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Scope for Future Work

The scope for future work can be given for further studies in the area of carbon monoxide oxidation in context of the novel catalyst used in this study:

1. CO oxidation, especially at low temperature, is an important matter in industrial, environmental and domestic sectors of society. The CuMnOx catalyst has shown the best activity for CO oxidation at lower temperatures.
2. The characterization techniques might also allow catalysts to be tailored to possess a desired level of crystallinity by identifying the heat treatment necessary for active phases to form. Further doping experiments, possibly extending the silver doping work presenting here or including catalytic quantities of precious metals might hold the key. The start-up activity of this system will continue to be interesting if the commercial species is to be improved upon.
3. This novel catalyst need also be studied for its commercial applications in respiratory protection in mining, fire fighting, aircraft, space labs, closed room burning activities, the military and in industrial emission control.
4. CuMnOx is not water tolerant for CO oxidation at ambient temperatures. However, supported gold catalysts have been reported as highly active for CO oxidation in the presence of moisture. The addition of gold in the catalyst should be studied for improvement of moisture stability of the catalyst.
5. The best formulated 3%AgCuMn₈Ox/60% γ -Al₂O₃ catalyst need to be tested for cold start vehicular pollution control utilising the model given in the thesis.