VOCat™ 360 PFC

Oxidation catalyst for halogenated hydrocarbons

VOCat 360 PFC catalyst provides high activity, excellent selectivity and outstanding stability required for oxidizing halogenated hydrocarbons.

Chlorinated and fluorinated hydrocarbons are emitted from a wide variety of industrial processes, as well as many soil remediation and ground water clean-up operations. BASF’s VOCat 350 HC catalyst has been used successfully for many years to destroy chlorinated hydrocarbons. BASF has now developed VOCat 360 PFC catalyst to destroy both fluorinated and chlorinated VOC compounds. Unlike many other catalysts, VOCat 360 PFC provides high activity, excellent selectivity and outstanding stability required for oxidizing fluorinated and chlorinated hydrocarbons.

Activity

The activity of VOCat 360 PFC is much higher than platinum and transition metal-based catalysts. This activity is exhibited over a wide range of chlorinated and fluorinated hydrocarbons, and especially when both are present in the same process stream. This makes VOCat 360 PFC ideal for most halogenated VOC process streams.

Selectivity

When controlling the emissions of VOC’s it is also critical for complete oxidation to prevent the formation of secondary products. VOCat 360 PFC catalyst is very selective over a wide range of chlorinated and fluorinated hydrocarbon species. VOCat 360 PFC catalyst will form primarily CO₂, HCl and HF. The formation of HCl is preferred over Cl₂ because it is easy to scrub, and HF and HCl have a minimal effect on catalyst life.

Typical Process Applications

VOCat 360 PFC is ideally suited for a wide variety of applications, including:

- Chemical processes
- Soil remediation
- Groundwater treatment

Typical Operation Specs

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>45°C to 510°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Geometry</td>
<td>100 to 400 cpsi</td>
</tr>
<tr>
<td>Performance</td>
<td>Up to 99+%</td>
</tr>
</tbody>
</table>

Oxidation of Fluorohydrocarbons with VOCat 360 PFC

![Graph showing conversion vs. temperature for Freon 12 and Freon 113 with VOCat 360 PFC catalyst.]
About Us

BASF’s Catalysts division is the world’s leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF’s Catalysts division develops unique, proprietary solutions that drive customer success.

Visit www.catalysts.basf.com/patents for a list of our product patents.

BASF Corporation
Catalysts Headquarters
25 Middlesex/Essex Turnpike
Iselin, New Jersey, 08830, USA
Tel: +1-732-205-6078
Email: sandra.king@basf.com

Asia Pacific
BASF (China) Co., Ltd.
239 Luqiao Road, Jinqiao, Pudong, Shanghai 201206, China
Tel: +86-21-6109 1862
Email: daniel.a.zhu@basf.com

Europe
BASF SE
CCN/SE – MA-R64-2
67056 Ludwigshafen, Germany
Tel: +49 621 60-59742
Mobile: +49 1522 9859329
Email: adrian.crosman@basf.com

VOCat is a trademark of BASF.

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required. © 2019 BASF