
Technical Information

Kolliphor[®] PS 20

Polysorbate 20 for pharmaceutical applications

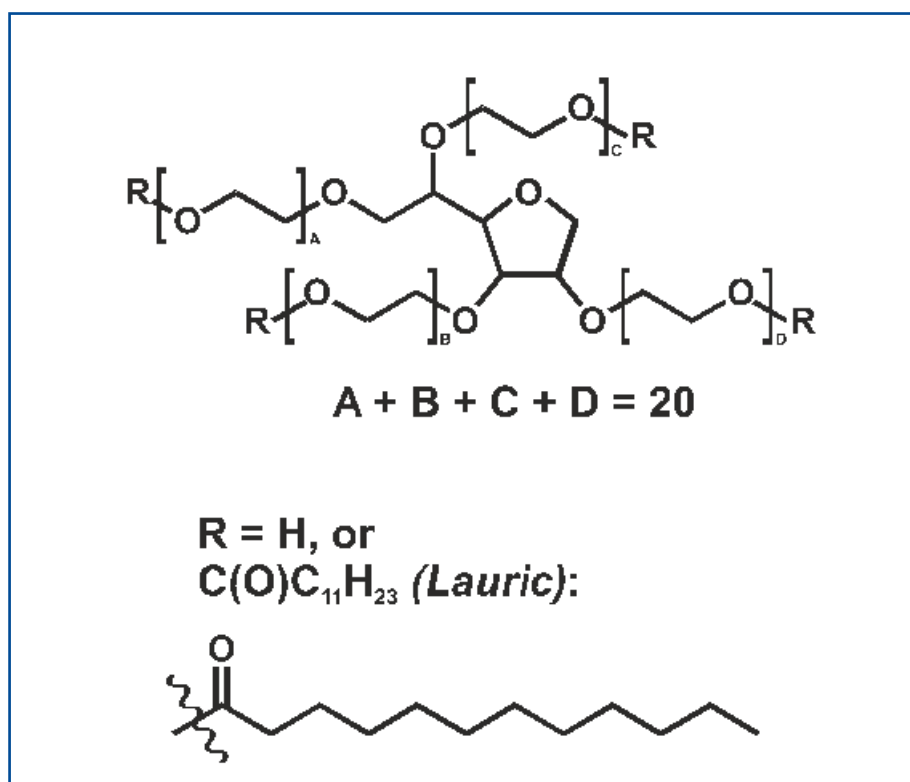


Chemical information

Chemical name	Polysorbate 20, Polyoxyethylene (20) sorbitan monolaurate
CAS number	9005-64-5
Regulatory Status	Kolliphor® PS 20 meets the current USP-NF, and Ph. Eur. monographs under its compendial name "Polysorbate 20". Furthermore, it meets the requirements of IPEC-PQG GMP for Excipients.
Sustainable Sourcing	Roundtable on Sustainable Palm Oil (RSPO) certification available

Polysorbate 20 is a non-ionic surfactant and emulsifier for pharmaceutical applications, derived from polyethoxylation of sorbitan lauric acid esters (sorbitan monolaurate).

Structural formula



Selected chemical and physical parameters

Property	Kolliphor® PS 20 typical values
Appearance	Oily, yellow, clear or slightly opalescent liquid
cmc*	67 mg/L
viscosity**	420 mPas

* cmc was measured by Wilhelmy plate method (R-20220930-00036).

**Haake RotoVisco1, shear rate of 500 1/s and at 25°C; geometry cup DG43 and Rotor Z41 (16847L).

Differential Scanning Calorimetry (DSC)

1 st heating cycle - 100 °C → + 25 °C	Cooling + 25 °C → - 100 °C	2 nd heating cycle - 100 °C → + 25 °C
Tg: - 63 °C Tm: - 42 °C - 10 °C + 2 °C	Crystallization start: - 8 °C Crystallization peak: - 28 °C - 14 °C	Tg: - 64 °C Tm: - 44 °C - 10 °C + 1 °C

Differential scanning calorimetry was performed in two cooling and heating cycles applying a cooling/heating rate of two Kelvin per minute. The glass transition temperatures (Tg) and melting points (Tm) are reported for both heating cycles and the second cooling cycle.

Water solubility & viscosity:

Kolliphor® PS 20 is soluble in water and in organic solvents, such as ethanol, methanol and acetone. The viscosity of the solutions is depending on the concentration of Kolliphor® PS 20 in the respective solvent:

solvent	Concentration Kolliphor® PS 20 in solvent	Viscosity* [mPas]
water**	10 %	1
	50 %	106
	90 %	203
acetone	10 %	0.4
	50 %	2.0
	90 %	40
methanol	10 %	0.7
	50 %	2.0
	90 %	43
ethanol	10 %	1.0
	50 %	3.0
	90 %	47

* Haake RotoVisco1, shear rate of 500 1/s and at 25°C; geometry cup DG43 and Rotor Z41 (16821L& 16780L).

** viscosity maximum observed at 70 % Kolliphor® PS 20 in water (362 mPas).

Storage recommendation

Refer to the individual document quality and regulatory product information (QRPI), available on [RegXcellence®](#) and from your local BASF sales representative.

Product Details:

PRD number	30776820
Packaging and article number	190 kg steel drum, (ART 50729141)
Sample and article number	0.5 kg glass bottle (ART 50729142)
Handling and Safety	Refer to the material safety data sheet (MSDS) for instructions on safe and proper handling and disposal. MSDS are available on request and are sent with every consignment.
Product Specification	The current version of the product specification is available on RegXcellence® and MyProductWorld or from your local BASF sales representative.
Regulatory and Quality	Refer to the individual document quality and regulatory product information (QRPI), available on RegXcellence® and from your local BASF sales representative. The QRPI document covers all relevant information including retest periods and storage conditions.

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