

CERTIFICATE OF ANALYSIS

Product Description POLYOXYETHYLENESORBITAN MONOOLEATE; TWEEN® 80
Product Number P738
Lot Number 00L73802
Storage Temperature Room Temperature
Molecular Weight 1309.63
Formula $C_{64}H_{124}O_{26}$
CAS Number 9005-65-6

Physiochemical Specifications:

| TEST | SPECIFICATION | RESULTS |
|---------------------|-----------------------------|-------------------------|
| Solubility | Miscible with Water | Passes |
| pH (Neat) | Under Development | 5.90 |
| Physical Appearance | | |
| Color* | 2024-50, 2024-60 to 2027-60 | 2024-50 (Jasper Yellow) |
| Texture | Clear, Viscous Liquid | Clear, Viscous Liquid |
| Insolubles | None | Passes |
| Hydroxyl Number | For Information Only | 72.5 |
| Moisture Content | For Information Only | 2.8% |

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

Biological Testing:

| TEST SPECIFICATION | PLANT CELL LINE | RESULTS |
|---|-----------------|---------|
| This product is tested with two or more plant cell lines to ensure there are no phytotoxic impurities that would result in morphological aberrations to plants. | Hosta | Passes |
| | Tobacco callus | Passes |

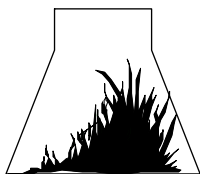
The material described in this certificate is synthetic. No animal- or plant-derived components were used in the manufacture of this product.

PhytoTechnology Laboratories, LLC 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: April 2014



Gary Seckinger, Ph.D.



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Created on 4 December 2003
Revised on 11 May 2009