

Title (en)
PROCESS FOR PRODUCING ISOPRENOL

Title (de)
VERFAHREN ZUR HERSTELLUNG VON ISOPRENOL

Title (fr)
PROCÉDÉ DE PRODUCTION D'ISOPRÉNOL

Publication
EP 3847147 A1 20210714 (EN)

Application
EP 19774066 A 20190905

Priority
• EP 18192765 A 20180905
• EP 2019073723 W 20190905

Abstract (en)
[origin: WO2020049111A1] A process for producing isoprenol, comprising: mixing and injecting a formaldehyde source and isobutylene into a reactor through a plurality of nozzles operated in parallel and reacting the formaldehyde source and isobutylene under supercritical conditions; wherein the reactor comprises a vertically disposed vessel, a sidewall, an upper portion and a lower portion; and wherein the formaldehyde source and isobutylene are injected into a mixing chamber of the reactor disposed in the upper portion and a fluid comprising formaldehyde and/or isobutylene and/or isoprenol is passed from the mixing chamber into a post-reaction chamber disposed in the lower portion; and providing draft tubes arranged essentially concentrically underneath each of the nozzles in the mixing chamber, the draft tubes providing downcomer conduits within the draft tubes and a riser conduit outside of the draft tubes, so that the formaldehyde source and isobutylene injected through the nozzles travel generally downward in the downcomer conduits, a fluid comprising formaldehyde and/or isobutylene and/or isoprenol is then diverted in a generally upward direction in the riser conduit, and the fluid is back-mixed with the injected formaldehyde source and isobutylene. The process allows for isoprenol to be obtained with high selectivity and in high yields. The invention also relates to a reactor comprising: a vertically disposed vessel, a sidewall, an upper portion and a lower portion, a perforated plate separating a mixing chamber of the reactor disposed in the upper portion and a post-reaction chamber disposed in the lower portion; a plurality of nozzles for injecting a fluid into the mixing chamber in an essentially downward direction; draft tubes arranged essentially concentrically underneath each of the nozzles in the mixing chamber, the draft tubes providing downcomer conduits within the draft tubes and a riser conduit outside of the draft tubes, so that the fluid injected through the nozzles travels generally downward in the downcomer conduits, a reacted fluid is then diverted in a generally upward direction in the riser conduit, and the fluid is back-mixed with the injected fluid; and a fluid outlet in the post-reaction chamber.

IPC 8 full level
C07C 29/38 (2006.01); **B01J 19/26** (2006.01); **C07C 33/025** (2006.01)

CPC (source: EP)
B01J 3/008 (2013.01); **B01J 4/002** (2013.01); **B01J 19/26** (2013.01); **C07C 29/38** (2013.01); **Y02P 20/54** (2015.11)

C-Set (source: EP)
C07C 29/38 + **C07C 33/025**

Citation (search report)
See references of WO 2020049111A1

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)
WO 2020049111 A1 20200312; CN 112638850 A 20210409; EP 3847147 A1 20210714

DOCDB simple family (application)
EP 2019073723 W 20190905; CN 201980057003 A 20190905; EP 19774066 A 20190905