CERTIFICATE OF ANALYSIS

Product Description   POLYOXYETHYLENESORBITAN MONOLAURATE, NF GRADE
TWEEN® 20
Product Number   P720
Lot Number   10F0720012
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)	7.82 – 9.32	8.72
Physical Appearance		
Color*	2146-60 to 2150-60, 2023-60 to 2027-60, or 2024-40 to 2024-50	2150-50 Light Yellow
Texture	Clear, Viscous Liquid	Clear, Viscous Liquid
Insolubles	None	Passes

* Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color Preview™).

Biological Testing:

Test concentration: 1.0 mL/L

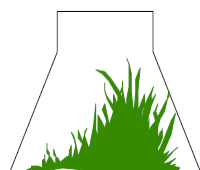| TEST SPECIFICATION	PLANT CELL LINE	RESULTS
This product is commonly used as a surfactant. It is tested with two or more plant cell lines to ensure there are no phytotoxic impurities that would cause morphological aberrations to plants.	Tobacco callus	Passes
	Hosta	Passes

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

PhytoTechnology 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. PhytoTechnology 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: June 2018

Gary Seckinger

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