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Chemosphere

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PCDD/F environmental impact from municipal solid waste bio-drying plant

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ARTICLE INFO

Article history:

Received 15 December 2010

Received in revised form 26 March 2011

Accepted 1 April 2011

Available online 7 May 2011

Keywords:

PCDD/F

Emission factor

Bio-drying

Exposure pathways

Deposition

ABSTRACT

The present work identifies some environmental and health impacts of a municipal solid waste bio-drying plant taking into account the PCDD/F release into the atmosphere, its concentration at ground level and its deposition. Four scenarios are presented for the process air treatment and management: bio-filter or regenerative thermal oxidation treatment, at two different heights. A Gaussian dispersion model, AERMOD, was used in order to model the dispersion and deposition of the PCDD/F emissions into the atmosphere. Considerations on health risk, from different exposure pathways are presented using an original approach. The case of biofilter at ground level resulted the most critical, depending on the low dispersion of the pollutants. Suggestions on technical solutions for the optimization of the impact are presented.

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