

PROCESS FOR PRODUCTION OF HEXAMETHYLENEDIAMINE FROM 5 – HYDROXYMETHYLFURFURAL

ABSTRACT

Processes are disclosed for the conversion of a carbohydrate source to hexamethylenediamine (HMDA) and to intermediates useful for the production of hexamethylenediamine and other industrial chemicals. HMDA is produced by direct reduction of a furfural substrate to 1,6-hexanediol in the presence of hydrogen and a heterogeneous reduction catalyst comprising Pt or by indirect reduction of a furfural substrate to 1,6-hexanediol wherein 1,2,6-hexanetriol is produced by reduction of the furfural substrate in the presence of hydrogen and a catalyst comprising Pt and 1,2,6-hexanediol is then converted by hydro genation in the presence of a catalyst comprising Pt to 1,6 hexanediol, each process then proceeding to the production of HMDA by known routes, such as amination of the 1,6 hexanediol. Catalysts useful for the direct and indirect production of 1,6- hexanediol are also disclosed.

No suitable figure