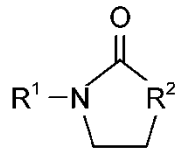
a cyclic compound (c) represented by the following chemical formula:



where R^1: any one of hydrogen, a hydrocarbon group having a carbon number of 1 to 4, and a hydroxyalkyl group,
R^2: oxygen or N-R^3, and
R^3: any one of hydrogen, a hydrocarbon group, and a hydroxyalkyl group having a carbon number of 1 to 4; and

water (d).

(2) The composite amine absorbent as described in (1), wherein the chain monoamine (a) includes at least one of a primary chain monoalkanolamine, a secondary chain monoalkanolamine, and a tertiary chain monoalkanolamine.

(3) The composite amine absorbent as described in (1) or (2), wherein the diamine (b) includes at least one diamine containing amino groups having the same number of substituents.

(4) The composite amine absorbent as described in (3), wherein the diamine containing amino groups having the same number of substituents includes at least one of a primary chain polyamine, a secondary chain polyamine, and a secondary cyclic polyamine.

(5) The composite amine absorbent as described in (1) or (2), wherein the diamine (b) includes at least one diamine containing amino groups having the same number of substituents and at least one chain diamine containing amino groups having different numbers of substituents.

(6) The composite amine absorbent as described in (5), wherein the diamine containing amino groups having the same number of substituents includes at least one of a primary chain polyamine, a secondary chain polyamine, and a secondary cyclic polyamine.

(7) The composite amine absorbent as described in (5),