

POLYSORBATE 20 (TWEEN 20)

E432 High Purity Solubilizer & Emulsifier

OVERVIEW

Chemical Nature: High-purity, non-ionic surfactant and solubilizer derived from polyethoxylated sorbitan and lauric acid.

Appearance: Clear, golden-yellow liquid. (HLB Value: 16.7)

Primary Application (Solubilizer): High Clarity & Purity. Exceptional capacity for solubilizing essential oils and fragrances into water-based systems (body mists, toners) without cloudiness.

Certifications: 100% Vegetable-based (Coconut/Palm), Kosher & Halal certified.

SPECIFICATIONS

Due to its structural characteristics, Polysorbate 20 exhibits strong hydrophilicity and high stability. It is widely used in food and personal care systems where effective dispersion of flavor oils and stable emulsions are required.

Test Item	Unit	Min	Max
HLB Value	-	16.7	
Saponification Value	mg KOH/g	40	50
Hydroxyl Value	mg KOH/g	96	108
Acid Value	mg KOH/g	-	2
Moisture	%	-	3.0
Ignition Residue	w%	-	0.25
Oxyethylene Content	%	70	74
Lead (Pb)	mg/kg	-	2

MOLECULAR STRUCTURE & MECHANISM

- Hydrophilic Segment:** Sorbitan backbone with approximately 20 ethylene oxide units introduced by ethoxylation.
- Hydrophobic Moiety:** A single lauric acid ester group (C12) attached to the core.
- Mechanism:** Strong Hydrophilicity. The high degree of ethoxylation provides strong hydrophilic properties, enabling efficient Oil-in-Water (O/W) emulsions and acting as an excellent solubilizer for lipophilic substances.

KEY FEATURES

Crystal Clear Solubilizer

The industry standard for dissolving fragrance oils and essential oils into water. It ensures crystal-clear formulations in body sprays and room mists.

Ultra-Mild & Non-Irritating

Low toxicity and gentle on skin/eyes, making it the ideal surfactant for "tear-free" baby shampoos, facial toners, and wet wipes.

Vegetable Origin

Derived entirely from non-GMO corn (sorbitol) and coconut/palm kernel oil (lauric acid). 100% Vegan and PEG-free compliant options available.

Low Foam & Non-Sticky

Provides a light, clean skin feel without the sticky residue common in heavier emulsifiers. Excellent for leave-on products.

APPLICATIONS

- **Fragrance Solubilization:** Disperses essential oils and perfume concentrates into water for transparent body mists, room sprays, and linen waters.
- **Personal Care:** Acts as a mild, non-irritating surfactant and wetting agent in baby shampoos, facial cleansers, and micellar waters.
- **Food & Flavors (E432):** Used as a wetting agent in flavor drops and vitamin supplements to improve dispersibility in water.
- **Pharmaceuticals:** Serves as an excipient to stabilize aqueous formulations of medications.

STORAGE & PACKAGING

Storage: Store in a cool, dry, and well-ventilated area, away from direct sunlight. Keep container tightly sealed to prevent moisture absorption.

Transportation: Transport as a general chemical product.

Package Options:

- 25 Kg / drum
- 200 Kg / drum
- 1000 Kg IBC tote