

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UMICORE AG & CO. KG,
Petitioner,

v.

BASF CORPORATION,
Patent Owner.

Case IPR2015-01125
Patent 7,601,662

Before CHRISTOPHER L. CRUMBLEY, JO-ANNE M. KOKOSKI, and
JEFFREY W. ABRAHAM, *Administrative Patent Judges*.

ABRAHAM, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Umicore AG & Co. KG (“Petitioner”) filed a Petition seeking *inter partes* review of claims 1–24, 30, and 32–50 of U.S. Patent No. 7,601,662 B2 (Ex. 1101, “the ’662 patent”), as amended by *Ex parte* Reexamination Certificate No. US 7,601,662 C1 (“Reexam. Cert.”). Paper 1 (“Pet.”). BASF Corporation (“Patent Owner”) filed a Patent Owner preliminary response to the Petition. Paper 7 (“Prelim. Resp.”). Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we institute an *inter partes* review of claims 1, 2, 5, 6, 12–24, 30, and 32–38 as discussed below.

Our findings of fact and conclusions of law are based on the record developed thus far, prior to the Patent Owner’s Response. This is not a final decision as to the patentability of any challenged claim. Any final decision will be based on the full record developed during trial.

II. BACKGROUND

A. *Related Proceedings*

Petitioner identifies pending *inter partes* review petition No. IPR2015-01121, also pertaining to the ’662 patent. Pet. 1. In addition to IPR2015-01121, Patent Owner identifies pending *inter partes* review petition Nos. IPR2015-01123 and IPR2015-01124, pertaining to U.S. Patent No. 8,404,203 B2, which issued from a divisional of the application that issued as the ’662 patent. Paper 6, 2.

B. The '662 Patent

The '662 patent, titled “Copper CHA Zeolite Catalysts,” originally issued on October 13, 2009, with an *ex parte* reexamination certificate issuing on June 7, 2013. The '662 patent discloses catalysts that comprise zeolites having a CHA crystal structure, which may be part of an exhaust gas treatment system. Ex. 1101, 1:55–61. Several embodiments described in the '662 patent depict a catalyst comprising a zeolite having the CHA crystal structure, a specific mole ratio of silica to alumina (e.g., greater than about 15), and a specific atomic ratio of copper to aluminum (e.g., greater than about 0.25). *Id.* at 4:24–29. The '662 patent teaches that the catalyst compositions can be disposed on a substrate, which usually comprises a honeycomb structure. *Id.* at 6:55–59.

The '662 patent explains that

As is known in the art, to reduce the emissions of nitrogen oxides from flue and exhaust gases, ammonia is added to the gaseous stream containing the nitrogen oxides and the gaseous stream is then contacted with a suitable catalyst at elevated temperatures in order to catalyze the reduction of nitrogen oxides with ammonia.

...

Metal-promoted zeolites have been used to promote the reaction of ammonia with nitrogen oxides to form nitrogen and H₂O selectively over the competing reaction of oxygen and ammonia. The catalyzed reaction of ammonia and nitrogen oxides is therefore sometimes referred to as the selective catalytic reduction (“SCR”) of nitrogen oxides or, as sometimes herein, simply as the “SCR process”.

Id. at 8:14–19 and 38–44.

According to the Specification, the CuCHA zeolite catalysts disclosed therein “yield improved activity in the selective catalytic reduction of NO_x

with ammonia.” *Id.* at 5:4–6. Additionally, the CuCHA zeolite catalysts of the ’662 patent are said to have increased hydrothermal stability (i.e., greater stability when subjected to thermal aging) as compared to other Cu-zeolite catalysts. *Id.* at 5:1–16, 5:49–52.

C. Illustrative Claim

Petitioner challenges claims 1–24, 30, and 32–50 of the ’662 patent. Claim 1 is the only independent claim challenged, and is reproduced below:

1. A catalyst comprising:

an aluminosilicate zeolite 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 1, the catalyst effective to promote the reaction of ammonia with nitrogen oxides to form nitrogen and H₂O selectively.

Ex. 1101, Reexam. Cert. 1:56–2:3 (annotations and emphasis omitted).

D. References

Petitioner relies on the following references:

Maeshima et al., US 4,046,888, issued September 6, 1977 (“Maeshima,” Ex. 1102).

Breck, deceased et al., US 4,503,023, issued March 5, 1985 (“Breck,” Ex. 1103).

Patchett et al., US 2006/0039843 A1, published February 23, 2006 (“Patchett,” Ex. 1105).

Dedecek, et al., *Siting of the Cu⁺ ions in dehydrated ion exchanged synthetic and natural chabasites: a Cu⁺ photoluminescence study*, 32 MICROPOROUS AND MESOPOROUS MATERIALS 63, (1999) (“Dedecek,” Ex. 1107).

E. The Asserted Grounds

Petitioner asserts the following grounds of unpatentability:

References	Statutory Basis	Claims Challenged
Maeshima and Breck	§ 103	1–11 and 30
Maeshima, Breck, and Patchett	§ 103	12–24 and 32–50
Dedecek and Breck	§ 103	1–11 and 30
Dedecek, Breck, and Patchett	§ 103	12–24 and 32–50

Petitioner also relies on declarations from Dr. Johannes A. Lercher (Ex. 1108) and Dr. Frank-Walter Schütze (Ex. 1115).

III. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1276–79 (Fed. Cir. 2015). We determine that no express claim construction is required for purposes of this decision.¹

B. References

1. Maeshima

Maeshima “relates to a method for selectively reducing nitrogen oxides contained in exhaust gases from stationary sources, such as flue gas

¹ We note that the parties agree that zeolites having the CHA crystal structure are also known as “chabazite.” Pet. 5; Prelim. Resp. 13.

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.