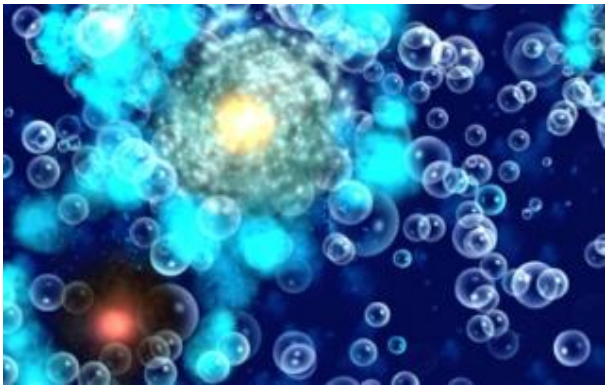
Surfactant Excipients



Surfactant is a common functional drug excipient, which can change the contact Angle between liquid and tablet by reducing interfacial tension, so as to improve the hygroscopicity of tablet. The contact Angle between water and tablets is closely related to disintegration, dissolution and absorption of tablets. **CD Formulation** offers surfactant excibients, and we have pharmacy-related researchers and laboratory staff, as well as professional laboratory equipment, to provide product purity and properties to meet your requirements. In addition to bringing you products, we also provide custom surfactant excipients and product solutions to help you solve the problems encountered in the drug development process.

Introduction

Surfactants increase drug solubility. The surfactant improves the wettability of the drug, thereby increasing the permeability of the dissolution medium in the solid drug particles. Surfactants are mainly divided into the following three types:

Anionic Surfactant

Anionic surfactants are a class of surfactants. After dissociating in water, hydrophobic anions are formed. For example, the fatty alcohol sodium sulfate is surrounded by water molecules, that is, it dissociates into two parts, $ROSO_2$-O^- and Na^+. The negatively charged $ROSO_2$-O^- has surface activity. Anionic surfactants are divided into four categories: carboxylate, sulfate, sulfonate and phosphate, and have good decontamination, foaming, dispersion, emulsification, wetting and other characteristics.

Nonionic Surfactant

Non-ionic surfactants have good hard water resistance and low foaming characteristics, so they are suitable for special detergents. Because of its

multiple properties of dispersing, emulsifying, foaming, wetting, and solubilizing, non-ionic surfactants are classified according to hydrophilic groups, including polyoxyethylene and polyol.

Cationic Surfactant

Cationic surfactants have good bactericidal, algae-killing and anti-mildew abilities, and have a wide antibacterial spectrum, low dosage, low irritation, low mildew, no peculiar smell, and less pollution, so they are widely used. Cationic surfactants have a positive charge, which is opposite to that of anionic surfactants. The combination of the two will generally cause precipitation and loss of surface activity. It can be used in conjunction with non-ionic surfactants. The consumption of cationic and zwitterionic surfactants and other amine derivatives is only about 10% of the total amount of synthetic surfactants, but its value accounts for about 25%. Because of its relatively high price, it is not necessary for cationic surfactants. In systems with special properties, other surfactants are generally used.

Applications

Surfactants have a variety of roles in pharmaceutical formulations.

- Adjust the solubility and bioavailability of the API.
- Increase the stability of the active ingredient in the dosage form.
- Helps the active ingredient retain its preferred polymorphic form.
- Maintain pH or osmotic pressure of liquid formulation.
- Used as antioxidants, emulsifiers and aerosol propellants, tablet adhesives and disintegrating agents.
- Prevent aggregation or separation, regulate the immunogenicity of active ingredients.

CD Formulation is a leading manufacturer of excipients, serving the pharmaceutical industry to help it improve the performance of its products. We develop, produce and sell pharmaceutical excipients for solid, semi-solid and liquid dosage forms. If you have any requirements for excipients, please contact us by phone or email, and our colleagues will reply to you within 2-4 working days.

Source: https://www.formulationbio.com/products/surfactant-excipients.html