



**Shell Chemicals**

# Cargo Handling Sheet

Linevol 911

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Revision 10

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

## Product Details

Product Name:	Linevol 911
Shipping Name:	Noxious Liquid, NF, (3) n.o.s.( Linevol 911 contains Undecyl alcohol)
Chemical Family:	Alcohols
Product Code:	V9332

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

## Physical Properties

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

**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.

## Marpol Details

Marpol Annex:	II
IMO Ship Type:	2
Inland Barge:	Double Hulled
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 O<sub>2</sub>; 99.99 % pure N<sub>2</sub> required

N2 Blanket Required: Yes, PQ requirement; Max 1000 ppm O<sub>2</sub>; 99.99 % pure N<sub>2</sub> required; see Notes below

Adjacent Space Purge: No

Loading Temperature Range: 15 - 35 °C / 59 – 95 °F

Transit Temperature Range: Ambient

Discharge Temperature Range: Ambient

Maximum Heating Coil Temperature: 65 °C / 149 °F

Adjacent Maximum Cargo Temperature: 50 °C / 122 °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. After loading the ullage space will be purged below 1000ppm, or for a period of 3.5 hours whichever comes first.
- b. O<sub>2</sub> level in tanks: 1000 ppm O<sub>2</sub>
- c. Vessel to maintain a constant nitrogen overpressure of 20 millibars or more during the voyage
- d. Surveyor to record in survey report the type of cargo monitoring system and nitrogen replenishment system used onboard the vessel
- e. 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:** Discharge temperature is ambient; however, heating to 16 – 21 °C is acceptable to improve pumpability in cold climates, as long as these temperatures are maintained during the voyage.

### 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.

**Stainless Steel or Coated Tanks:** Stainless Steel only  
**Banned Prior Cargo:** Styrene or any other product which can polymerize.  
Phosphoric and 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
Colour Test	≤ 5 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 +17132413945 or Capt. Ben van Bommel at +31104415992.



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