

Title (en)
BULK FREEZING OF BIOPHARMACEUTICALS

Title (de)
MASSENEINFRIERUNG VON BIOPHARMAZEUTIKA

Title (fr)
CONGÉLATION EN VRAC DE PRODUITS BIOPHARMACEUTIQUES

Publication
EP 2691719 A2 20140205 (EN)

Application
EP 12763982 A 20120327

Priority
• US 201161468463 P 20110328
• US 2012030738 W 20120327

Abstract (en)
[origin: WO2012135216A2] A system and method for bulk freezing is provided. In one embodiment, the system and method for bulk freezing includes a bulk freezing container adapted to hold at least one and preferably a plurality of bags holding a biopharmaceutical liquid. The bulk freezing container includes at least a first and second shelf having corrugations w herein the second shelf is vertically arranged above the first shelf with the bags disposed between the shelves. The bags and the corrugations of the first and second shelves define a plurality of substantially parallel flow channels through which a cryogenic cold fluid or a warming fluid is passed to freeze and/or thaw the biopharmaceutical fluid. In another embodiment, the bulk freezing system and method includes a bulk freezing container with a plurality of adjacent elongated chambers adapted for holding the biopharmaceutical fluid. The adjacent elongated chambers have side walls defining a plurality of substantially parallel flow channels between the plurality of adjacent elongated chambers through which a heat transfer medium is passed for heat exchange through the side walls of the elongated chambers to the fluid within the elongated chambers.

IPC 8 full level
A01N 1/02 (2006.01); **A23L 3/36** (2006.01); **F26B 5/06** (2006.01)

CPC (source: EP US)
A01N 1/0252 (2013.01 - EP US); **A23L 3/364** (2013.01 - EP US); **F25D 3/10** (2013.01 - US); **F25D 15/00** (2013.01 - EP US); **F25D 17/06** (2013.01 - EP US); **F25D 2400/38** (2013.01 - EP US)

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 2012135216 A2 20121004; **WO 2012135216 A3 20140501**; CN 104081142 A 20141001; CN 104081142 B 20170301; EP 2691719 A2 20140205; EP 2691719 A4 20150527; US 2014047851 A1 20140220

DOCDB simple family (application)
US 2012030738 W 20120327; CN 201280025766 A 20120327; EP 12763982 A 20120327; US 201214008455 A 20120327