



**Shell Chemicals**

# Cargo Handling Sheet

Monopropylene Glycol USP

Document Date: 05 March 2021  
Revision 9

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

## Product Details

Product Name: Monopropylene Glycol (MPG) USP  
Shipping Name: Propylene Glycol  
Chemical Family: Glycol  
Product Code: U1512, U1530, U1535, U1540

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

## Physical Properties

Density: 1036 kg/m<sup>3</sup> (20 °C / 68 °F)  
Dynamic Viscosity: 55 mPa.s (20 °C / 68 °F)  
Vapor Pressure: ca. 7 Pa (20 °C / 68 °F)  
Boiling Point: 186 - 189 °C / 367 - 372 °F  
Melting Point: -59 °C / -74 °F  
PH: 7  
Flash Point: 99 °C / 210 °F  
Appearance: Colourless liquid; odourless

**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 or health hazard under GHS criteria; 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: IBC Chapter 18 cargo, must be double hulled  
Inland Barge: Double Hull

IMO Pollution Category:	OS
IBC 16.2.6:	No
IBC 16.2.9:	No
Pre-Wash Required:	No
Compatibility Group:	USCG compatibility group 20, not compatible with group 12 Isocyanates.

### Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading:	No
N2 Blanket Required:	Yes, PQ requirement; Max 5% O <sub>2</sub> , see Notes below
Adjacent Space Purge:	No
Loading Temperature Range:	10 - 35 °C / 50 – 95 °F
Transit Temperature Range:	10 - 35 °C / 50 – 95 °F
Discharge Temperature Range:	10 - 35 °C / 50 – 95 °F
Maximum Heating Coil Temperature:	65 °C / 149 °F (Heating not required unless air temperature falls below 0 °C/32 °F)
Maximum Adjacent Temperature:	35 °C / 95 °F

**Note 1:** For quality purposes, this product should not be carried in tanks serviced by a cargo pump room.

**Note 2:** 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 3:** PQ = Product Quality

**Note 4:** N2 Blanket Guidance:

- a. O<sub>2</sub> level in tanks: Max 5% O<sub>2</sub>
- 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. O<sub>2</sub> level
  3. Tank Temperature

### Regional Requirements:

**Note1:** MPG shipments from Singapore must be handled in a manner consistent with the CEFIC requirements as per the attached link.

[https://www.propylene-glycol.com/uploads/documents/GuidelinesUSP\\_2013\\_UK\\_HR.pdf](https://www.propylene-glycol.com/uploads/documents/GuidelinesUSP_2013_UK_HR.pdf)

## Propylene Glycol USP Adjacent and Previous Cargo Restrictions

### **Note 2: Previous Cargo Restrictions**

- 1<sup>st</sup> last cargo for stowage compartment will be checked against "[Previous Cargo Restriction List](#)".
- If the 2<sup>nd</sup> and/or the 3<sup>rd</sup> last cargoes are on the List, it is highly recommended to carry out an analysis of the product prior to discharge to the shore tank.
- Adjacent cargoes should also be checked.
- Prior and adjacent cargoes must be approved by Shell Chemicals Marine Charterer.

### **Note 3: Kosher Procedures**

- Last 3 cargoes and current adjacent cargo(es) will be submitted to Rabbi for approval; Note: only truly adjacent tanks (i.e. tanks with common bulkheads, not cofferdam spaces, need to be considered).
- Substances not included in the [Previous Cargo Restriction List](#), but having a hazardous potential, will need GCMS analysis.
- The Ship Manager must communicate to the Shell Chemical Charterer if any new cargoes are loaded into the adjacent tanks during the voyage from the Shell load port to Shell nominated discharge port. GCMS may conduct test to detect any possible contamination.
- Compliance to the prohibited prior cargo list is a must. Any exceptions will require approval from the Shell Chemicals HSSE and additional analytical effort at the discharge port.

### **Note 4: Stainless Steel passivated tanks (Clause 5.the NIOP11D under trading Rules)**

- Only stainless steel or tank coatings approved for food grade products shall be used for edible oil carriage.
- Ship tanks which have been newly coated, or fully recoated, or passivated stainless steel tanks shall be considered as new buildings. Cargoes carried prior to the date of such coatings or passivation shall not be considered as relevant. Owners are required to provide independent verification when requested. Owners will not withhold prior cargo information if requested.
- Newly coated tanks must be fully cured in accordance with manufacturer's recommendations.
- Ship owners should employ a passivation process such as that recommended under the current version of ASTM A 967. NIOP accepts the media for passivation listed under the ASTM guidelines including, but not limited to, Nitric Acid and Citric Acid solutions.

### **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 N<sub>2</sub> and blanked off.

Tank washing must be appropriate for the prior cargo and include food-grade detergent wash and final potable water rinse. A cleaning certificate is required to be completed by an independent surveyor as part of their report.

Hoses provided by the vessel must be voyage dedicated. After loading, any required hose must be drained, blind flanged, and segregated for use at discharge.

Gaskets in contact with the cargo must be renewed or be Teflon.

**Stainless Steel or Coated Tanks:** Stainless steel only  
**Banned Prior Cargo:** See notes in Regional Requirements above  
**Wall Wash Required:** Yes, must be conducted by cargo surveyor

Wall Wash Test:	Specification	Standard
Appearance	Clear and free from suspended matter	ASTM D4176
Hydrocarbons	= Pass	ASTM D1722
Chlorides	≤ 1.0 ppm	IMPCA 002-98
Colour Test	≤ 5 Pt/Co Max	ASTM D1209

## 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 Chemicals Marine Technical Advisor.



Shell Chemical LP  
PO Box 4407  
Houston  
Texas 77210  
USA  
Tel +1 866 897 4355  
Internet <http://www.shell.com/chemicals>

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