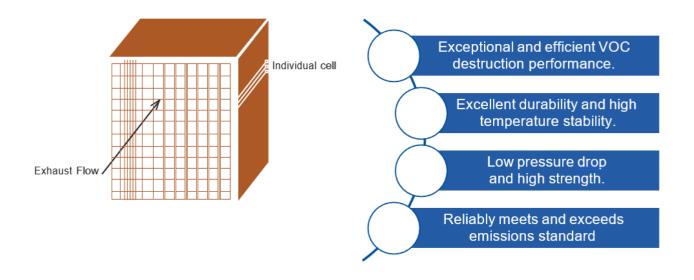


# **VOC Abatement Catalysts**

## BASF VOCat<sup>™</sup> ceramic honeycomb VOC catalyst technologies

Product Name	VOCat <sup>™</sup> 300 Series	VOCat™ 310 ST	VOCat™ 350 HC	VOCat™ 360 PFC
Product Use	Standard oxidation	Sulfur-tolerant Standard oxidation	Chlorinated VOC (dioxin) oxidation	Fluorinated VOC (freon) oxidation
Substrate	Ceramic honeycomb	Ceramic honeycomb	Ceramic honeycomb	Ceramic honeycomb
Typical cpsi	230	230	230	230
Typical space velocity (vhsv)	20,000 - 60,000	20,000 - 60,000	7,500	5,000
Typical design conversions (%)	90 - 99	90 – 97	99	99
Washable	Yes	Yes	No	No
Max. use temperature (°F)	1,200	900	932	932
Max. exposure temperature (°F)	1,475	932	950	950
Max. operating temperature (°F)	700 – 1,000	700 – 900	900	900
Max. use temperature (°C)	649	480	500	500
Max. exposure temperature (°C)	800	500	510	510
Max. operating temperature (°C)	370 – 538	370 – 480	480	480
Max. surfer tolerance (ppmv S)	50	500	10	10
Max. chloride tolerance (ppmv Cl2)	1,000	2,500	5,000	5,000
Max. conversion of chloride to Cl <sub>2</sub> (%)	6	6	2	2
Max. fluoride tolerance (ppmv F <sub>2</sub> )	25	25	500	500



#### **Destination BASF**

At BASF, we understand that our customers must not only comply with environmental standards, but also must keep their operations in service, readily and cost effectively. To successfully meet this challenge, BASF offers years of experience in developing innovative solutions that deliver proven results.

Thousands of our high performance, low maintenance catalysts are in use around the world, helping industrial leaders reduce pollutants such as carbon monoxide (CO) and volatile organic compounds (VOC).

At BASF, we are committed to providing our customers with cost-effective solutions to the most complex emissions control problems. We are constantly developing new technologies to meet ever more stringent emission requirements.

### **Controlling VOC**

BASF catalysts help control VOC and hydrocarbons (HC) by converting them into carbon dioxide and water. Running at lower operating costs than many other comparable technologies, BASF catalysts are also efficient and durable. They are available on ceramic and metallic honeycomb substrates.

For standard applications, BASF offers these VOC catalysts:

- VOCat<sup>™</sup> ceramic
- Camet<sup>TM</sup> metallic

For more challenging applications, specialty catalysts include:

- VOCat<sup>TM</sup> PTA Purified Terephthalic Acid
- VOCat<sup>TM</sup> Type III Naphthalene-based Phthalic Anhydride

#### Solutions You Need - Expertise You Can Trust - Reliability You Require!

## **BASF VOCat™ PTA applications**

Product Name - Catalyst	VOCat™ 450 Series	VOCat™ 200 Series	VOCat™ 800 Series
Catalytic ingredients	Precious metal	Base metal	Precious metal
Product use	PTA	PTA	PTA
Substrate	Ceramic honeycomb	Ceramic honeycomb	Ceramic honeycomb
Typical cpsi	400	400	400
Typical design conversion (%)	95 – 99	95 – 99	95 – 99
Recommended minimum catalyst outlet temperature °C (°F)	325 – 350 (617 – 662)	374 – 400 (705 – 752	375 – 425 (707 – 797)

### **Benefits**

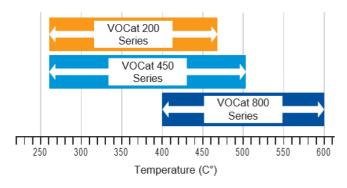
Designed to achieve greater than 98% CO/VOC conversions over broad temperature range.

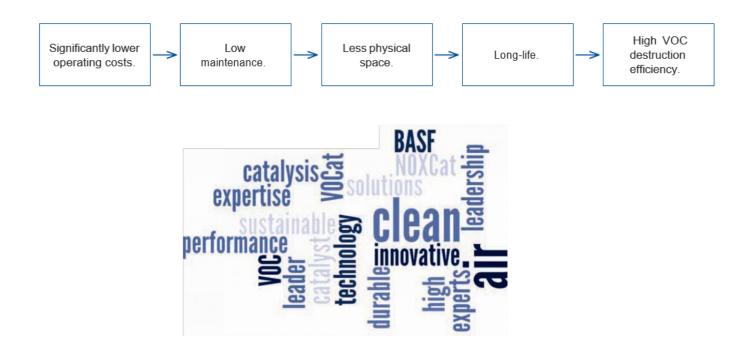
Low temperature applications down to 325°C (617°F).

High temperature applications of 600°C (1,112°F) and more.

Low maintenance and long life.

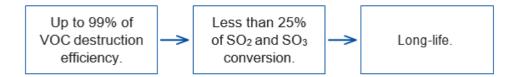
Optimum use of base and precious metal catalysts for most cost-effective solution.

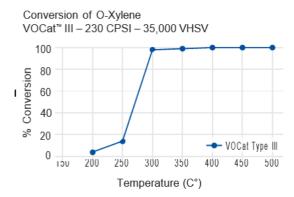




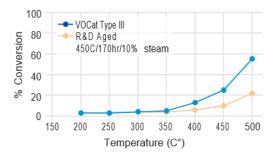
## **BASF VOCat™ PA applications**

Product Name - Catalyst	VOCat™ 300S	VOCat™ Type III
Catalytic ingredients	Ceramic	Ceramic
Product Use	Xylene-based PA production	Naphthalene- based PA production
Substrate	Ceramic honeycomb	Ceramic honeycomb
Typical cpsi	230	230
Typical space velocity (vhsv)	20,000 - 60,000	20,000 - 60,000
Typical design conversion (%)	90 – 99	90 - 99
Max. use temperature °C (°F)	649 (1,200)	500 (932)
Max. exposure temperature °C (°F)	800 (1,475)	800 (1,475)
Typical operating temperature °C (°F)	370 – 538 (700 – 1,000)	350 – 480 (800 – 900)
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Minimal SO₂ to SO₃ Conversion SO<sub>x</sub> VOCat<sup>™</sup> Type III – 230 CPSI – 35,000 VHSV



## **BASF** Camet<sup>™</sup> metallic VOC catalyst technologies

Product Name - Catalyst	Camet™
Catalytic ingredients	Platinum group metals
Product Use	Oxidation application
Substrate	Metallic - foil
Typical cpsi	45 – 320
Typical space velocity (vhsv)	20,000 - 60,000
Typical design conversion (%)	90 - 99
Washable	Yes
Max. use temperature °C (°F)	510 (950)
Max. exposure temperature °C (°F)	550 (1,022)
Typical operating temperature °C (°F)	260 - 510 (500 - 950)
Min. inlet temperature °C (°F)	260 (500)
Max. sulfur tolerance (ppmv S)	50
Max. chloride tolerance (ppmv Cl <sub>2</sub> )	10
Max. fluoride tolerance (ppmv F <sub>2</sub> )	10

#### **Benefits**

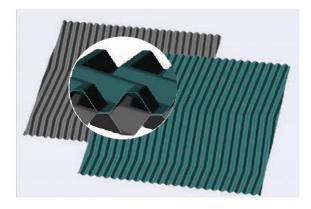
Proven corrugation patterns for stable and stronger stacking for catalytic abatement applications.

Herringbone and skew corrugation patterns provide efficiency with minimal pressure drop.

Angled channels that create turbulence and a tortuous gas path that promotes mixing.

Wider cell opening to minimize blocking.

Contact points between foil layers – prevents nesting of catalyst.



## **D • BASF**

We create chemistry

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#### About us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The division 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.

#### **BASF – We create chemistry**

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BF-10243 Rev. 12/2022

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