



ANALYTICAL LABORATORIES IN ANAHEIM, INC.

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Mid-West Nutrition Inc.
925 W. 6th St.
Fremont, NE 68025
Tel: 402-721-7347

Attn:
Receive Date: 10/28/2016
Report Date: 11/14/2016

Job#: 91160 Sample: Chondroitin Sulfate 90% Porcine
Lot#: CS20161017

Analysis	Result (as is)	Result (dry base)
Chondroitin disaccharide Δ di-4S sodium salt	48.3%	
Chondroitin disaccharide Δ di-6S sodium salt	17.6%	
Chondroitin disaccharide Δ di-0S sodium salt	8.72%	
Total Chondroitin disaccharide	74.6%	82.4%
(Equivalent to USP Chondroitin Sulfate Reference Standard)		
Chondroitin Sulfate A	56.8%	
Chondroitin Sulfate C	20.7%	
Nonsulfate chondroitin	10.2%	
Total Chondroitins (Enzymatic HPLC)	87.7%	96.9%
Loss on Dry	9.51%	

Method: ALC150A (Enzymatic-HPLC):

Chondroitin disaccharide di-0S sodium salt, Sigma C3920 010M1203

Chondroitin disaccharide di-4S sodium salt, Sigma C4045 010M1206

Chondroitin disaccharide di-6S sodium salt, Sigma C4170 098K1122

USP Reference Standard: cat# 1133570, lot# R039A0

Dry condition: 105 C for 4 hours.

Chemist:

11/18/2016

Director, David Ji:

11/14/2016

MID-WESTNUTRITION

925 W 6th St Fremont NE 68025
Phone: 402-991-6876 Fax: 415-329-1920

Product Name	Chondroitin Sulfate (Porcine)
Batch Number	CS20161017
MFG. Date	Oct. 17, 2016
EXP. Date	Oct. 16, 2018
Country of Origin	China

Items of Analysis	Specification	Results
Assay by CPC (dry basis)	≥ 90%	96.15%
Assay by CPC (as is)	Report (as is)	87.10%
Assay by EHPLC (dry basis)	≥ 90%	94.18%
Assay by EHPLC (as is)	Report (as is)	85.31%
Loss on drying	≤ 10%	9.41%
Description	White to off-white powder	Complied
Particle Size	Pass 80 mesh	80 mesh
Limit of Protein	≤ 6.0%	2.25%
Heavy Metals	≤ 10 µg/g	Complied
pH	5.5 – 7.5	6.7
Specific Rotation	-20.0° – -30.0°	-27.21°
Residue on Ignition	20.0% – 30.0%	25.62%
Chloride	≤ 0.5%	Complied
Sulfate	≤ 0.24%	Complied
Total Bacterial Count	≤ 1,000 cfu/g	170 cfu/g

Conclusion: This batch of product meets USP39 standard.

ANALYST: GAO PING

CHECKER: LI JIE