

PRODUCTION OF MIXTURES OF DIISOCYANATES AND
POLYISOCYANATES FROM THE DIPHENYLMETHANE SERIES WITH
HIGH CONTENTS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND
2,4'-METHYLENEDIPHENYL DIISOCYANATE

ABSTRACT OF THE DISCLOSURE

A fraction of diisocyanates of the diphenylmethane series containing at least 95 wt.% binuclear methylenediphenyl diisocyanate is obtained by

- a) reacting aniline and formaldehyde in the presence of an acid catalyst to produce diamines and polyamines of the diphenylmethane series containing binuclear methylenediphenyl diamine,
- b) phosgenating the diamines and polyamines produced in a), optionally in the presence of a solvent, to produce a crude diisocyanate and polyisocyanate, and
- c) separating a fraction containing at least 95 wt.% binuclear methylenediphenyl diisocyanate with a 4,4'-MDI content of over 60 wt.%, a 2,4'-MDI content of 4 to 35 wt.% and a 2,2'-MDI content of 0.01 to 10 wt.%, relative to the mass of the fraction, and a maximum of 20 ppm phenyl isocyanate and optionally a maximum of 50 ppm solvent from the crude diisocyanate and polyisocyanate produced in b) in a single distillation step with optional upstream and/or downstream separation of low-boiling components.