



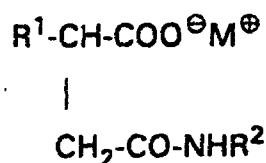
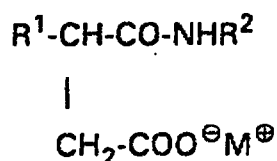
Abstract

Alkenylsuccinic acid derivatives as metalworking auxiliaries

The present invention relates to salts of alkenylsuccinic acid alkoxyalkyl-half-amides of the formula Ia and/or Ib

Ia

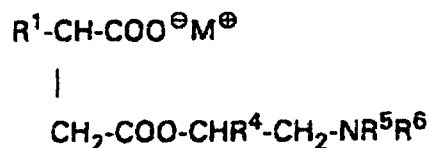
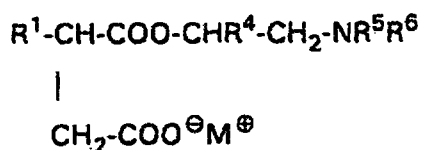
Ib



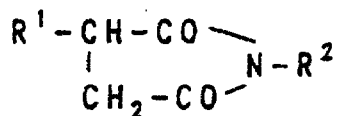
if appropriate as a mixture with salts of alkenylsuccinic acid half-ester amines of the formula IIa and/or IIb

IIa

IIb

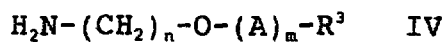


and/or alkenylsuccinic acid imides of the formula III



in which R¹, R², A, R³, R⁴, n, m and M^{*} have the meaning given in the description.

The invention also relates to a process for the preparation of salts of alkenylsuccinic acid alkoxyalkyl-half-amides of the formula Ia and/or Ib, if appropriate as a mixture with salts of alkenylsuccinic acid half-ester amines of the formula IIa and IIb and/or alkenylsuccinic acid imides of the formula III, which comprises reacting alkenylsuccinic acid anhydrides with alkoxyalkylamines of the formula IV



in which R^3 , n , m and A have the meaning given in the description, and carrying out this reaction in the presence of an amount of base equimolar to the alkoxy-
5 alkyamines of the formula IV, or adding an amount of base equimolar to the alkoxyalkylamines of the formula IV after the reaction.

The invention furthermore relates to aqueous and/or oil-containing formulations for working metals, which
10 comprise the abovementioned salts of alkenylsuccinic acid alkoxyalkyl-half-amides of the formula Ia and/or Ib, if appropriate as a mixture with salts of alkenylsuccinic acid half-ester amines of the formula IIa and/or IIb and/or alkenylsuccinic acid imides of the formula III,
15 and their use as anticorrosion agents, cooling lubricants and metalworking auxiliaries.