CLAIMS

1. A temporary protective film for semiconductor encapsulation molding, comprising: a support film; and an adhesive layer provided on one surface or both surfaces of the support film, the temporary protective film for semiconductor encapsulation molding used for temporarily protecting a surface of a lead frame on a side opposite to a semiconductor element during encapsulation molding of forming a sealing layer that seals the semiconductor element mounted on a die pad of the lead frame, wherein

the adhesive layer comprises

a thermoplastic resin, and

at least one specific compound selected from the group consisting of sorbitol polyglycidyl ether, polyethylene glycol diglycidyl ether, a glycidyl ether of an aliphatic alcohol having 10 to 20 carbon atoms, glycerol polyglycidyl ether, a polyalkylene glycol ester of a fatty acid having 2 to 30 carbon atoms, a dipentaerythritol ester of a fatty acid having 2 to 20 carbon atoms, polyethylene glycol monoalkyl ether, and polyethylene glycol dialkyl ether, and

wherein the thermoplastic resin comprises at least one selected from the group consisting of an aromatic polyether amideimide, an aromatic polyether imide, an aromatic polyether amide, an aromatic polyamide, an aromatic polyester, an aromatic polyimide, an aromatic polyamideimide, an aromatic polyether, and an aromatic polyester imide.

2. The temporary protective film for semiconductor encapsulation molding according to claim 1, wherein a content of the specific compound is 5 to 30 parts by mass with respect to 100 parts by mass of a

content of the thermoplastic resin.

3. A lead frame provided with a temporary protective film, comprising:

a lead frame having a die pad; and

the temporary protective film for semiconductor encapsulation molding according to claim 1 or 2, wherein

the temporary protective film is bonded to one surface of the lead frame in a direction in which the adhesive layer of the temporary protective film comes into contact with the lead frame.

4. A temporarily protected encapsulation molded body, comprising:

a lead frame having a die pad;

a semiconductor element mounted on the die pad on one surface side of the lead frame;

a sealing layer sealing the semiconductor element; and

the temporary protective film for semiconductor encapsulation molding according to claim 1 or 2, wherein

the temporary protective film is bonded to a surface of the lead frame on a side opposite to the semiconductor element in a direction in which the adhesive layer of the temporary protective film comes into contact with the lead frame.

5. A method for manufacturing a semiconductor package, the method comprising, in the stated order:

a step of bonding the temporary protective film for semiconductor encapsulation molding according to claim 1 or 2 to one surface of a lead frame having a die pad in a direction in which the adhesive layer of the temporary protective film comes into contact with the lead frame;

a step of mounting a semiconductor element on a surface of the die pad on a side opposite to the temporary protective film;

a step of forming a sealing layer sealing the semiconductor element to obtain a temporarily protected encapsulation molded body comprising the lead frame, the semiconductor element, and the sealing layer; and

a step of peeling off the temporary protective film from the encapsulation molded body.

6. The method according to claim 5, wherein the lead frame has a plurality of the die pads, and the semiconductor element is mounted on each of the plurality of the die pads, and

the method further comprises a step of dividing the encapsulation molded body subsequent to peeling off the temporary protective film from the encapsulation molded body, to obtain a semiconductor package comprising one die pad and the semiconductor element.