

040309a**Other - Sinter plants for special materials***Process description*

Ore concentrates containing non-ferrous metals have predominantly high sulphur contents. These are processed in sintering installations and/or roasting kilns, if required with the addition of other fine-grained materials containing non-ferrous metals (e.g. sludges containing non-ferrous metals with the greater proportions of additives such as lime, sand etc., which serve as slag formers, as well as projectile retention sands which serve as substitutes, lead sulphate sludges). There are also installations in which residual materials are sintered. In general, the sintering process is similar to that applied in iron ore sinter plants (see 03 03 01 for details)

Abatement technologies:

At the known plants of the type considered here no special abatement measures for dioxins and furans are installed. Flue gas cleaning operated at these plants devices comprise wet scrubbers, cyclones and fabric filters, resp.

Plant data/European situation

According to information taken from the national inventories 3 installations are known to exist that may be called „special sinter plants“. These are the facilities for phosphate production and for artificial gravel located in NL and the sinter plant for recycling materials in Germany. Actually, the latter is part of the iron and steel industry but also sells the sinter material to the non-ferrous metal industry. According to operator's information no further plant of this type exist in Western Europe. The installations are small compared to iron ore sintering plants having flue gas flows of about 100.000-200.000 m³/h.

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No information could be obtained if there are other plants like those being operated in the Netherlands.

Activity data

Activity data for these special plants were not available.

Emission factors

Only two countries (Germany and The Netherlands) provided emission factors for sinter plants for special materials (shown in 040309a—Table 1). These factors all had been gained by measurements which showed a broad range of flue gas concentrations probably depending on operation conditions and the applied furnace charge at this kind of industrial plant.

Due to the few values no default emission factors were derived.

Emission estimation

As no activity data were available no emission estimation was carried out.

Conclusions/recommendations

As other sinter plants installations for special materials may be of significant relevance for the total emission of PCDD/F in Europe. However, the few available measurement data and the lack of any activity rates make it impossible to assess the annual dioxin emissions by this type of plant.

For a reliable emission estimation a general overview is required on the number of sinter plants for special materials, their activity data and their distribution among the 17 considered states. After that, emission measurements should be carried out at plants suspected for high dioxin emissions or at plants with no obtainable data.

European Dioxin Inventory - Results

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	Flue gas conc. [ng I-TEQ/m ³]			Emission factors [µg/t]			Annual emission typ	Remark
	typ	min	max	typ	min	max		
D	46		70.0	338.0			115.0	recycling installation for iron bearing residual materials
NL		0.12	1.8					concerns prod. of artificial gravel and phosphates; annual emission included in emission reported for iron ore sintering (030301)

040309a—Table 1 PCDD/F air emission factors for sinter plants (special materials) from national dioxin inventories

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References to 040309a

see national inventories for further information