# Poly Suga®Mulse D6 MB

100% Bio-based Emulsifier | **Mass Balance RSPO**

**INCI NAME** Sorbitan Oleate Decylglucoside Crosspolymer
**CAS NUMBER** 1443994-56-6
**LISTINGS** US (TSCA), EU (REACH Polymer Exempt), Canada (NDSL), Australia (AICS) PLC

9-2222-17-100-00

**Now 100% Natural Carbon Biobased**

**Poly Suga®Mulse D6 MB** is a PEG-free, nonionic emulsifier made from 100% bio-based raw materials. It is mostly hydrophilic, dispersible in water, and soluble in varying degrees in organic liquids. Poly Suga®Mulse D6 MB is used for oil-in-water (O/W) emulsification and dispersion of fragrances and all types of oils. It is compatible with nonionic, cationic and anionic ingredients and is effective in systems with relatively high levels of electrolyte, acid, or base. Poly Suga®Mulse D6 MB may also be used as a primary or co-emulsifier in the formulation of creams and lotions. Poly Suga®Mulse D6 MB is a clear yellow liquid with a mild odor.

## APPLICATIONS

- Deodorants
- Skin care formulations
- Hair care products

## BENEFITS

- 1,4-Dioxane free, PEG-free, and no ethylene oxide
- 100% Biobased Carbon
- Emulsifies a wide range of lipophilic substances, vegetable oils and emollient esters
- Readily dispersible in water
- Minimal impact on color and odor in final formulation
- **Extremely mild** in formulation

## TYPICAL PROPERTIES

| | |
|---|---|
| Appearance, 25°C | Clear Liquid |
| pH (10% aqueous) | 7.0 |
| Solids, % (1g, 2 hrs.) | 62.0 |
| NaCl, % | 4.5 |
| Color, Gardner '98 | 6 |
| HLB | 8 - 10 |

## EYE / SKIN SENSITIVITY

***Eye Irritation***

**HET-CAM** - Hen's Egg Test Chorioallantoic Membrane Test

- Practically no ocular irritation potential in vivo, score of **0.25**

***Acute Skin Irritation***

48 and 72 Hour Occlusive skin patch test on human volunteers - 53 Test Subjects

- 53/53 showed no visible skin reaction (**0**)
- No potential for dermal irritation

## BIODEGRADABILITY

Poly Suga®Mulse D6 MB is readily biodegradable.

## FORMULATING

- Mid-range HLB emulsifier (HLB 8-10)
- Ideal for emulsifying vegetable oils and emollient esters such as Ethylhexyl Palmitate and Isopropyl Myristate
- Homogenization recommended for optimum emulsification
- Additional emulsion stabilizers/structurants may be used for best stability

## FORMULATION *Natural Body Lotion*

| | *INGREDIENT* | % |
|---|---|---|
| A | Water | qs to 100.00 |
| A | Cetyl Hydroxyethylcellulose | 0.25 |
| A | ***Poly Suga®Mulse D6 MB*** | 4.00 |
| A | ***Cola®Fax CPE-K*** | 1.00 |
| A | Glycerin | 2.00 |
| B | Ethylhexyl Palmitate | 3.00 |
| B | Isopropyl Palmitate | 6.00 |
| B | Argan Oil | 3.00 |
| B | Cetyl Alcohol | 4.00 |
| C | Diheptyl Succinate and Capryloyl Glycerin/Sebacic Acid Copolymer | 2.00 |
| C | Preservative | qs |
| C | Fragrance | qs |

***Procedure:***

1. In primary vessel, combine Water and Cetyl Hydroxyethylcellulose. Hydrate according to manufacturer instructions.
2. Add remaining phase A ingredients. Heat to 70°C.
3. In a side vessel, combine phase B ingredients. Heat to 70°C.
4. Once both phases are homogeneous and at temperature, add B to A slowly with good mixing.
5. Slowly cool to 50°C and add phase C ingredients.
6. Homogenize and fill containers.

***Typical Properties:***

| | |
|---|---|
| pH | 6.0 |
| Viscosity | 50,000 cP |

## ADDITIONAL LISTINGS

Poly Suga®Mulse D6 MB contains 97% USDA certified biobased content.

## CERTIFIED MASS BALANCE RSPO

In keeping with Colonial Chemical's commitment to sustainable raw material sourcing, Poly Suga®Mulse D6 MB is derived from palm oil that contributes to the production of certified sustainable palm oil. More information on www.RSPO.org.

Poly Suga®Mulse D6 MB is **"Derived Natural"** with a **Natural Origin Index of 1** in accordance with **ISO 16128** guideline.

## STORAGE / HANDLING

It is recommended that Poly Suga®Mulse D6 MB be stored in sealed containers at temperatures not exceeding 120°F (49°C). Poly Suga®Mulse D6 MB is shipped in 55 gallon poly drums (net weight 450 lb/204 kg). Typical shelf life is 24 months from date of manufacture. Safety Data Sheets may be found at ***www.colonialchem.com***.

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