

# Glycerol Monostearate

White to cream-colored waxy solid

## Product Description

Glycerol monostearate used as an emulsifier in food and cosmetics.

## Certificate of Analysis

HSN Code: 3823.19

CAS Number: 31566-31-1

Classification: Non-Hazardous (Generally recognized as safe)

| Parameter                           | Specification                                                     | Test Method          |
|-------------------------------------|-------------------------------------------------------------------|----------------------|
| Product / Grade                     | Glycerol Monostearate (GMS) — Technical / Food / Cosmetic Grade   | Documentation        |
| Appearance                          | White to off-white waxy flakes or powder                          | Visual               |
| Odor                                | Faint, characteristic fatty odor                                  | Sensory              |
| Assay (Monoglyceride Content)       | "e 90.0 %                                                         | GC / Titrimetric     |
| Acid Value (mg KOH/g)               | "d 3.0                                                            | Titrimetric          |
| Iodine Value (g L/100 g)            | "d 2.0                                                            | Titrimetric          |
| Saponification Value (mg KOH/g)     | 155 – 170                                                         | Titrimetric          |
| Moisture (Loss on drying at 105 °C) | "d 2.0 %                                                          | Oven drying          |
| Free Glycerol                       | "d 1.5 %                                                          | Titrimetric          |
| Hydroxyl Value                      | 280 – 330                                                         | Titrimetric          |
| Melting Point (°C)                  | 58 – 68 °C                                                        | Capillary method     |
| Color (Lovibond / Gardner)          | "d 2.0 (white to pale cream)                                      | Visual / Photometric |
| Residue on Ignition                 | "d 0.1 %                                                          | Gravimetric          |
| Heavy Metals (as Pb)                | "d 10 ppm                                                         | AAS                  |
| Arsenic (As)                        | "d 2 ppm                                                          | ICP-OES              |
| Peroxide Value (meq/kg)             | "d 5.0                                                            | Titrimetric          |
| Density (at 25 °C)                  | 0.97 – 0.99 g/cm³                                                 | Pycnometer           |
| Solubility                          | Insoluble in water; soluble in hot alcohol, chloroform, and ether | Observation          |
| pH (1% dispersion)                  | 5.5 – 7.5                                                         | pH meter             |
| Monoester Content (HPLC)            | "e 90.0 %                                                         | HPLC                 |
| Diester + Triester                  | "d 10.0 %                                                         | HPLC                 |
| Emulsification Test                 | Pass                                                              | In-house             |

## Physical Properties

Appearance: White to off-white waxy solid or flakes; smooth texture and mild fatty odor; free from visible impurities

Odor: Faint, characteristic fatty odor

M o l e c u l a r   F o r m u l a :  $C_{18}H_{36}O_2$

Molecular Weight: 358.56 g/mol

Solubility: Insoluble in water, dispersible when heated; soluble in ethanol, chloroform, and mineral oils

Density: 0.97 – 0.99 g/cm<sup>3</sup> at 25°C

Melting Point: 58 – 68 °C

Packing: 25 kg HDPE woven bags or kraft paper bags with inner liner, 500 kg / 1000 kg jumbo FIBC bags for industrial use

Storage: Store in a cool, dry, well-ventilated area away from direct sunlight and moisture. Keep containers tightly closed. A

## Safety & Handling

PPE: Gloves and goggles

Hazards:

- Non-toxic, non-flammable, and safe under normal handling and storage conditions