the protective film agent into a protective film covering the face side of the wafer;

after the protective film applying step, a laser processing step of applying a laser beam having a wavelength absorbable by the wafer to the wafer along the projected dicing lines on the face side of the wafer, thereby producing a plurality of laser-processed slots in the wafer along the projected dicing lines;

after the laser processing step, a protective film removing step of cleaning away the protective film, wherein the protective film is removed substantially entirely in the protective film removing step, however a layer of an organic substance deriving from the protective film remains on the face side of the wafer after the protective film removing step;

after the protective film removing step, a residual

organic substance removing step of applying ultraviolet rays to the face side of the wafer to remove the organic substance deriving from the protective film and remaining on the face side of the wafer; and

after the residual organic substance removing step, an encapsulating resin applying step of covering coverage areas corresponding to the respective devices on the face side of the wafer with an encapsulating resin.

2. The method of processing a wafer according to claim 1, wherein the organic substance remaining on the face side of the wafer after the protective film removing step and before the residual organic substance removing step includes compounds containing nitrogen atoms.

3. A method of manufacturing a plurality of packaged devices from a wafer having a plurality of devices provided in respective areas demarcated on a face side of the wafer by a plurality of intersecting projected dicing lines established on the face side, the method comprising:

a protective film applying step of coating the face side of the wafer with a protective film agent and thereafter drying the protective film agent into a protective film covering the face side of the wafer;

after the protective film applying step, a laser

processing step of applying a laser beam having a wavelength absorbable by the wafer to the wafer along the projected dicing lines on the face side of the wafer, thereby producing a plurality of laser-processed slots in the wafer along the projected dicing lines;

after the laser processing step, a protective film removing step of cleaning away the protective film, wherein the protective film is removed substantially entirely in the protective film removing step, however a layer of an organic substance deriving from the protective film remains on the face side of the wafer after the protective film removing step;

after the protective film removing step, a residual organic substance removing step of applying ultraviolet rays to the face side of the wafer to remove the organic substance deriving from the protective film and remaining on the face side of the wafer; and

after the residual organic substance removing step, a packaged device producing step of producing a plurality of packaged devices in which coverage areas corresponding to the respective devices on the face side of the wafer are covered with an encapsulating resin.