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(54) **METHOD OF DECARBONATING A COMBUSTION FUME WITH EXTRACTION OF THE SOLVENT CONTAINED IN THE PURIFIED FUME**

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(58) **Field of Classification Search** 423/210, 423/220, 226, 228, 235, 242.1, 242.2, 242.4, 423/243.01, 243.08, 246

See application file for complete search history.

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(57) **ABSTRACT**

The combustion fume flowing in through line 1 is decarbonated by contacting with a solvent in column C2. The solvent laden with carbon dioxide is regenerated in zone R. The purified fume discharged through line 9 comprises part of the solvent. The method allows to extract the solvent contained in the purified fume. The purified fume is contacted in zone ZA with a non-aqueous ionic liquid of general formula Q⁺A⁻; Q⁺ designates an ammonium, phosphonium and/or sulfonium cation, and A⁻ an anion likely to form a liquid salt. The solvent-depleted purified fume is discharged through line 17. The solvent-laden ionic liquid is regenerated by heating in evaporation device DE. The solvent separated from the ionic liquid in device DE is recycled.

15 Claims, 1 Drawing Sheet

