CLAIMS

1. Copper fine particles,

wherein the copper fine particles have a coating film containing copper carbonate and cuprous oxide on at least a part of the surface thereof, and

a ratio between the following Db and the following Dv (Db/Dv) is in a range of 0.50 ~ 0.90,

Dv: an average value (nm) of the area equivalent circle diameter of the copper fine particles obtained by acquiring SEM images for 500 or more copper fine particles using a scanning electron microscope, and calculating by image analysis software,

Db: a particle size (nm) of the copper fine particles obtained by measuring a specific surface area (SSA (m2/g)) of the copper fine particles using a specific surface area meter, and calculating by the following formula (1),

$$Db = 6 / (SSA \times \rho) \times 109 \ldots (1)$$

in the formula (1), ρ is a density of copper (g/m3).

2. The copper fine particles according to Claim 1,

wherein the Dv is in a range of 50 ~ 500 nm.

3. The copper fine particles according to Claim 1 or 2,

wherein the Db is in a range of 25 ~ 500 nm.

4. A conductive material,

wherein the conductive material contains the copper fine particles according to any one of Claims 1 to 3, and a dispersion medium in which the copper fine particles are dispersed.

5. A method for producing the copper fine particles according to any one of Claims 1 to 3, wherein the method includes:

heating copper or a copper compound in a reducing flame formed in a furnace by a burner to produce fine particles having a coating film containing copper carbonate and cuprous oxide on at least a part of the surface thereof; and

bringing the fine particles into contact with pure water to dissolve the copper carbonate in the coating film.

6. The method for producing the copper fine particles according to Claim 5,

wherein an amount of carbon in the fine particles is controlled by adjusting an amount of carbon in a fuel gas supplied into the burner.

7. The method for producing the copper fine particles according to Claim 5 or 6,

wherein the fine particles are heat-treated in a carbon dioxide atmosphere before the fine particles are brought into contact with pure water.