In addition, the incineration facility 100 includes an equipment for treating an acid exhaust gas 80 having: a unit 50 including a container that accommodates a OH-type Mg-Al layered double hydroxide, which is an acid exhaust gas treatment agent; and a unit 60 including a regeneration device 40 that generates a regenerated product by exchanging the interlayer anions of a break-through OH-type Mg-Al layered double hydroxide with hydroxide ions.
[0050]

In the incineration facility 100, the unit 50 composed of a container 31 that accommodates the OH-type Mg-Al layered double hydroxide and the pipe 24 for guiding an acid exhaust gas that occurs from the incinerator 11 to the container 31 is the first unit that performs the above-described first step.

In addition, the unit 60 including the regeneration device 40 that generates a regenerated product by exchanging the interlayer anions of the break-through anionic Mg-Al layered double hydroxide with hydroxide ions and a pipe 41 for guiding an anionic Mg-Al layered double hydroxide subjected to the treatment of the acid exhaust gas to the regeneration device 40 from the first unit 50 and guiding the regenerated product from the regeneration device 40 to the first unit 50 is the second unit that performs the above-described second step.
[0051]

(Operation of Incineration Facility)

Next, the operation of the incineration facility 100 including the equipment for treating an acid exhaust gas 80 will be described.

First, an acid exhaust gas that has occurred in the incinerator 11 is heat-recovered in the boiler 12, cooled in the gas cooling device 13, then, gathered in the dust collector 14 and guided to the first unit 50 in the equipment for treating an acid exhaust gas 80. In the initial state, the OH-type Mg-Al layered double hydroxide that is accommodated in the container 31 is in a state where the treatment capability does not deteriorate and is a layered double hydroxide not subjected even once to the treatment of an acid exhaust gas after synthesis, a regenerated product regenerated from a layered double hydroxide subjected to the treatment of an acid exhaust gas once or more or a mixture thereof.

In addition, the above-described first step is performed on the acid exhaust gas in the first unit. Therefore, acidic gas components such as hydrogen chloride, sulfur oxide and nitrogen oxide in the acid exhaust gas are rejected.