Acros Organics BV (Thermo Fisher Scientific)
Janssen Pharmaceuticalaan 3a
Geel,
2440, Belgium

CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek. Certificate Number. 2317548

Catalogue Number	41121
Lot Number	A0479081
Description	Heparin sodium
CAS Number	9041-08-1
Quality Test/Release Date	07/Jan/2026
Suggested retest date	07/Jan/2031
Country of Origin	BRAZIL
Declaration of Origin	porcine
BSE/TSE	from porcine intestinal mucosa

Result Name	Units	Specifications	Test Value
Appearance (Color)		White to almost white	Almost white
Appearance (Form)		Powder	Powder
Appearance of solution		(500mg in 10ml water) Clear colorless to	(500mg in 10ml water) Clear colorless to
Appearance of solution		faint yellow	faint yellow
Infrared spectrum		Conforms	Conforms
Assay	IU/mg	>=180 (dried substance)	195.1 (dried substance)
Loss on drying	%	=<8.0 (1 g, 60°C, 3 h) (P_2O_5)	3.4 (1 g, 60°C, 3 h) (P_2O_5)
pH		5.5 to 8.0 (0.1g in 10ml water)	7.2 (0.1g in 10ml water)
Protein	%	=<0.5 (dried substance)	=<0.5 (dried substance)
UV		(40mg in 10ml water) Nucleotidic impurities	(40mg in 10ml water) Nucleotidic impurities
UV		at 260 nm A: =<0.15	at 260 nm A:0.051
NMR (1H-NMR)		Chondroitin sulfate (over-sulfated): Absent	Chondroitin sulfate (over-sulfated): Absent



Geert Torfs
Supervisor, QC

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.