SHELL
CARGO HANDLING SHEET

Ethylene Glycol – All Grades

Cargo Handling Sheets are for the use of vessels chartered on behalf of Shell.

Document date 18 Dec 2024
Revision no.25

Product Details

Trade Name:	Ethylene Glycol
IMO Product Name:	Ethylene Glycol
Chemical Family:	Glycols

Link to Safety Data Sheet

Physical Properties

Density:	1,113 kg/m3 (20 °C / 68 °F)
Dynamic Viscosity:	16.1 mPa.s (25 °C / 77 °F)
Vapor Pressure:	<10 Pa (20 °C / 68 °F)
Boiling Point:	196 °C / 385 °F
Melting Point:	-13 °C / 9°F
Flash Point:	115 °C / 239°F
Appearance:	Slightly viscous liquid, colorless, mild odor

Note 1: Physical Properties are for reference only and valid as of date of this revision; see loading terminal for specific properties.
Note 2: Hazard Identification: See SDS for full list of hazards and precautions.

Marpol Details

Marpol Annex:	II
IMO Ship Type:	3; must be double hull.
Inland Barge:	Double Hull
IMO Pollution Category:	Z
IBC 16.2.6:	No
IBC 16.2.7:	No
IBC 16.2.9:	No
Pre-Wash Required:	No
Compatibility Group:	USCG compatibility group 20

Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading:	No.
N2 Blanket Required:	Yes, Product Quality requirement; Max 3% 02; see noted below and Regional Requirements
Adjacent Space Purge:	No
Loading Temperature Range:	Ambient
Transit Temperature Range:	Ambient to 40 °C / 104 °F
Unloading Temperature Range:	Ambient to 40 °C / 104 °F
Maximum Heating Coil Temperature:	Blanked off
Maximum Adjacent Temperature:	50°C / 122 °F

Note 1: If vessel is required to inert tanks, then only N2 will be accepted as an inerting medium.
Note 2: If Nitrogen blanket is in place and Carrier chooses to transship, carrier must reapply nitrogen blanket on the cargo, both on the discharging and receiving vessel, at their time, risk, and expense.
Note 3: N2 Blanket:
a. O2 level in tanks: Max 5% 02 content
b. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage.
Daily Log: During the voyage the vessel shall maintain a daily log of the following and the log shall be sent to the Shell Charterer/Planner/Operator at the time of unloading. Tank pressure, O2 level and Tank Temperature.

Regional Requirements

Note 1: Padding tanks: Unless otherwise agreed with the customer, glycol tanks will be padded as follows:

- Cross-Harbor barge
  - No requirements to blanket if load terminal to unload terminal voyage < 8 hours.
- Inter Europe Voyage ≤ 5 days.
  - EG Fibre grade - Oxygen content max 10%
  - EG Industrial and EG Antifreeze – No N2 blanket required.
- Inter Europe Voyages > 5 days but ≤10 days:
  - EG Fibre grade - Oxygen content max 3%.
  - EG Industrial and EG Antifreeze - Oxygen content max 10%
- International voyages
  - EG – all Grades - Oxygen content max 3%
- FOB sales: as per receiver's requirements.
- Padding may be waived with customer's or supply manager's written agreement.

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Transshipments

Prior to arranging transshipment Charterer must agree to Owner's proposed plan. When arranged by the Owner, Owner must ensure that all transshipment vessels comply with the requirements of this cargo handling sheet.

Tank Acceptance Requirement	
Banned Prior Cargo:	**Stainless Steel Tanks:** If prior cargo has polymerizing properties. **Coated Tanks**: See Appendix to Ethylene Glycol CHS for list of banned prior cargoes. Banned prior cargoes do not apply to interline 9001 & MarineLINE 784 coated tanks.
Stainless Steel or Coated Tanks:	Stainless preferred; Zinc Coating prohibited (for US barges check with local Chem MTA).

Note 1: Vessels offered for loading into coated tanks:

- Carrier to verify suitability of coating.
- For newly coated tanks, either partially or fully recoated, the tanks must have carried 3 or more cargoes for a total of >90days at >90% full.
- Tank Coating Condition Questionnaire submitted to Charterers for review prior to fixing a coated vessel.
- Coated tanks to be in very good condition with minimal blistering or breakdown, < 0.5% total tank area.
- All blisters to be scraped to hard coating.
- All defects to be noted in Survey Report
- Pipelines and fittings to be stainless steel

All nominated shipboard cargo handling systems are to be presented clean (residual free), dry, odor free, rust free, with good gaskets, fit to load this cargo.

Maintenance of heating coils is to be verified in the ship's log. If product is to be heated, heating coils are to be confirmed leak free. If product is not heated, heating coils are to be blown clear, dried with N2, and blanked off.

Wall Wash Test Requirement	
Wall Wash Required:	Yes, all conducted with Methanol except PH test, which uses DI water.
Coated Tanks:	WWT conducted by cargo surveyor
Stainless Steel and coated tanks	Verification of shipboard WWT may be accepted if below specs are met. (Send WWT Verification to the responsible Shell charterer and present to cargo surveyor and loading master at loading terminal.) Link to: WWT Verification Form

Wall Wash Test	Specification	Standard
Appearance	Clear and free from suspended matter	ASTM D4176
Chlorides	Max 0.5 ppm	ASTM E2469
Hydrocarbons	Pass	ASTM D1722

Color Test	Max 5 Pt/Co	ASTM D1209

Additional WWT for Coated Tanks if Prior Cargo is:			
Acrylate	PPT	>30 minutes	ASTM D1363
Oils, Waxes, Veg Oils, Fame	NVM	100 ppm	ASTM D1353
Acids, Alkalis	PH Test	6.9 – 7.1	ASTM E70

Safety Information and Incident Reporting

Safety Information: Refer the SDS (Safety Data Sheet) or e-SDS.
Incident Reporting: All incidents should be reported in accordance with regulations and charter party requirements. For additional marine cargo handling advice or information, contact the regional Chemical Marine Technical Advisor.

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