

OXIDATION OF NO TO NO₂ IN PRESENCE OF SO₂

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In course of experimental research for abatement of acid gas as HCl, SO₂ and NO_x, carried out in an installed pilot plant, an interesting and promising way for oxidation of NO to NO₂ has been observed during dry abatement experiment, using NaHCO₃ powder as reagent. This oxidation seems to occur using SO₂ contemporary with NaHCO₃, which is used for dry abatement process and in particular on layer of Na₂CO₃ powder present on the bags of filter; Na₂CO₃ is due to decomposition of bicarbonate at working temperature of about 170 C. Mechanism of such oxidation is not clear and it will be further investigated. Figure1 shows the influence of molar ratio between SO₂ and NO on conversion (efficiency) of NO to NO₂. Analyses for determining conversion were carried out on the bag filter inlet pipe and on the outlet pipe of bag filter. Inlet concentration of NO was 200 ppm. Concentration of SO₂ after filtration was practically 0 ppm. Investigations on process for obtaining simultaneously dry abatement of NO₂ and oxidation of NO to NO₂ are actually in progress. Research is financially supported by TM.E.

