

AIRP ★ Q75 84-113989/19 ★ AU 8318-971-A  
 Sepn. of off-gas from synthetic fuel prodn. for oil recovery -  
 processes into sulphur-contg. carbon dioxide and sulphur-free  
 light fuel

AIR PRODUCTS & CHEM INC 16.09.82-US-418517

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 F25j-05

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The off-gas is sepd. by: (i) drying the pressurised off-gas; (ii) contacting in an absorption column (I) with methanol, to dissolve S-contg. gases; (iii) cooling the overhead stream from (I) and sepg. into a S-free light fuel gas for export and a stream of largely CO<sub>2</sub>; (iv) expanding the stream of largely CO<sub>2</sub> to provide the cooling for step (iii); (v) stripping the S-contg. methanol from the bottom of (I) in a stripper column with the expanded CO<sub>2</sub> stream from step (iv), giving a S-contg. CO<sub>2</sub> for export, and methanol for reuse in sepn.

Used for treating off-gases derived from a synthetic fuel prodn. process, oil shale retorting, coal gasification, O<sub>2</sub> fireflooding or enhanced oil recovery by CO<sub>2</sub> miscible flood. Total energy requirement is low (e.g. about 11,000 BTU/lb mole of feed gas) because of autorefrigeration and because methanol is regenerated by CO<sub>2</sub> from the off-gas. Capital cost is low. (32pp Dwg.No.0/2)

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