

92-218022/27

D15 E35 H09 J01 (E36)

FARH 90.12.22

D(4-A1A, 4-B7C) E(11 Q2, 31 F4, 32 A2, 32 B1)
H(9-F2) J(1-A2A, 1-D)

HOECHST AG

*DE 4041569-A

90.12.22 90DE-4041569 (92.06.25) C02F 1:04

Processing aq. solns. contg. hydrogen sulphide, hydrogen cyanide and ammonia - by stripping in two stages, removing hydrogen sulphide and hydrogen cyanide from acid soln. and ammonia from alkaline soln.

C92-098708

Acid Data: MAUELER I, FISCHER R D, GERHARDUS U, LEDER U,
PACOSZYK E, SCHNEIDER P, BRUNEL W

In processing aq. solns. contg. H_2S , HCN and NH_3 by stripping with inert gaseous media at raised temp., (a) immediately after their formation, the aq. solns. are brought to pH not above 3, and H_2S and HCN are removed in a 1st stripping column and (b) the pH is raised to at least 10, and NH_3 is sep'd. in a 2nd stripping column.

Pref. the pH is lowered with H_2SO_4 to HNO_3 , and raised with NaOH, CaO or $Ca(OH)_2$. Stripping in both stages is with air or steam, at 60-150 (80-120) $^{\circ}C$ and 0.02-0.5 (0.05-0.12) MPa. The 1st column has 1-30 (6-12), and the 2nd column 5-50 (6-20) theoretical plates. The head product from the 1st and/or 2nd column may be condensed and recycled to the same column. The sep'd. streams contg. H_2S

HCN and NH_3 are burned catalytically.

USE/ADVANTAGE

The aq. phase obtd. can be fed directly to a conventional purificn. plant or into the drains. The concn. of HCN in the aq. phase does not increase, as with known processes. The aq. solns. esp. arise as waste water in dry distn. of coal or in gasification of fossil fuels, e.g., coal or petroleum. (DwgNo0/2).