

PROCESS AND APPARATUS FOR RECOVERING SULPHUR FROM A GAS STREAM  
CONTAINING HYDROGEN SULPHIDE

ABSTRACT

5 A method and apparatus for removing sulphur from a gas  
stream containing at least one sulphur compound,  
comprising combusting said gas stream with an oxygen  
containing gas in an incinerator to convert the or each  
10 sulphur compound to at least one sulphur oxide. A gas  
stream is then withdrawn from the incinerator, which  
contains the or each sulphur oxide. The sulphur oxide  
containing gas stream is then directed to an absorber  
having an absorbent bed adapted to remove sulphur  
15 compounds. The absorbent bed is then contacted with a  
hydrogen and/or hydrocarbon containing stream to  
regenerate said absorbent bed by reducing the sulphur  
compounds absorbed in said absorbent bed to hydrogen  
sulphide and/or sulphur dioxide, and thereby forming an  
20 off gas stream containing hydrogen sulphide and/or  
sulphur dioxide. Finally, sulphur is recovered from said  
hydrogen sulphide and/or sulphur dioxide bearing stream.  
The sulphur can be recovered by a Claus sulphur recovery  
process. The hydrogen sulphide containing gas stream can  
be an ammonia acid gas stream, thereby causing  $N_2$  to be  
formed in the incinerator. The  $N_2$  is not absorbed in the  
absorbent bed.

[Figure 4 is suggested for publication]

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