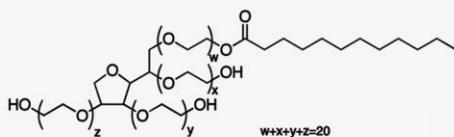


POLYSORBATE 20



PRODUCT IN FOCUS



Polysorbate 20

INTRODUCTION

Polysorbate 20 is a gentle, oily, liquid cosmetic additive that functions as a non-ionic surfactant and wetting agent that enhances the spread-ability of liquids. As a solubilizer, it helps both essential oils and fragrance oils to attach to various types of cosmetic bases, including liquid, cream, and gel bases, and thereby prevents the oils and bases from separating.

Manufacture

It is made by the reaction of sorbitol and polyol with ethylene oxide. The number 20 here represents the number of molecules of ethylene oxide that were reacted.

Synonyms	Sorbitan monolaurate, ethoxylated Polyoxyethylene sorbitan monolaurate
CAS no.	9005-64-5
EINECS no.	500-018-3
Molecular formula	$C_{26}H_{50}O_{10}$
Molecular weight	522.7
Structure	<chem>CCCCCCCCCCCCCCCC(=O)OCC1OC(CO)C(OCC2OCC2)C(OCC3OCC3)C(OCC4OCC4)C1O</chem> <p>$w+x+y+z=20$</p>

Applications

Food: is used as a wetting agent in flavored mouth drops such as Ice Drops, helping to provide a spreading feeling to other ingredients like SD alcohol and mint flavor

Biotechnology:

- ✔ as a washing agent in immunoassays, such as Western blots and ELISAs
- ✔ to saturate binding sites on surfaces (i.e., to coat polystyrene microplates, generally combined with proteins such as BSA)
- ✔ to stabilize proteins purified protein derivative (PPD) solution used in skin testing for tuberculosis exposure
- ✔ as a solubilizing agent of membrane proteins

Pharmaceutical: is used as an excipient in pharmaceutical applications to stabilize emulsions and suspensions

Industrial:

- ✔ in many brands of baby wipes
- ✔ by philatelists to remove stamps from envelopes and to remove residues from stamps, without harming the stamp itself
- ✔ as wetting agent in rubber balers in the elastomer industry
- ✔ as a shape directing agent to synthesize spheroidal magnetite nano-assemblies

