

Title (en)
ENZYMATIC PREPARATION OF N-(PHOSPHONOMETHYL)GLYCINE.

Title (de)
ENZYMATISCHE HERSTELLUNG VON N-(PHOSPHONOMETHYL)GLYCIN.

Title (fr)
PREPARATION ENZYMATIQUE DE N-(PHOSPHONOMETHYL)GLYCINE.

Publication
EP 0611398 A1 19940824 (EN)

Application
EP 92924227 A 19921103

Priority
• US 9209419 W 19921103
• US 78864091 A 19911106
• US 78864891 A 19911106
• US 78868391 A 19911106

Abstract (en)
[origin: EP0541333A1] The invention provides a process for the production of N-(phosphonomethyl)glycine, also known as glyphosate. The process comprises hydrogenating a mixture of glyoxylic acid and aminomethylphosphonic acid, the mixture having been enzymatically prepared in situ by the reaction of glycolic acid and oxygen in an aqueous solution containing aminomethylphosphonic acid and the enzymes glycolate oxidase and catalase.

Abstract (fr)
L'invention concerne un procédé de production de mélanges d'acide glyoxylique et d'acide aminométhyl phosphonique ainsi que la production ultérieure de N-(phosphonométhyl)glycine, également connu sous le nom de glyphosate. Le procédé comprend la préparation in situ d'un mélange d'acide glyoxylique et d'acide aminométhylphosphonique (AAMP) par réaction enzymatique d'acide glycolique et d'oxygène dans une solution aqueuse en présence d'acide aminométhylphosphonique et de catalyseurs consistant en une glycolate oxydase et une catalase. Le mélange obtenu est ensuite hydrogéné pour produire N-(phosphonométhyl)glycine, un agent phytotoxique et herbicide de post-émergence.

IPC 1-7
C12P 7/40; **C12P 13/04**; **C07F 9/38**

IPC 8 full level
C07C 51/373 (2006.01); **C07C 59/153** (2006.01); **C07F 9/38** (2006.01); **C12N 9/02** (2006.01); **C12P 7/40** (2006.01); **C12P 7/42** (2006.01); **C12P 13/00** (2006.01); **C12P 13/04** (2006.01)

CPC (source: EP)
C07C 51/373 (2013.01); **C07F 9/3813** (2013.01); **C12P 7/40** (2013.01); **C12P 7/42** (2013.01); **C12P 13/04** (2013.01)

Citation (search report)
See references of WO 9309242A1

Designated contracting state (EPC)
BE DE ES FR GB IE IT NL

DOCDB simple family (publication)
EP 0541333 A1 19930512; AU 3061692 A 19930607; AU 3061792 A 19930607; AU 658956 B2 19950504; AU 673146 B2 19961031; BR 9206882 A 19950613; BR 9206884 A 19950711; CA 2123079 A1 19930513; CA 2123079 C 20050125; CA 2123081 A1 19930513; CA 2123081 C 20030225; CN 1073481 A 19930623; CN 1073482 A 19930623; CZ 111394 A3 19941215; CZ 111494 A3 19941215; DE 69210771 D1 19960620; DE 69210771 T2 19961212; EP 0545553 A1 19930609; EP 0545553 B1 19960515; EP 0611398 A1 19940824; EP 0611399 A1 19940824; ES 2087460 T3 19960716; HU 9401416 D0 19940829; HU 9401419 D0 19940829; HU T71271 A 19951128; HU T71955 A 19960228; ID 1002 B 19961010; IL 103645 A0 19930404; IL 103645 A 19961031; IL 103646 A0 19930404; IL 103646 A 19961016; JP 3315119 B2 20020819; JP H07501940 A 19950302; JP H07504084 A 19950511; MX 9206362 A 19930601; MX 9206363 A 19940228; MY 130099 A 20070629; NZ 245011 A 19950526; NZ 245012 A 19950526; WO 9309242 A1 19930513; WO 9309243 A1 19930513

DOCDB simple family (application)
EP 92310064 A 19921103; AU 3061692 A 19921103; AU 3061792 A 19921103; BR 9206882 A 19921103; BR 9206884 A 19921103; CA 2123079 A 19921103; CA 2123081 A 19921103; CN 92114382 A 19921106; CN 92114383 A 19921106; CZ 111394 A 19921103; CZ 111494 A 19921103; DE 69210771 T 19921103; EP 92310063 A 19921103; EP 92924227 A 19921103; EP 92924228 A 19921103; ES 92310063 T 19921103; HU 9401416 A 19921103; HU 9401419 A 19921103; ID 924974 A 19921106; IL 10364592 A 19921105; IL 10364692 A 19921105; JP 50866893 A 19921103; JP 50866992 A 19921103; MX 9206362 A 19921105; MX 9206363 A 19921105; MY PI9202001 A 19921104; NZ 24501192 A 19921104; NZ 24501292 A 19921104; US 9209419 W 19921103; US 9209420 W 19921103