CERTIFICATE OF ANALYSIS

Product Description POLYOXYETHYLENESORBITAN MONOLAURATE, NF GRADE

TWEEN® 20

Product Number P720

Lot Number 12L0720015

Storage Temperature Room Temperature

Molecular Weight 1227.5 Formula $C_{58}H_{114}O_{26}$ CAS Number 9005-64-5

Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS	
Solubility	Miscible with Water @ 1 mL/L	Passes	
pH (Neat)	7.8 - 9.3	9.1	
Physical Appearance			
Color*	2146-60 to 2150-60, 2023-60 to	2023-60 Light Yellow	
	2027-60, or 2024-40 to 2024-50		
Texture	Clear, Viscous Liquid	Clear, Viscous Liquid	
Insolubles	None	Passes	

^{*} Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color PreviewTM).

Biological Testing:

Test concentration: 1.0 mL/L

TEST SPECIFICATION	PLANT CELL LINE	RESULTS
This product is commonly used as a surfactant. It is tested with two or more plant cell lines to	Tobacco callus	Passes
ensure there are no phytotoxic impurities that would cause morphological aberrations to plants.	Cape Primrose	Passes

The material described in this certificate is synthetic. No animal- or plant-derived components were used in the manufacture of this product.

Phyto Technology Laboratories® provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. Phyto Technology Laboratories® shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.

Recommended Shelf Life Date: November 2020

Gary Seckinger, Ph.D.

PhytoTechnology Laboratories®

Mailing Address: P.O. Box 12205, Shawnee Mission, KS 66282-2205 Phone: 1-888-749-8682 (1-913-341-5343 *Outside the USA & Canada*) Fax: 1-888-449-8682 (1-913-341-5442 *Outside the USA & Canada*)

Visit our Web Site at http://www.phytotechlab.com

