



**Shell Chemicals**

# Cargo Handling Sheet

Neodol 91

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Revision 6

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

## Product Details

Product Name:	Neodol 91
Shipping Name:	Noxious liquid, NF, (3) n.o.s. (Neodol 91 contains Undecyl Alcohol)
Chemical Family:	Alcohols, C9 – C11
Product Code:	V2729

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

## Physical Properties

Density:	831 kg/m <sup>3</sup> (20 °C / 68 °F)
Dynamic Viscosity:	14 mPas (20 °C / 68 °F)
Vapor Pressure:	< 5 Pa (25 °C / 77 °F)
Boiling Point:	213 - 245 °C / 415 - 473 °F
Melting Point:	-12 °C / 10 °F
Flash Point:	108 °C / 226 °F
Appearance:	Colourless Liquid at 20 °C/ 68 °F; mild odour

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

**Transhipments** Prior to arranging transhipment, the Shell Chemical 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.

## Marpol Details

Marpol Annex:	II
IMO Ship Type:	2
Inland Barge:	Double Hull
IMO Pollution Category:	X
IBC 16.2.6:	Yes
IBC 16.2.9:	No

Pre-Wash Required: Yes  
Compatibility Group: USCG compatibility group 20, not compatible with group 12 Isocyanates

### Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading: Yes, PQ requirement; Max 1000 ppm (0.1%) O<sub>2</sub>, 99.90% N<sub>2</sub> Purity, see Notes below  
N2 Blanket Required: Yes, PQ requirement; Max 1000 ppm (0.1%) O<sub>2</sub>, 99.90% N<sub>2</sub> Purity, see Notes below  
Adjacent Space Purge: No  
Loading Temperature Range: -7 to 35 °C / 19 – 95 °F  
Transit Temperature Range: -7 °C to Loading Temp  
Discharge Temperature Range: -7 °C to Loading Temp (see Regional Notes)  
Maximum Heating Coil Temperature: 65 °C / 149 °F, if required (see Regional Notes)  
Adjacent Maximum Cargo Temperature: 60 °C / 140 °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:** PQ = Product Quality

**Note 3:** N<sub>2</sub> Blanket Guidance:

- a. O<sub>2</sub> level in tanks: Max 1000 ppm (0.1%) O<sub>2</sub>; See Regional Requirements
- b. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage
- c. Vessel to keep a daily N<sub>2</sub> log of each tank:

1. Tank pressure 2. O<sub>2</sub> level 3. Tank Temperature

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

### Regional Requirements

**Note 1:** Short voyages in Europe: may only require blanketing, however if the short voyage is part of an international voyage, the short voyage must also have the tanks purged.

**Note 2:** Minimum Discharge temperature is -7 °C; ship manager may elect at his expense and time to improve pumpability by maintaining temperature at 16 – 21 °C for the voyage and discharge during periods of cold weather.

## 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  
**Banned Prior Cargo:** Styrene or any other product which can polymerize;  
Phosphoric acid, Sulphuric acid, and Caustic

**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.)

Wall Wash Test:	Specification	Standard
Hydrocarbons	Pass	ASTM D1722
Chlorides	< 3.0 ppm	IMPCA 002-98
Color Test	< 10 Pt/Co Max	ASTM D1209

**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 Bommel at +31104415992.



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