



*catalysts*

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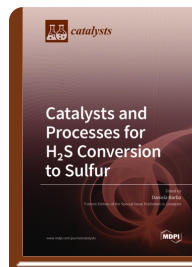
*Special Issue Reprint*

## **Catalysts and Processes for H<sub>2</sub>S Conversion to Sulfur**

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Today, more stringent regulations on SO<sub>x</sub> emissions and growing environmental concerns have led to considerable attention on sulfur recovery from hydrogen sulfide (H<sub>2</sub>S). Hydrogen sulfide is commonly found in raw natural gas and biogas, even if a great amount is obtained through sweetening of sour natural gas and hydrodesulphurization of light hydrocarbons. It is highly toxic, extremely corrosive and flammable, and for these reasons, its elimination is necessary prior to emission in atmosphere. There are different technologies for the removal of H<sub>2</sub>S, the drawbacks of which are the high costs and limited H<sub>2</sub>S conversion efficiency. The main focus of this Special Issue will be on catalytic oxidation processes, but the issue is devoted to the development of catalysts able to maximize H<sub>2</sub>S conversion to sulfur minimizing SO<sub>2</sub> formation, pursuing the goal of “zero SO<sub>2</sub> emission”.

This Special Issue is particularly devoted to the preparation of novel powdered/structured supported catalysts and their physical–chemical characterization, the study of the aspects concerning stability and reusability, as well as the phenomena that could underlie the deactivation of the catalyst.

This Special Issue comprises seven articles, one communication, and one review regarding the desulfurization of sour gases and fuel oil, as well as the synthesis of novel adsorbents and catalysts for H<sub>2</sub>S abatement. In the following, a brief description of the papers included in this issue is provided to serve as an outline to encourage further reading.



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