CLAIM(S)

1. A water-soluble metalworking fluid comprising the following components (A), (B), (C) and (D):

(A) a carboxylic acid having 8 to 18 carbon atoms;

(B) a trialkanolamine;

(C) a water soluble polymer having a mass average molecular weight of 200 or more; and

(D) water.

2. The water-soluble metalworking fluid according to Claim 1, wherein

a mixed amount of each of the components in a total amount of the water-soluble metalworking fluid is as follows:

the component (A) is in a range of 20 mass% to 40 mass%;

the component (B) is in a range of 20 mass% to 40 mass%;

the component (C) is in a range of 1 mass% to 15 mass%; and

the component (D) is in a range of 10 mass% to 80 mass%.

3. The water-based metalworking fluid according to Claim 1 or 2, wherein the component (C) is a nonionic surfactant.

4. The water-soluble metalworking fluid according to Claim 3, wherein the nonionic surfactant has a polyalkylene glycol structure.

5. The water-soluble metalworking fluid according to any one of Claims 1 to 4, further comprising at least one of an acidic phosphate ester, a phosphite ester and a metal deactivator.

6. A metalworking fluid provided by diluting the water-soluble metalworking fluid according to any one of Claims 1 to 5 with water a volume of which is 2 to 200 times as much as that of the water-soluble metalworking fluid.

7. The metalworking fluid according to Claim 6, wherein the metalworking fluid is used for processing aluminum.

CLAIMS

1. A water-soluble metalworking fluid comprising the following components (A), (B), (C), (D) and a metal deactivator:

(A) a saturated aliphatic monocarboxylic acid having 8 to 12 carbon atoms and comprising both of lauric acid and neodecane acid;

(B) a trialkanolamine;

(C) one of a pentaerythritol ether and a polyoxypropylene-polyoxyethylene block copolymer of a polyalkylene glycol having a mass average molecular weight of 200 or more; and

(D) water.

2. The water-soluble metalworking fluid according to claim 1, further comprising: at least one of an acidic phosphate ester and a phosphite ester.

3. A metalworking fluid provided by diluting the water-soluble metalworking fluid according to claim 1 or 2 with a water a volume of which is 2 to 200 times as much as that of the water-soluble metalworking fluid.

4. The metalworking fluid according to claim 3, wherein the metalworking fluid is used for processing aluminum.