

APPENDIX A

Adverse Effects of the Incinerator

Michelle Allsopp, Pat Costner and Paul Johnston (1999) mentioned adverse effects of the incinerator. They are many scientists explore the adverse effects of the incinerator. They mentioned numerous chemicals are emitted to the atmosphere and environment through the stack gases, the important source. They give an important chemical emission below.

-Dioxins and Furan

Extensive research has demonstrated that dioxins can cause a diverse array of toxic effects. They have become widespread contaminants throughout the globe and are present in the body tissues of human beings across the whole globe.

-Other organic compounds

The unknown chemicals that are emitted from incinerator stack are not known toxicity and the potential health effects they could cause.

- Heavy metals

Heavy metals, including lead and cadmium, are emitted in stack gases from incinerators. Many heavy metals are persistent and exert a wide range of adverse impacts on health.

-Particulate Matter

Incinerators of all types emit particular matter into the atmosphere. The majority of this particulate matter is ultrafine in size ($< 0.1 \mu\text{m}$). Current air pollution control devices on incinerator only prevent 5 to 30% of the respirable sized particles ($< 2.5 \mu\text{m}$) and do very little to prevent ultrafine. In addition, recent evidence suggests that particles containing heavy metals.

A broad range of health effects has been associated with living near to incinerator as well as with working at site. They claimed in their report that there are many adverse impacts listing below.

-Cancer

Soft tissue sarcoma and Non-hodgin's lymphoma, Lung cancer, Cancer of the larynx, Liver cancer, Childhood cancer and other cancer.

- Respiratory effects
- Sex ratio
- Congenial Abnormalities
- Multiple pregnancy
- Hormonal effects

As described above, there is controversial in health effects through emitting stack gases. In addition, the local people usually do not want the incinerator because of health impact and disamenity. Besides concerning on health, local people feel unhappy when government build incinerator near their house. They usually feel decreasing in their amenity of environment that come from particle and smell. More vicinity of incinerator, more feel unhappy. Moreover, this issue continued to be concerned in Thailand after the establishment of Phuket incinerator, the largest operational incinerator in Thailand.