CLAIMS

[Claim 1]

An oil-in-water type emulsion composition comprising:

100 parts by mass of a (meth)acrylate-based epoxy resin (A);

1 to 200 parts by mass of a polymerizable unsaturated monomer (B);

0.1 to 10 parts by mass of a curing accelerator (C);

1 to 50 parts by mass of a reactive surface active agent (D); and

10 to 200 parts by mass of water (E).

[Claim 2]

The oil-in-water type emulsion composition according to claim 1, wherein the reactive surface active agent (D) is at least one selected from the group consisting of ionic reactive surface active agents and nonionic reactive surface active agents.

[Claim 3]

The oil-in-water type emulsion composition according to claim 2, wherein the ionic reactive surface active agent is an anionic reactive surface active agent.

[Claim 4]

The oil-in-water type emulsion composition according to any one of claims 1 to 3, wherein the polymerizable unsaturated monomer (B) is at least one selected from the group consisting of alkyl (meth)acrylates, alkenyl (meth)acrylates, alkylene glycol di(meth)acrylates, alkoxyalkyl (meth)acrylates, dialkylaminoalkyl (meth)acrylates, acrylonitrile, styrene and derivatives of styrene, and vinyl compounds.

[Claim 5]

The oil-in-water type emulsion composition according to any one of claims 1 to 4, wherein the curing accelerator (C) is at least one selected from the group consisting of metal acetyl acetates, metal soaps, vanadium compounds, metal sulfides, and amines.

[Claim 6]

The oil-in-water type emulsion composition according to any one of claims 1 to 5, obtained by dropping water (E) into a mixed solution comprising the components (A) to (D) to cause phase-transfer emulsification.

[Claim 7]

A surface treatment method for a material selected from the group consisting of metals, plastics, concretes, mortar, wood, and glass, the method

comprising the steps of: adding a curing agent (F) to the oil-in-water type emulsion composition according to any one of claims 1 to 6 to prepare a coating solution; applying the coating solution on the surface of the material; and curing the coating solution at 0 to 50°C to form a cured coating film on the surface of the material.

[Claim 8]

The surface treatment method according to claim 7, wherein the curing agent (F) is at least one selected from the group consisting of ketone peroxides, hydroperoxides, and peroxyesters.

[Claim 9]

The surface treatment method according to claim 7 or 8, wherein the cured coating film has a film thickness of 0.1 to 2 mm.

[Claim 10]

The surface treatment method according to any one of claims 7 to 9, wherein the metal defined in claim 7 comprises at least one selected from the group consisting of iron and aluminum.

CLAIMS

[Claim 1]

An oil-in-water type emulsion composition comprising:

100 parts by mass of a (meth)acrylate-based epoxy resin (A);

1 to 200 parts by mass of a polymerizable unsaturated monomer (B);

0.1 to 10 parts by mass of a curing accelerator (C);

1 to 50 parts by mass of a reactive surface active agent (D); and

10 to 200 parts by mass of water (E),

wherein the (meth)acrylate-based epoxy resin (A) is at least one selected from the group consisting of bisphenol type epoxy resins, novolak type epoxy resins, and halogenated bisphenol type epoxy resins, and

the reactive surface active agent (D) is at least one selected from the group consisting of anionic reactive surface active agents and at least one selected from the group consisting of nonionic reactive surface active agents.

[Claim 2]

The oil-in-water type emulsion composition according to claim 1, wherein the polymerizable unsaturated monomer (B) is at least one selected from the group consisting of alkyl (meth)acrylates, alkenyl (meth)acrylates, alkylene glycol di(meth)acrylates, alkoxyalkyl (meth)acrylates, dialkylaminoalkyl (meth)acrylates, acrylonitrile, styrene and derivatives of styrene, and vinyl compounds.

[Claim 3]

The oil-in-water type emulsion composition according to claim 1 or 2, wherein the curing accelerator (C) is at least one selected from the group consisting of metal acetyl acetates, metal soaps, vanadium compounds, metal sulfides, and amines.

[Claim 4]

A surface treatment method for a material selected from the group consisting of metals, plastics, concretes, mortar, wood, and glass, the method comprising the steps of: adding a curing agent (F) to the oil-in-water type emulsion composition according to any one of claims 1 to 3 to prepare a coating solution; applying the coating solution on the surface of the material; and curing the coating solution at 0 to 50°C to form a cured coating film on the surface of the material.

[Claim 5]

The surface treatment method according to claim 4, wherein the curing agent (F) is at least one selected from the group consisting of ketone peroxides, hydroperoxides, and peroxyesters.

[Claim 6]

The surface treatment method according to claim 4 or 5, wherein the cured coating film has a film thickness of 0.1 to 2 mm.

[Claim 7]

The surface treatment method according to any one of claims 4 to 6, wherein the metal defined in claim 4 comprises at least one selected from the group consisting of iron and aluminum.