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Ethoxybrite PEG 100% biobased

$(C_2\text{-}H_4\text{-}O)_n$
Poly ethylene glycol
E1521
biopolymer

CAS nr: 25322-68-3
Einecs nr: 500-038-2

Product information

Synonyms: PEG, poly oxy ethylene, poly ethlyene oxide, Poly(oxy-1,2-ethanediyl),.alpha.-hydro-.omega.-hydroxy, $C_{2n}H_{4n+2}O_{n+1}$, where 2n represents the number of C-atoms in the chain.

Polyethylene glycol is used in many industries: medications (primarily in pill coatings and in some surgical liquids), as thickener in cleaning agents, as a lubricant in hydraulic fluid, to thicken coatings, and even in food (as an antifoaming agent). PEG has the curious property of being able to bind many water molecules along its main body, while the ends remain more hydrophobic. The chain length dictates how many water molecules can be bound, and therefore allows it to be used in a variety of ways. For example, in the coatings industry, PEGs with a molecular weight of up to 400 are used to keep water in paints, so that the paints stay hydrated during the process of applying them. However, PEGs with a molecular weight of 3-4000 are used as thickeners, because their hydrophobic heads form a network with each other which helps immobilize the rest of the paint. In cleaning agents and detergents, PEG is often used as a thickening agent, a penetration enhancer and a water carrier. But again, different uses require different chain lengths.

Historically, the synthesis of PEGs is performed with ethylene oxide and glycol of petrochemical source. Sirius International and its partners managed to perform above mentioned step by exclusively adding ethylene oxide and glycol from vegetal sources. As such, Ethoxybrite PEG biobased is the ideal raw material for any green, 100% sustainable, palm free, ecologically certified end product.

Our line Ethoxybrite PEG provides a number of chain lengths to suit your exact application.

Product specifications

Property	Ethoxybrite PEG 200	Ethoxybrite PEG 300	Ethoxybrite PEG 400	Ethoxybrite PEG 600
Appearance	Colorless liquid	Colorless liquid	Colorless liquid	Colorless liquid
Avg. Molecular weight	190 – 210	285 – 315	380 – 420	570 – 630
Color, (Pt-Co, 50% aq solution)	max. 30.0	max. 30.0	max. 50.0	max. 50.0
Hydroxyl value, mgKOH/g	550 - 570	350 - 390	265 - 295	180 – 197
Viscosity 98.9 deg cSt 50% w/w in water	4.0 – 4.2	5.4 – 6.4	7.0 – 8.0	10.0 – 11.0
pH (5% aq)	5.0 – 6.0	4.5 – 7.5	6.0 – 7.0	6.0 – 7.0
Free EO, ppm	max. 10.0	max. 10.0	max. 10.0	max. 10.0
Moisture, %	max. 0.2	max. 0.2	max. 0.2	max. 0.2
Loss on ignition, %	max. 0.10	max. 0.10	max. 0.10	max. 0.10
1,4 dioxane, ppm	max. 10.0	max. 10.0	max. 10.0	max. 10.0

Change specifications

These are examples of the many Ethoxybrite PEG possibilities
Please ask us for the specifications of your specific C-chain.

Commercial

Packaging: 200liter drums, 1000liter IBC's, 24mt ISO tank container (bulk)
Lead time: 8 weeks

Technical

Ethoxybrite PEGs are harmless and non-toxic