# Article information:

Effect of the precipitation pH on the characteristics and performance of Co3O4 catalysts in the total oxidation of toluene and propane - ScienceDirect
<https://webvpn.swu.edu.cn/https/537775736869676568616f78756565212aae45f5669e8284c2452c5617bff55d0637181960/science/article/pii/S0926337320309814>

# Article summary:

1. Precipitation pH affects the composition of cobalt oxide precursors and their catalytic performance.

2. Co-9.5 catalyst with smallest crystalline size, largest surface area, most defective structure, and best reducibility was obtained by controlling the precipitation pH at 9.5.

3. Residual sodium at the surface of the Co3O4 catalyst had a marked poisoning effect on the catalytic performance, evidencing the importance of washing procedure upon catalyst preparation.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Effect of the precipitation pH on the characteristics and performance of Co3O4 catalysts in the total oxidation of toluene and propane” is an informative piece that provides a detailed overview of how different precipitation pH values can affect the composition and performance of cobalt oxide precursors in VOCs oxidation. The article is well-written and provides a comprehensive review of relevant literature as well as clear explanations for each step taken in its experiments. The authors also provide evidence for their claims through data analysis and comparison between different samples tested under various conditions.

The article does not appear to be biased or one-sided in its reporting, as it presents both sides equally without any promotional content or partiality towards any particular point of view. It also does not appear to have any unsupported claims or missing points of consideration, as all claims are backed up by evidence from experiments conducted by the authors themselves or from other sources cited throughout the article. Furthermore, possible risks associated with using these catalysts are noted throughout, such as residual sodium having a detrimental effect on propane oxidation activity.

In conclusion, this article appears to be reliable and trustworthy due to its comprehensive coverage of relevant literature and thorough explanation for each step taken in its experiments.

# Topics for further research:

* Cobalt oxide catalysts
* VOCs oxidation
* Precipitation pH effects
* Toluene oxidation
* Propane oxidation
* Sodium residual effects

# Report location:

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