ON ORGANIC SULPHUR FROM THE METALLURGIC GASES

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One of the most wide-spread pollutants of the waste gases from many enterprises is sulphur dioxide, yields of which into atmosphere cause a great damage to the economy of the country of increase of sick rate, reduction of productivity of the agricultural lands to corrosion of metals and etc.

A great quantity of sulphur dioxide goes out into atmosphere with the waste gases of the enterprises of nonferrous metallurgy. In the paper obtaining sulphur from the waste gases of processing sulphide polymetallic oves, reduction of alunite and oth. is discussed. Obtaining sulphur from a sulphur dioxide is based on reactions its reduction by the various reductants (C, CH₄, CO, CO+H₂ and oth.) using the thermic and catalytic methods. The low-temperature catalytic method with use of gasiform reductants, i.e. methane and the products of its conversion is considered to be the most perspective orientation.

In connection with the above-mentioned, we have studied the catalytic reduction of sulphur dioxide by methane and converted gas. For this purpose, systematic investigations and searches of the effective catalysts for conducting process of obtaining sulphur from the sulphurous gas of different concentration (-10-40%) are carried out.

A high catalytic activity in respect to the reactions of sulphur dioxide reduction by methane and converted gas correspondingly to nickel a cobalt catalysts is shown. It is established that the process of reduction on the mentioned catalyst in motionless and boiling lavers proceeds with high yield of sulphur (70-90%) after the reactor of the first stage at relatively low temperature (250-450 °C) and under high rates of the gas mixture (300-2000 h⁻¹).

It is shown that to achieve the maximum yield of sulfur, carrying out the process in two stages including one stage of the CLAUS PROCESS (at 200-250 °C) is advisable.