

Sulfur Removal from Bio-gas

H₂S can be removed from gas through various technologies depending on the application, process conditions and removal requirement. One of them is Liquid Redox in which H₂S is absorbed in and oxidized to sulfur in an aqueous using a catalyst (most commonly chelated iron). In the process, there is no loss of catalyst except for minor degradation, which has to be made up. The end product is sulfur and water. The sulfur particle produced in the process is typically 2 – 8 microns and a purity of more than 99 % is achieved. Sulfur for its good vulcanizing property is used in the rubber manufacture. The industrial grade of sulfur finds applications in paper and pulp, mining, steel, and oil refining. Sulfur is formulated for use as nutrients, soil amendments and pesticides. It can also be used in fungicide formulation and finds major application in pharmaceutical industries. This is also employed in sugar industries, petroleum refining and explosives.

IISc uses a modified redox process with chelated polyvalent metal ion and a stabilizing agent. The process is less expensive compared to Claus process for applications with 600 Nm³/hour gas flow with 7.5% H₂S that corresponds to 1.5 tpd of sulfur. At 3 % hydrogen sulphide concentration the total operating cost is around Rs. 0.75 - 95/kWh. See <https://bit.ly/3dgINSo> for details.

AEPL is a licensee of the process and can supply the equipment as required to suit client's requirement in modular form. Depending on the input gas quality and the output requirement, the process parameters and the equipment sizing will be done by AEPL with back up from IISc, who stand guarantee for the process performance. AEPL will do the connected engineering for installation in client's premises within the allocated space including interconnecting piping, electrical supply cum control arrangement. The equipment is can be supplied by AEPL on a turn-key basis. AEPL/IISc representative would be available for supervision and final testing and commissioning if so requested by the client.

AEPL request client to write to them for such requirement.