



## Certificate of Analysis

### Ivermectin USP

**Catalog Number:** IV1001  
**Lot Number:** 0529803  
**CAS Number:** 70288-86-7  
**Synonym(s):** 22,23-Dihydroavermectin B1, MK-933  
**Molecular Formula:** C<sub>48</sub>H<sub>74</sub>O<sub>14</sub> (B1a); C<sub>47</sub>H<sub>72</sub>O<sub>14</sub> (B1b)  
**Molecular Weight:** 875.10  
**Storage:** 2°C – 8°C  
**Date of Manufacture:** March 10, 2018  
**Retest Date:** March 9, 2021

Test	Specification	Result
Appearance	White crystalline powder	Conforms
Assay	B1a ≥ 90.0% (B1a+B1b) ≥ 95.0%	93.2% 95.0%
Identification IR HPLC	To match standard Retention times of B1a& B1b peaks conform to standard	Conforms Conforms
Specific Rotation	-17° to -20°	-18.4°
Moisture	≤ 1.0%	0.42%
Residue on Ignition	≤ 0.1%	Conforms
Heavy Metals	≤ 20ppm	< 20ppm
Limit of Alcohol	≤ 5.0%	3.8%
Limit of Formamide	≤ 3.0%	2.8%
Related substances		
Sum of impurities at RRT 1.3 – 1.4	≤ 2.5%	1.9%
Impurities at RRT 0.7 (8a-oxo-B1a)	≤ 1.0%	0.6%
Impurities at RRT 0.5 (Avermectin B1a)	≤ 0.7%	0.6%
Largest individual of all other impurities	≤ 0.5%	0.4%
Total unidentified impurities	≤ 1.0%	0.9%
Total areas besides the two main peaks	≤ 4.0%	2.9%

Approved by:

Date: May 30, 2018

John Grubb, PhD  
Gojira Fine Chemicals, LLC  
Quality Manager  
Tel: 440-539-7033 Fax: 888-211-5523  
[john@gojirafc.com](mailto:john@gojirafc.com)