

Abstract

The invention provides a water-soluble metal-working oil agent, including a component A, a component B, a component C, and a component D, wherein the component A is an ester compound which has a characteristic temperature, as measured in accordance with JIS K2242, of 570°C or higher and which is contained in the water-soluble metal-working oil agent in an amount of 10 mass% or more with respect to the entire amount of the agent; the component B is at least one condensed fatty acid which is selected from a condensed fatty acid (1), produced through dehydration condensation of a hydroxycarboxylic acid, and a condensed fatty acid (2), produced through dehydration condensation of an alcoholic hydroxyl group of the condensed fatty acid (1) with a monovalent carboxylic acid, which has a characteristic temperature, as measured in accordance with JIS K2242, of 650°C or higher, and which is contained in the water-soluble metal-working oil agent in an amount of 7.5 mass% or more with respect to the entire amount of the agent; the component C is a carboxylic acid which is contained in the water-soluble metal-working oil agent in an amount of 2 mass% or more with respect to the entire amount of the agent; and the component D is a basic compound contained in such a neutralization equivalent that at least the component B and component C are neutralized to cancel out the sum of the acid values thereof. The agent can provide excellent workability

with a hard-to-work material and can prolong tool life.