

POLYETHYLENE GLYCOL

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| Trade name/synonym name | PEG; polyglycol; polyether glycol; Ethylene oxide polymer; Poly(oxyethylene) glycol; Carbowax™ | |
| Main properties/hazards | Clear, colorless, viscous liquids to waxy solids; odorless. Soluble or miscible with water and for the most part with alcohol and other organic solvents. Combustible | |
| Main chemical and physical properties | <p>Flash point</p> <p>Boiling points</p> <p>Melting point</p> <p>Viscosity @ 20°C</p> <p>Vapour pressure @ 20°C</p> <p>Density</p> | <p>170 deg. C</p> <p>Higher than 250 deg. C</p> <p>4 - 10 deg. C Check cargo specifications</p> <p>> 50 mPa.s</p> <p>< 5 kPa (not suitable for ventilation)</p> <p>Around 1125 kg/m³ @ 20 deg. C</p> |
| IBC carriage requirements | <p>IBC chapter</p> <p>Ship Type</p> <p>Tank Type</p> <p>Relevant additional IBC req.</p> | <p>17</p> <p>3</p> <p>2G</p> <p>No</p> |

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| MARPOL Requirements | Annex Pollution Category | II Z |
| Special information to be added to Shipping Document | Standard information | |
| US Coast Guard group | 46CFR150 group. no. 40 (Glycol ethers) | |
| Segregation from other USCG cargo groups | Segregated from group nos. 2 and 12 | |
| Cargo tank material | Stainless steel Epoxy Zinc | Yes Yes Yes - but carefully check paint manufacturer's instructions. (Limits for Acid Value, water content) |
| Stowage | Heat adjacent Stow adjacent to fuel oil tanks | Yes Yes |

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| Carriage requirements | <p>Heating during voyage</p> <p>Heating during unloading</p> <p>Tanks inerted or padded</p> | <p>No - but check heating instruction, if relevant</p> <p>No - but check heating instruction, if relevant</p> <p>Not required by IBC code. Check with shipper whether nitrogen blanket is required</p> |
| Prewash required? | No prewash required | |
| Tank cleaning | <p>Polyethylene glycol is fully water soluble</p> <p>Warm temperature water wash</p> <p>Ambient temperature fresh water rinse</p> <p>Polyethylene glycol is considered to be a fine "prior cargo"</p> | |
| Accepted as "previous cargo"? | <p>FOSFA</p> <p>EU</p> <p>NIOP</p> | <p>Not on acceptable list</p> <p>Not on banned list</p> <p>Not on acceptable list.</p> <p>Not on acceptable list 1</p> <p>Not on acceptable list 2</p> |
| Emergency Response | <p>Fire: Use foam or water spray - not water jet</p> <p>Spillage: Collect small spills with absorbent material. Larger spills: Try to collect and transfer to spill tank or wash away with water. When in port, - inform Port Authority</p> <p>First aid: Remove victim to fresh air. Follow first aid instructions in MSDS. Consider obtaining advice from Radio Medical</p> | |
| Hazards (Occupational safety etc) | <p>Polyethylene glycol is a combustible substance</p> <p>Avoid contact with skin, eyes and clothing. May cause respiratory irritation</p> <p>Toxic by ingestion and inhalation</p> <p>TLV 1000mg/m³</p> | |

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| Precautions | A cargo tank wall wash test will be required before loading depending on previous cargo - typical test for chloride, hydrocarbon and PTT Heat, odour and colour sensitive Nitrogen padding may be required depending on cargo grade Please check cargo specifications. Heat may be required |
| Remarks | Use: Chemical intermediates (lower molecular weight varieties), plasticizers, softeners and humectants, ointments, polishes, paper coating, mold lubricants, bases for cosmetics and pharmaceuticals, solvents, binders, metal and rubber processing, permissible additives to foods and animal feed |