



Shell Chemicals

Cargo Handling Sheet

Phenol

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Revision 10

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

Product Details

Product Name: Phenol
IMO Shipping Name: Phenol
Chemical Family: Phenols, Cresols
Product Code: S1223

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

Physical Properties

Density: 1,071 kg/m³ (20 °C / 68 °F)
Dynamic Viscosity: Solid (20 °C / 68 °F);
< 50 mPa.s (41 °C / 106 °F)
3.6 mPas (50°C / 122 °F)
Vapor Pressure: 0.35 kPa (50 °C / 122 °F)
Boiling Point: 181 °C / 358 °F
Melting Point: Typical 40.7 °C / 105.3 °F
Flash Point: 79.4 °C / 174.9 °F
Appearance: White crystals below 43 °C / 109 °F. Clear liquid on melting;
Phenolic, sweet odour

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

Transhipment

Prior to arranging transhipment Charterer 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.

Note 1: Due to HSSE concerns, Phenol should not be transhipped in offshore areas or anchorages.

Marpol Details

Marpol Annex: II
IMO Ship Type: 2
Inland Barge: Double Hull

IMO Pollution Category:	Y
IBC 16.2.6:	No
IBC 16.2.9:	Yes
Pre-wash Required:	No pre-wash required when discharged in accordance with CHS
Compatibility Group:	USCG compatibility group 21

Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading:	No
N2 Blanket Required:	Yes, PQ requirement; Max 5% O ₂ , see Notes below
Adjacent Space Purge:	No
Loading Temperature Range:	50 – 60 °C / 122 – 140 °F
Transit Temperature Range:	50 – 55 °C / 122 – 131 °F
Discharge Temperature Range:	51 – 55 °C / 124 – 131 °F
Maximum Heating Coil Temperature:	65 °C / 150 °F
Adjacent Maximum Cargo Temperature:	65 °C / 150 °F

Note 1: Ship Manager must submit a completed "Phenol Pre-Charter Checklist" to the responsible Shell Chemicals Charterer who will in turn submits it to the SAFE TEAM for their review.

Note 2: Due to PQ and Safety concerns, this product should not be carried in tanks serviced by a cargo pump room.

Note 3: 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 4: PQ = Product Quality

Note 5: N2 Blanket Guidance:

- a. O₂ level in tanks: Max 5% O₂
- b. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage
- c. Vessel to keep a daily N₂ log of each tank:
 1. Tank pressure
 2. O₂ level
 3. Tank Temperature

Log is to be presented to receiver at time of discharge and a copy sent to Charterers.

Note 6: Vessels using deck mounted heat exchangers which require the product to be pumped through the heater, are not to be used for the carriage of Phenol.

Note 7: Heating coil temperatures above 65 °C / 150 °F can cause product discoloration. Rapid heating or overheating of Phenol may cause a colour off spec contamination.

Regional Requirements

Note 1: Ship to Ship/Barge transshipments in Europe: Nitrogen blanket does not have to be replaced due to local requirements.

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 only

Banned Prior Cargo: See Note 1 below

Wall Wash Required: Yes

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.)

Link to: [WWT Verification Form](#)

Wall Wash Test:	Specification	Standard
Hydrocarbons	Pass	ASTM D1722
Chlorides	< 20 ppm	IMPCA 002-98
Color Test	< 5 Pt/Co Max	ASTM D1209
Appearance	Clear, free of suspended matter	ASTM D4176

Note 1: For Sulphuric acid as one of the last three prior cargoes:

- All tank surfaces should be inspected for discoloration from water/acid reaction with stainless steel. This discoloration can be absorbed by the phenol which can cause a colour contamination problem.
- In case discoloration is noted, the Chemical MTA and Business QA should be advised before loading the tank.

Note 2: Shipboard common lines should not be used if they last contained Sulphuric or Nitric Acid.

Safety Information and Incident Reporting

Safety Information:

When engaged in High Risk Operations or working in High Risk Areas:

Use of full gas tight chemical suit with attached hood, Chem gloves & Chem boots and an SCBA is highly recommended.

This may include but is not limited to:

1. Working or observing in the manifold area
2. Manual Gauging
3. Sampling
4. Clearing pipelines or hoses
5. Tank Cleaning with Portable Machines
6. Opening any part of the cargo containment system (tank hatches, drains, etc)
7. Purging cargo pump cofferdams
8. Emergency Response
9. Any other task/location where the risk of contact with phenol can be deemed to exist

All High-Risk operations should be supervised by a Ship's Officer.

At all other times it is recommended that during phenol operations:

- the number of persons allowed on the cargo deck should be restricted and access to the vessel controlled
- As a minimum, chemical splash goggles should be worn along with other company required PPE while on the cargo deck

Phenol transfer is not to be started unless a supply of Poly Ethylene Glycol (PEG) is onboard the transfer vessel/vessels, and decontamination procedures are in place.

In consideration of the ISM code, and IBC code 16.3 the carrier should ensure that procedures are in place for training of personnel involved in the transfer of Phenol, and that verification checks are in place to ensure the integrity of the cargo system, prior to, and during the transfer and carriage of phenol.

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 Bommel at +31104415992.



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