

Title (en)

PROCESS FOR THE POLLUTION-FREE DESTRUCTION OF POLYCHLORINATED WASTE PRODUCTS

Publication

**EP 0282880 B1 19900912 (DE)**

Application

**EP 88103654 A 19880309**

Priority

DE 3708310 A 19870314

Abstract (en)

[origin: EP0282880A2] 1. A process for the pollution-free destruction of polychlorinated waste materials such as dibenzodioxines (PCDD), polychlorinated dibenzofuranes (PCDF) and polychlorinated biphenyls (PCB), characterized in that these substances or combustible residual materials contaminated with said substances are subjected to combustion together with waste sulfuric acids, acid tars and similar sulfur- and carbon-containing waste products of different composition and consistency in a multistage combustion furnace, wherein a) in a first stage, the mixture, optionally in combination with elemental sulfur, is fed onto a coke bed in a rotary furnace at a temperature of at least 400 degrees C and an amount of air equal to about 25 to 55% of the total amount of air required for the whole process is introduced as primary air, so that the resultant reducing mixture and the rear portion of the coke bed are heated to about 800 degrees C to 1100 degrees C, whereby any excess coke if formed is discharged at the end of the rotary furnace ; b) in a second stage, the gas mixture in an intermediate chamber is admixed with about 10 to 15% of the amount of air required for the whole process, while a space velocity per hour of about 200 to 400 Nm<sup>3</sup> of gas/m<sup>3</sup> of combustion space is maintained and the temperature of the gas mixture increases to about 1150 degrees C to 1350 degrees C ; c) in a third stage, the gas is fed into the forward combustion space of a secondary combustion chamber and mixed with another 20 to 45% of the amount of air required for the whole process, while a space velocity per hour of about 50 to 180 Nm<sup>3</sup> of gas/m<sup>3</sup> of combustion space is maintained and the gas mixture is being cooled to about 1000 degrees C to 1200 degrees C ; and d) in a fourth stage, the remaining portion of the total air required in the overall process is fed into about the center portion of the secondary combustion chamber and mixed with the separation gas so that in the rear part of the secondary combustion chamber a temperature of about 1000 degrees C to 1200 degrees C is obtained and a space velocity per hour of about 150 to 400 Nm<sup>3</sup> of gas per m<sup>3</sup> of combustion space is maintained, whereupon, after completion of the reaction, the resulting gas mixture is cooled in a waste heat boiler and is reprocessed, preferably by way of a sulfuric acid contact process to form sulfuric acid.

IPC 1-7

**C01B 17/58**; **C01B 17/92**; **F23G 7/00**

IPC 8 full level

**A62D 3/38** (2007.01); **C01B 17/58** (2006.01); **C01B 17/92** (2006.01); **F23G 7/00** (2006.01); **A62D 101/22** (2007.01); **A62D 101/28** (2007.01)

CPC (source: EP)

**A62D 3/38** (2013.01); **F23G 7/00** (2013.01); **A62D 2101/22** (2013.01); **A62D 2101/28** (2013.01)

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI NL SE

DOCDB simple family (publication)

**EP 0282880 A2 19880921**; **EP 0282880 A3 19890412**; **EP 0282880 B1 19900912**; AT E56523 T1 19900915; DE 3708310 C1 19880721; DE 3860576 D1 19901018

DOCDB simple family (application)

**EP 88103654 A 19880309**; AT 88103654 T 19880309; DE 3708310 A 19870314; DE 3860576 T 19880309