

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

Whole term

2004.10 ~ 2006.3

(Purpose)

While effective usage of sewage sludge is improving , accidents caused by the inflammable gas generated from 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 was summarized as technical report 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.

(Research content)

1 . Research flow

Research flow is shown in Fig. - 1.

2 . Investigation of inflammable gas cause, related law arrangement. Past problems were investigated through reports and internet. Laws related matters to sludge treatment plant and sludge product was arranged.

3 . Trouble investigations

The result of trouble investigations were arranged according to the outbreak places and the generating factors and is shown in Fig-2.

Methane generated many of causes from sludge within piping or the storage tanks, and the accidents form which this gas blows off at a stretch were a large number. Moreover, in a generating part, there were many accidents in the incinerators and the drying furnaces.

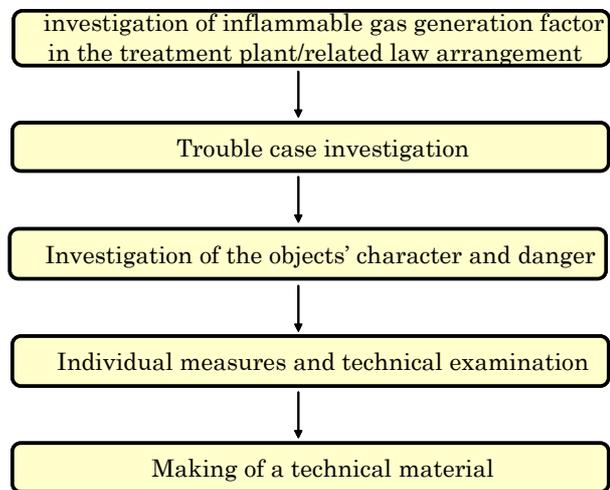


Fig. - 1 Research flow

(Future plan)

- We'll questionnaire about the same trouble example of the sludge treatment facilities to the local governments, also investigate the already taken safety measures and make it reflected in technical report.
- We'll arrange risk influence degrees and risk outbreak frequencies from findings of the trouble examples. Then we'll examine priority degree to carry out these measures.
- We'll investigate about exothermal properties and danger in each from of sludge.
- We'll be going to arrange the safety measures of these real accident examples and to compile the technical report.

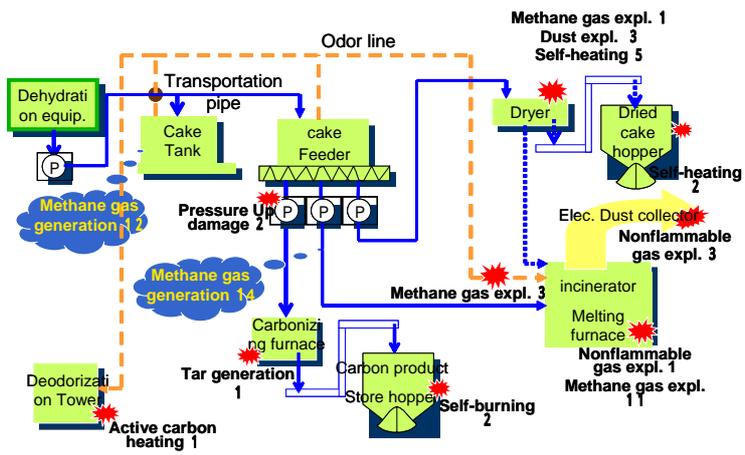


Fig. - 2 The result of trouble investigation

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key words

sludge , inflammable , gas , safety measure , risk