



Shell

Cargo Handling Sheet

Diethylene Glycol

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Revision 11

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

Product Details

Product Name: Diethylene Glycol (All grades)

IMO Product Name: Diethylene Glycol

Chemical Family: Glycols

Product Code: U1237, U1239

SDS: <http://www.shell.com/business-customers/chemicals/safe-product-handling-and-transportation/safety-data-sheets.html>

Physical Properties

Density: 1,116 g/cm³ (20 °C / 68 °F)

Kinematic Viscosity: 33 mm²/s (20 °C / 68 °F)

Vapor Pressure: < 1.3 Pa (20 °C / 68 °F)

Boiling Point: 244 - 250 °C / 471 - 482 °F

Melting Point: -10 °C / 14 °F

Flash Point: 149 °C / 300 °F

Appearance: Slightly viscous liquid, Colourless, mild odour

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: Not classified as a physical hazard under GHS criteria, however, Toxic; See SDS for full list of hazards and precautions.

Transshipment

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.

Marpol Details

Marpol Annex: II

IMO Ship Type: 3, must be double hulled

Inland Barge: Double hull

IMO Pollution Category: Z

IBC 16.2.6:	No
IBC 16.2.9:	No
Pre-Wash Required:	No
Compatibility Group:	USCG compatibility group 40, not compatible with group 12 Isocyanates

Cargo Handling Criteria

N2 Purge Cargo Tanks Prior Loading:	No
N2 Blanket Required:	Yes, Product Quality requirement; Max 5% O ₂ , see Notes below and Regional Requirements
Adjacent Space Purge:	No
Loading Temperature Range:	Ambient
Transit Temperature Range:	Ambient
Discharge Temperature Range:	Ambient
Maximum Heating Coil Temperature:	Blanked off
Adjacent Maximum Cargo Temperature:	45 °C / 113 °F

Note 1: If Nitrogen blanket is in place and Carrier chooses to tranship, carrier must reapply nitrogen blanket on the cargo, both on the discharging and receiving vessel, at their time, risk, and expense.

Note 2: N2 Blanket Guidance:

- a. O₂ level in tanks: 5% O₂; See Regional Requirements
- b. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage
- c. DAILY LOG: During the voyage the vessel shall maintain a daily log of the following and the log shall be sent to the Shell Charterers/Planners at the time of discharge.
 1. Tank pressure
 2. O₂ level
 3. Tank Temperature

Regional Requirements:

Note 1: For voyages within the EU inland waterways and for short sea voyages to North Sea and UK ports, nitrogen blanket is not required.

Tank Acceptance Requirements

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 and dried with N2, and blanked off.

Stainless Steel or Coated Tank: Stainless Steel preferred; Coated tanks allowed

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

Banned Prior Cargo: No

Wall Wash Required: Yes; all conducted with Methanol except PH test, which uses DI water

Coated Tanks: WWT conducted by cargo surveyor.

Stainless Steel 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.)

Wall Wash Test:	Specification	Standard
Appearance	Clear, bright, particle free	ASTM D4176
Hydrocarbons	Pass	ASTM D1722
Chlorides	0.549 ug/g(ppm) max	ASTM E2469
Colour Test	10 max Pt/Co Max	ASTM D1209

Additional WWT for Coated Tanks if Prior Cargo is:

Prior Cargo	Wall Wash Test:	Specification	Standard
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

Link to: [WWT Verification Form](#)

Safety Information and Incident Reporting

Safety Information:

HSSE information can be found in the SDS or e-SDS.

Incident Reporting:

All incidents should be reported in accordance with regulations and charter party requirements.

International Registered Vessels: If an incident occurs call Shell International Trading and Shipping in London on +442079347777.

Jones Act Vessels: call the Shell 24 hr. incident number at +17132412532. The USA National Response Center telephone number is +18004248802.

For additional marine cargo handling advice or information, contact the responsible regional Shell Marine Technical Advisor.



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