to this problem, neutralizing reagents are injected in excess quantity, which leads to significant consumption of said neutralizing reagents. This significant consumption leads to a considerable added cost of raw materials and requires frequent maintenance shutdowns.

[5] The neutralizing reagents involved in these processes are also hazardous for the operators.

[6] In addition, these processes can generate corrosion and/or cause fouling of the boilers of the combustion units, which decreases the production of energy by said boilers.

[7] To solve this last problem, WO 2013/060991 describes a reagent capable of neutralizing SO_2/HCl acid gases directly in the combustion furnace or in the post-combustion chamber of a combustion unit. This reagent may comprise products based on alkalis, alkaline earth metals, calcium oxide, hydrated lime, limestone, calcium carboxylic salts, clays, and/or reducing organic compounds. This reagent therefore does not include ammonium salts. In addition, it is not intended to reduce the concentration of acid gases other than SO_2 and HCl, for example NOx.

Technical problem

[8] There is therefore always a need for an efficient, safe, and economical solution for decreasing the concentration of a wide range of acid gases contained in flue gas produced in a combustion unit, such as incinerators for household waste or for industrial hazardous waste.

[9] It is thus to the credit of the inventors that they have found it possible to meet this need by means of a reactive powder composition comprising an alkaline earth salt and an ammonium salt.

Summary

[10] Thus, a first aspect of the present disclosure is a method for treating combustion flue gas comprising acid gases, said method comprising a contact step a) of placing said acid gases in contact with a powder composition comprising an alkaline earth metal

salt and an ammonium salt in an oxidizing atmosphere and at a temperature greater than or equal to 850°C.

[11] Advantageously, the method according to the present disclosure makes it possible to reduce the concentration of acid gases in combustion flue gas in an efficient manner.

[12] The method according to the present disclosure thus advantageously makes it possible to maintain the concentration of acid gases in combustion flue gas below the values set by regulatory standards even when peaks in the acid gas concentration appear in the combustion flue gas.

[13] The method according to the present disclosure is also more economical and safer than conventional methods for reducing the acid gas concentration in combustion flue gas, because:

- the cost of the powder composition is lower than that of the neutralizing reagents conventionally used, and
- an efficient reduction of the acid gas concentration in combustion flue gas allows significantly reducing the consumption of the neutralizing reagents conventionally used, and therefore reducing the costs and risks associated with said neutralizing reagents and reducing the costly maintenance shutdowns.

[14] A second aspect of the present disclosure is a powder composition comprising an alkaline earth metal salt and an ammonium salt.

Brief description of drawings

Fig. 1

[15] [Fig. 1] is a diagram illustrating a combustion unit.

Detailed description of the invention

[16] According to a first object, the invention relates to a method for treating combustion flue gas comprising acid gases, said method comprising a contact step a) of placing said acid gases in contact with a powder composition comprising an alkaline earth metal salt and an ammonium salt in an oxidizing atmosphere and at