

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UMICORE AG & CO. KG

Petitioner

v.

BASF CORPORATION

Patent Owner

Cases IPR2015-01121, -1125

U.S. Patent 7,601,662

Cases IPR2015-01123, -1124

U.S. Patent 8,404,203

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PETITIONER'S ORAL ARGUMENT DEMONSTRATIVE EXHIBITS

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# Grounds at Issue

## **IPR2015-01121 ('662 patent)**

1. Claims 1–8 and 30 obvious over Zones and Maeshima
2. Claims 12–24 and 32–50 obvious over Zones, Maeshima, and Patco

## **IPR2015-01125 ('662 patent)**

1. Claims 1, 2, 5, 6, and 30 obvious over Maeshima and Breck
2. Claims 12–24 and 32–38 obvious over Maeshima, Breck, and Patco
3. Claims 1, 2, 5, 6, and 30 obvious over Dedecek and Breck
4. Claims 12–24 and 32–38 obvious over Dedecek, Breck, and Patch

## **IPR2015-01123 ('203 patent)**

1. Claims 1, 14, 15, 17–22, 26, and 27 obvious over Zones and Maeshima
2. Claims 2–13, 16, 23–25, and 28–31 obvious over Zones, Maeshima, and Breck

## **IPR2015-01124 ('203 patent)**

1. Claims 1, 14, 15, 19, 20, 26, and 27 obvious over Maeshima and Breck
2. Claims 2–13, 16, 23–25, and 28–31 obvious over Maeshima, Breck, and Patco
3. Claims 1, 14, 15, 19, 20, 26, and 27 obvious over Dedecek and Breck
4. Claims 2, 13, 16, 23, 25, and 28–31 obvious over Dedecek, Breck, and Patch

## '662 Patent – Claim 1

1. A catalyst comprising: an aluminosilicate having the CHA crystal structure and a mole ratio of silica to alumina from about 15 to about 150 and an atomic ratio of copper to aluminum from about 0.25 to about 0.5, the catalyst effective to promote the reaction of ammonia and nitrogen oxides to form nitrogen and H<sub>2</sub>O selectively.

IPR2018-01001

## '203 Patent – Claim 26

**26.** A process for the reduction of oxides contained in a gas stream in the presence of a reductant wherein said process comprises adding a reductant to a gas stream and contacting the gas stream containing the reductant with a catalyst comprising a zeolite having a CHA crystal structure and a mole ratio of silica to aluminum from about 15 to about 150 and an atomic ratio of silicon to aluminum from about 0.25 to about 1.

IPR2015

## Prior Art as of 2007

**“Both synthetic and natural zeolites and their use in promoting reactions, including the selective reduction of nitrogen oxides with ammonia in the presence of oxygen are well known in the art.”**

(IPR2014-01001)  
662 F.3d 1311 (CA-11, 2014)

**Q. Now, in 2007, zeolites with the CHA crystal structure were already known. Is that true?**

**A. Zeolites with a CHA crystal structure were known.**

(IPR2014-01001)  
Tsapatsis Deposition

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