

Title (en)

CATALYST FOR THE CATALYTIC SYNTHESIS OF UREA

Title (de)

KATALYSATOREN FÜR DIE KATALYTISCHE SYNTHESE VON HARNSTOFF

Title (fr)

CATALYSEURS POUR LA SYNTHÈSE CATALYTIQUE DE L'URÉE

Publication

EP 3962890 A1 20220309 (DE)

Application

EP 20722301 A 20200427

Priority

- DE 102019111060 A 20190429
- EP 2020061615 W 20200427

Abstract (en)

[origin: WO202221691A1] The invention relates to the use of a ruthenium-phosphine complex as a catalyst for the catalytic synthesis of urea, including the conversion of formamide or formamide with ammonia in the presence of the catalyst, thereby forming urea and hydrogen. By using the ruthenium-phosphine complex as a catalyst, a catalytic production of urea from formamide or from formamide with ammonia is provided for the first time, thus allowing a synthesis under mild conditions and with virtually no formation of byproducts.

IPC 8 full level

C07C 273/02 (2006.01); **C07F 15/00** (2006.01)

CPC (source: EP US)

B01J 31/24 (2013.01 - US); **C07C 273/02** (2013.01 - EP US); **C07F 15/0046** (2013.01 - EP); **C07C 2531/24** (2013.01 - US)

Citation (search report)

See references of WO 2020221691A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102019111060 A1 20201029; CN 113748102 A 20211203; EP 3962890 A1 20220309; JP 2022530783 A 20220701; US 2022219156 A1 20220714; WO 2020221691 A1 20201105

DOCDB simple family (application)

DE 102019111060 A 20190429; CN 202080032075 A 20200427; EP 2020061615 W 20200427; EP 20722301 A 20200427; JP 2021564156 A 20200427; US 202017607756 A 20200427