~~AMENDED~~ CLAIMS

~~1. (Amended) A water-soluble working fluid for a fixed-abrasive wire saw, the water-soluble working fluid comprising:~~

~~(C) a carboxylic acid;~~

~~(D) a compound which shows basicity on dissolution in water;~~

~~(E) water; and~~

~~(A) at least one nonionic surfactant selected from copolymers of an alcohol, ethylene oxide, and propylene oxide, and polyoxyalkylene glycols;~~

~~wherein an electrical conductivity at 25°C of the water-soluble working fluid is 300 μS/cm or more and 3000 μS/cm or less;~~

~~a pH at 25°C of the water-soluble working fluid is 5 or more and 10 or less; and~~

~~a viscosity of a simulated fluid formed by adding 10 mass % of a silicon powder having an average particle size of 1.5 μm to the water-soluble working fluid and stirring a resultant mixture is less than 30 mPa·s at 25°C.~~

~~2. (Cancelled)~~

~~3. (Amended) The water-soluble working fluid for a fixed-abrasive wire saw according to claim 1, further comprising (B) a glycol.~~

4~~1~~. ~~(Original)~~ A water-soluble working fluid for a

fixed-abrasive wire saw, the water-soluble working fluid comprising:

(A) 0.1 mass % or more and 8 mass % or less of at least one nonionic surfactant selected from copolymers of an alcohol, ethylene oxide, and propylene oxide, and copolymers of ~~polyoxyalkylene~~ polyoxyethylene and polyoxypropylene~~glycols~~;

(B) 0.1 mass % or more and 8~~0~~ mass % or less of ~~a~~ propylene glycol, dipropylene glycol, diethylene glycol, triethylene glycol, polyethylene glycol, or polypropylene glycol;

(C) 0.01 mass % or more and 5 mass % or less of a carboxylic acid;

(D) 0.01 mass % or more and 7 mass % or less of ~~a compound which shows basicity on dissolution in water~~ at least one basic compound selected from a group consisting of sodium hydroxide, potassium hydroxide, sodium carbonate, potassium carbonate, sodium hydrogen carbonate, potassium hydrogen carbonate, triethanolamine, triisopropanolamine, ethylenediamine, N-(2-aminoethyl)-2-aminoethanol, and N-(β-aminoethyl)ethanol amine; and

(E) water,

the water-soluble working fluid further includes a water-soluble polymer selected from polyvinylpyrrolidone and a copolymer having a structural unit derived from vinylpyrrolidone,

wherein an electrical conductivity at 25°C of the water-soluble working fluid is 300 μS/cm or more and 3000 μS/cm or less;

a pH at 25°C of the water-soluble working fluid is 5 or more and 10 or less; and

a viscosity of a simulated fluid formed by adding 10 mass % of a silicon powder having an average particle size of 1.5 μm to the water-soluble working fluid and stirring a resultant mixture is less than 30 mPa·s at 25°C.

~~5~~2. ~~(Amended)~~ The water-soluble working fluid for a fixed-abrasive wire saw according to claim 1~~, 3, or 4~~, having a surface tension at 25°C of 20 mN/m or more and 50 mN/m or less.

~~6~~3. ~~(Amended)~~ The water-soluble working fluid for a fixed-abrasive wire saw according to claim 1~~, 3, 4 or 5~~ or 2, further comprising ~~a water-soluble polymer and/or~~ a defoaming agent.

~~7~~4. ~~(Amended)~~ The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1~~,~~ to 3, ~~4, 5 or 6,~~ containing 10 mass % or more and 99.7 mass % or less of the (E) water, based on a total mass of the water-soluble working fluid for a fixed-abrasive wire saw as 100 mass %.

5. The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1 to 4, having an electrical conductivity at 25°C of 2000 μS/cm or less.

6. The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1 to 5, containing 0.1 mass % or more and 0.8 mass % or less of the (A) nonionic surfactant, containing 0.01 mass % or more and 0.5 mass % or less of the (C)

carboxylic acid, and containing 0.01 mass % or more and 0.7 mass % or less of the (D) basic compound, based on a total mass of the water-soluble working fluid for a fixed-abrasive wire saw as 100 mass %.

CLAIMS

1. A water-soluble working fluid for a fixed-abrasive wire saw, the water-soluble working fluid comprising:

(A) 0.1 mass % or more and 8 mass % or less of at least one nonionic surfactant selected from copolymers of an alcohol, ethylene oxide, and propylene oxide, and copolymers of polyoxyethylene and polyoxypropylene;

(B) 0.1 mass % or more and 8 mass % or less of propylene glycol, dipropylene glycol, diethylene glycol, triethylene glycol, polyethylene glycol, or polypropylene glycol;

(C) 0.01 mass % or more and 5 mass % or less of a carboxylic acid;

(D) 0.01 mass % or more and 7 mass % or less of at least one basic compound selected from a group consisting of sodium hydroxide, potassium hydroxide, sodium carbonate, potassium carbonate, sodium hydrogen carbonate, potassium hydrogen carbonate, triethanolamine, triisopropanolamine, ethylenediamine, N-(2-aminoethyl)-2-aminoethanol, and N-(β-aminoethyl)ethanol amine; and

(E) water,

the water-soluble working fluid further includes a water-soluble polymer selected from polyvinylpyrrolidone and a copolymer having a structural unit derived from vinylpyrrolidone,

wherein an electrical conductivity at 25°C of the water-soluble working fluid is 300 μS/cm or more and 3000 μS/cm or less;

a pH at 25°C of the water-soluble working fluid is 5 or more

and 10 or less; and

a viscosity of a simulated fluid formed by adding 10 mass % of a silicon powder having an average particle size of 1.5 μm to the water-soluble working fluid and stirring a resultant mixture is less than 30 mPa·s at 25°C.

2. The water-soluble working fluid for a fixed-abrasive wire saw according to claim 1, having a surface tension at 25°C of 20 mN/m or more and 50 mN/m or less.

3. The water-soluble working fluid for a fixed-abrasive wire saw according to claim 1 or 2, further comprising a defoaming agent.

4. The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1 to 3, containing 10 mass % or more and 99.7 mass % or less of the (E) water, based on a total mass of the water-soluble working fluid for a fixed-abrasive wire saw as 100 mass %.

5. The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1 to 4, having an electrical conductivity at 25°C of 2000 μS/cm or less.

6. The water-soluble working fluid for a fixed-abrasive wire saw according to any one of claims 1 to 5, containing 0.1 mass % or more and 0.8 mass % or less of the (A) nonionic surfactant, containing 0.01 mass % or more and 0.5 mass % or less of the (C)

carboxylic acid, and containing 0.01 mass % or more and 0.7 mass % or less of the (D) basic compound, based on a total mass of the water-soluble working fluid for a fixed-abrasive wire saw as 100 mass %.