

Study on the safety measure regarding products and inflammable gas sludge origin

Whole term

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(Purpose)

While effective usage of sewage sludge is improving, accidents caused by the inflammable gas generated by sludge are getting obvious. Sewage sludge has not only high calorific and fuel value but also has the risk of self-burning and dust explosion therefore caution is required when handling. The danger is generally not recognized and safety measures has not yet been established.

This research summarized as technology presentation aims to promote efficient usage of sewage sludge as well clarify the treatment of sewage sludge, measures and handling of gas generated during efficient usage.

(Result)

(1) Summary of investigation of Flammable gas cause

- 1) Generation process of flammable gas was shown on the basis of investigation result of active sludge pipeline at sewage sludge treatment plant.
- 2) Oxidation mechanism and relationship between refine rate and heat characteristic of carbonized sludge product were summarized.

(2) Summary of questionnaires

88 trouble case examples from questionnaires for the municipalities and manufactures were organized. Troubled segments were shown visually on treatment flow diagram (Fig-1).

(3) Factor analysis by FTA 8 typical trouble case examples were analyzed using FTA.

(4) Summary of safety measures

- 1) Safety measures for 8 typical trouble case examples were described.
- 2) Safety measures for other trouble case examples from questionnaire results were also summarized.

(5) Summary of trouble shootings

- 1) Ordinary inspection and operation guidance as planning maintenance were summarized.
- 2) Priority to trouble shootings was shown.

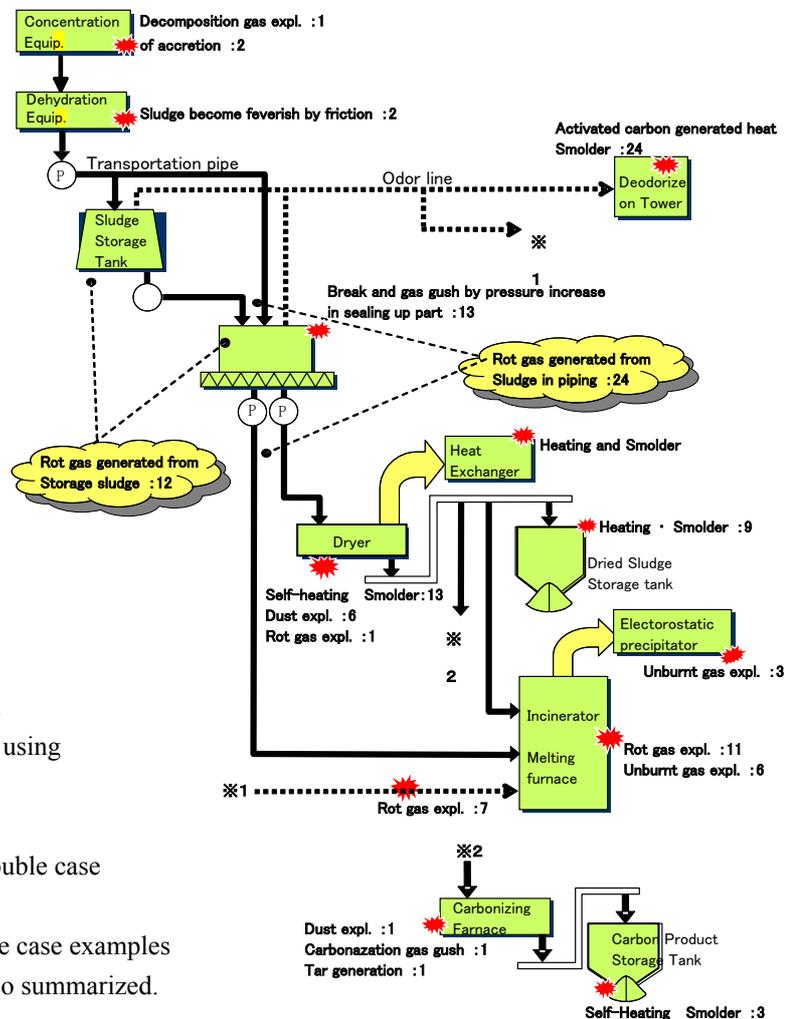


Fig.—1 The result of trouble investigation

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key words

sludge, flammable gas, safety measure, risk