

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



G00002

(43) International Publication Date
6 June 2002 (06.06.2002)

PCT

(10) International Publication Number
WO 02/043653 A3

(51) International Patent Classification⁷: C07H 5/04, 5/06,
C08B 37/00, A01N 43/04, A61K 31/70

(21) International Application Number: PCT/IN01/00211

(22) International Filing Date: 3 December 2001 (03.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

1087/MUM/2000	1 December 2000 (01.12.2000)	IN
1088/MUM/2000	1 December 2000 (01.12.2000)	IN
394/MUM/2001	26 April 2001 (26.04.2001)	IN

(71) Applicant (for all designated States except US):
NICHOLAS PIRAMAL INDIA LIMITED [IN/IN],
100, Centrepont, Dr Ambedkar Road, Parel, 400012
Mumbai (IN)

(71) Applicants and

(72) Inventors: **MUKHOPADHYAY, Triptikumar** [IN/IN],
Quest Institute of LifeSciences, Nicholas Piramal India
Limited, Hoechst Marion Roussel Compound, Lal Bahadur
Shastri Marg, Mulund (W) (IN) **BHAT, Ravi, Gajanan**
[IN/IN], Quest Institute of LifeSciences, Nicholas Piramal
India Limited, Hoechst Marion Roussel Compound, Lal
Bahadur Shastri Marg (IN). **SREEKUMAR, E, S** [IN/IN],
Quest Institute of LifeSciences, Nicholas Piramal India
Limited, Hoechst Marion Roussel Compound, Lal Bahadur
Shastri Marg, Mulund (W), Mumbai (IN)

(74) Agent: **BAL-TEMBE, Swati**, Quest Institute of Life-
Sciences, Nicholas Piramal India Limited, Hoechst Marion
Roussel Compound, Lal Bahadur Shastri Marg, Mulund
(W), Mumbai (IN)

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,
ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG)

Published:

- with international search report
- with amended claims and statement

(88) Date of publication of the international search report:
3 January 2003

Date of publication of the amended claims and statement:
22 May 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette

(54) Title: CRYSTALLINE GLUCOSAMINE SULPHATE METAL SALTS

(57) Abstract: The present invention relates to novel crystalline glucosamine sulphate metal salts for use in the treatment of acute and chronic forms of rheumatic and arthritic diseases and of all the pathological conditions originating from metabolic disorders of the osteo-articular tissues. More particularly, the present invention relates to novel crystalline glucosamine sulphate metal salts having low metal content wherein the metal may be either sodium or potassium. The present invention further relates to a solution-based and a solvent-free process for the preparation of the novel crystalline glucosamine sulphate metal salts having low metal content and to pharmaceutical compositions comprising the novel crystalline glucosamine sulphate metal salts having low metal content

WO 02/043653 A3