

WATER-SOLUBLE METALWORKING OIL AGENT AND USAGE THEREOF

ABSTRACT

5 A water-soluble metalworking oil agent is provided by blending the following components A, B, C and D:

(A) at least one of a condensed fatty acid obtained by dehydration-condensing a ricinoleic acid, and a condensed fatty acid obtained by dehydration-condensing a monovalent carboxylic acid with an alcoholic hydroxyl group of a condensed fatty acid obtained by
10 dehydration-condensing a ricinoleic acid;

(B) an ester compound provided by a dehydration condensate of a monovalent or multivalent alcohol and a monovalent carboxylic acid;

(C) an amine compound; and

(D) water. A blend ratio of the component A is 10 mass% or more of a total amount of the
15 oil agent and a blend ratio of the component B is 5 mass% or more of the total amount of the oil agent.

No figure