



# **SHELL**

# **CARGO HANDLING SHEET**

**LINEVOL 911**

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

## Product Details

Trade Name:	LINEVOL 911
IMO Product Name:	LINEVOL 911 (contains Nonyl alcohol (all isomers); Undecyl alcohol)
Chemical Family:	Alcohols

[Link to Safety Data Sheet](#)

## Physical Properties

Density:	830 kg/m <sup>3</sup> (20 °C / 68 °F)
Dynamic Viscosity:	14.1 mPa.s (20 °C / 68 °F)
Vapor Pressure:	< 5 Pa (20 °C / 68 °F)
Boiling Point:	213 - 245 °C / 415 - 473 °F
Melting Point:	-12 °C / 10°F
Flash Point:	109 °C / 228°F
Appearance:	Colorless

**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: See SDS for full list of hazards and precautions.

## Marpol Details

Marpol Annex:	II
IMO Ship Type:	2
Inland Barge:	Double Hull
IMO Pollution Category:	X
IBC 16.2.6:	No
IBC 16.2.7:	No
IBC 16.2.9:	No
Pre-Wash Required:	Yes
Compatibility Group:	USCG compatibility group 20

## Cargo Handling Requirements

N2 Purge Cargo Tanks Prior Loading:	Yes, Product Quality requirement; Max 1000 ppm (0.1%) O <sub>2</sub> , see Notes and Regional Requirement below.
N2 Blanket Required:	Yes, Product Quality requirement; Max 1000 ppm (0.1%) O <sub>2</sub> , see Notes and Regional Requirement below.
Adjacent Space Purge:	No
Loading Temperature Range:	Ambient – 35 °C / 95°F
Transit Temperature Range:	Ambient – 35 °C / 95°F
Unloading Temperature Range:	Ambient – 35 °C / 95°F
Maximum Heating Coil Temperature:	65 °C / 149 °F
Maximum Adjacent Temperature:	50°C / 122 °F

**Note 1:** If vessel is required to inert tanks, then only N<sub>2</sub> will be accepted as an inerting medium.

**Note 2:** If Nitrogen blanket is in place and Carrier chooses to transship, carrier must reapply nitrogen blanket on the cargo, both on the discharging and receiving vessel, at their time, risk, and expense.

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

a. O<sub>2</sub> level in tanks: Max1000 ppm (0.1%) O<sub>2</sub>.

b. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage.

**Daily Log:** During the voyage the vessel shall maintain a daily log of the following and the log shall be sent to the Shell Charterer/Planner at the time of unloading. Tank pressure, O<sub>2</sub> level and Tank Temperature.

## 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 tanks purged.

**Note 2:** The discharge temperature is ambient, but it is acceptable to heat up to the unloading temperature range to improve pumpability in cold climates, provided these temperatures are maintained throughout the voyage.

## Transshipments

Prior to arranging transshipment, Shell 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.

Tank Acceptance Requirement	
Banned Prior Cargo:	Yes, Styrene or any other product which can polymerize; Phosphoric acid, Sulphuric acid, and Caustic.
Stainless Steel or Coated Tanks:	Stainless Steel only
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, dried with N2, and blanked off.	

Wall Wash Test Requirement	
Wall Wash Required:	Yes; all conducted with Methanol except PH test, which uses DI water.
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.) Link to: <a href="#">WWT Verification Form</a>

Wall Wash Test	Specification	Standard
Appearance	Clear and free from suspended matter	ASTM D4176
Chlorides	Max 3.0 ppm	IMPCA 002-98
Hydrocarbons	Pass	ASTM D1722
Color Test	Max 5 Pt/Co	ASTM D1209

## Safety Information and Incident Reporting

**Safety Information:** Refer the SDS (Safety Data Sheet) or e-SDS.

**Incident Reporting:** All incidents should be reported in accordance with regulations and charter party requirements. For additional marine cargo handling advice or information, contact the regional Chemical Marine Technical Advisor.



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