Cryochemical Development of Desulfurization Catalyst

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**INTRODUCTION**

- Cryochemical technology involves a well-balanced application of cold and heat.
- Cold helps in preventing any undesirable changes in the intermediate and final products to control their properties.
- Hydrodesulfurization (HDS) is used to remove sulfur from natural gas and petroleum products by reaction of hydrogen with sulfur compounds to produce hydrogen sulphide (H₂S) in the presence of Cobalt molybdenum alumina and nickel molybdenum alumina catalysts.

**OBJECTIVE**

- To compare the performance of HDS catalyst prepared by chemical and cryochemical methods.

**CATALYST PREPARATION**

**Chemical Route**
- Mixing of salt solution with ammonia solution
- Precipitation of salt solution
- Filtration by vacuum filter
- Drying of precipitate
- Calcination of dried precipitate
- Controlled mixing of cryogranules with ammonia solution

**Cryochemical Route**
- Dropwise addition of salt solution in LN₂

**RESULTS**

**CONCLUSION**

- Cryocatalysts show promise in their application to enhance the catalytic activity compared to the conventional catalysts prepared by chemical technique.

**SELECTED REFERENCES**


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