



**Shell Chemicals**

# Cargo Handling Sheet

Caradol ED28-200

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Revision 2

*Cargo Handling Sheets are for the use of vessels  
chartered by Shell Chemicals*

## Product Details

Product Name:	Caradol ED28-200
Shipping Name:	Polypropylene Glycol
Chemical Family:	Glycol
Product Code:	U1790

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

## Physical Properties

Density:	Typical 1002 kg/m <sup>3</sup> (20 °C / 68 °F)
Dynamic Viscosity:	980 mPa.s (25 °C / 77 °F)
Vapor Pressure:	Data not available
Boiling Point:	Data not available
Melting Point:	Data not available
Flash Point:	> 180 °C / 356 °F
Appearance:	Clear colourless liquid

**Note 1:** Physical Properties are for reference only and valid as of date of this revision; see loading terminal for specific properties.

**Note 2:** Polymerises exothermically with di-isocyanates at ambient temperatures.

## Transhipment

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

## Marpol Details

Marpol Annex:	II
IMO Ship Type:	3, must be double hulled
Inland Barges:	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; reacts with di-isocyanates

### Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading: No  
N2 Blanket Required: No  
Adjacent Space Purge: No  
Loading Temperature Range: 35 - 40 °C / 95 – 104 °F  
Transit Temperature Range: 30 °C – loading temp / 86 °F – loading temp  
Discharge Temperature Range: 30 °C – loading temp / 86 °F – loading temp  
Maximum Heating Coil Temperature: 100 °C / 212 °F  
Adjacent Maximum Cargo Temperature: 55 °C / 131 °F

### Regional Requirements

**Note1:** EU Barges - Stainless Steel 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:** All coatings allowed except for Zinc; Carrier to verify suitability of coating; see Regional Requirements  
**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 Chemicals charterer and present to cargo surveyor and loading master at loading terminal.)

Wall Wash Test:	Specification	Standard
Hydrocarbons	Pass	ASTM D1722

Chlorides	< 1 ppm	IMPCA 002-98
Color Test	< 5 Pt/Co Max	ASTM D1209
Appearance:	Clear, free of suspended matter	ASTM D4176

**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 – 8	ASTM E70

**Link to:** [WWT Verification Form](#)

## Safety Information and Incident Reporting

### Safety Information:

For more detailed information, refer to the SDS or e-SDS for reportable spill/release quantities whether in the water, air or ground.

### Incident Reporting:

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 Captain Stephen Boudreaux at +18323376982 or Capt. Ben van Bemmelen at +31104415992.



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