

Title (en)  
SUPERCOOLING APPARATUS AND ITS METHOD

Title (de)  
UNTERKÜHLUNGSVORRICHTUNG UND VERFAHREN DAFÜR

Title (fr)  
APPAREIL DE SURFUSION ET PROCÉDÉ ASSOCIÉ

Publication  
**EP 2003993 A4 20100602 (EN)**

Application  
**EP 06798934 A 20060927**

Priority

- KR 2006003851 W 20060927
- KR 20060014692 A 20060215
- KR 20060061695 A 20060701
- KR 20060061696 A 20060701
- KR 20060061698 A 20060701

Abstract (en)  
[origin: WO2007094541A1] The present invention discloses an apparatus and method for supercooling which can stably maintain the contents in a supercooled state for an extended period of time by controlling energy. The apparatus for supercooling includes a means for taking energy from the contents, and a means for causing at least one of rotation, vibration and translation to water molecules of the contents, by supplying energy smaller than the taken energy. The contents are maintained in a liquid state below a phase transition temperature.

IPC 8 full level  
**A23L 3/36** (2006.01); **A23L 3/32** (2006.01); **F25D 11/00** (2006.01); **F25D 23/12** (2006.01)

CPC (source: EP US)  
**A23L 3/36** (2013.01 - EP US); **F25D 23/12** (2013.01 - EP US); **F25D 29/00** (2013.01 - EP US); **F25D 2600/06** (2013.01 - EP US); **F25D 2700/02** (2013.01 - EP US); **F25D 2700/12** (2013.01 - EP US); **F25D 2700/16** (2013.01 - EP US)

Citation (search report)

- [X] US 2003068414 A1 20030410 - ITO AKINORI [JP]
- [X] JP 2002364968 A 20021218 - EKOTEKKUSU KK, et al
- [X] JP 2001086967 A 20010403 - AIRTECH JAPAN LTD, et al
- [X] JP 2003088347 A 20030325 - ABI KK
- See references of WO 2007094541A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2007094541 A1 20070823**; AU 2006338352 A1 20070823; BR PI0621353 A2 20111206; EP 2003993 A1 20081224; EP 2003993 A4 20100602; US 2009064689 A1 20090312

DOCDB simple family (application)  
**KR 2006003851 W 20060927**; AU 2006338352 A 20060927; BR PI0621353 A 20060927; EP 06798934 A 20060927; US 27951208 A 20081008