



**Shell Chemicals**

# Cargo Handling Sheet

Isopropyl Alcohol (IPA)

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Revision 10

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

## Product Details

Product Name: Isopropyl Alcohol (IPA)

IMO Shipping Name: Isopropyl Alcohol

Chemical Family: Alcohols

Product Code: S1111, ZA07A

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

## Physical Properties

Density: 785 - 786 kg/m<sup>3</sup> (20 °C / 68 °F)

Specific Gravity: 0.78 – 0.79 (20 °C / 68 °F)

Dynamic Viscosity: 2.43 mPa.s

Vapor Pressure: 4.1 kPa (20 °C / 68 °F)

Boiling Point: 82 - 83 °C / 180 - 181 °F

Melting Point: -88 °C / -126 °F

Flash Point: 12 °C / 54 °F

Appearance: Clear liquid with a characteristic odour

**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: highly flammable, known to cause health hazards, if sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air/vapour mixtures can occur. 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 Barges: Double Hull

IMO Pollution Category:	Z
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:	Not a PQ requirement; see notes below
Loading Temperature Range:	Ambient
Transit Temperature Range:	Ambient - 40 °C / 104 °F
Discharge Temperature Range:	Ambient - 40 °C / 104 °F
Maximum Heating Coil Temperature:	Blanked off
Maximum Adjacent Temperature:	40 °C

**Note 1:** If vessel is required to inert tanks then only N2 will be accepted as an inerting medium.

**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

### Regional Requirements

**Note 1:** IPA Loaded in Singapore: Banned prior and adjacent cargo list applicable.

- Prior Cargo: applies to last cargo in stainless steel tanks
- Adjacent Cargoes: applies to current or future adjacent cargo. Carrier should be reminded that adjacent cargo restrictions apply throughout the voyage until the product is discharged.
- Prior and adjacent cargoes must be approved by Shell Chemicals Marine Charterer.

### [APPENDICES BANNED PRIOR CARGOES AND ADJACENT CARGOES LIST](#)

## 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:** Either, carrier to verify suitability of coating for product; Stainless Steel only when loaded in Singapore.

**Banned Prior Cargo:** No; However, see Regional Requirements if loaded in Singapore

**Wall Wash Required:** Yes, all conducted with Methanol except PH test, which uses DI water

**Coated Tanks:** WWT conducted by cargo surveyor.

**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
Appearance	Clear and free from suspended matter	ASTM D4176
Chlorides	≤ 1.0 ppm	IMPCA 002-98
Hydrocarbons	= Pass	ASTM D1722

### Additional WWT for Coated Tanks if Prior Cargo is:

Prior Cargo	Wall Wash Test:	Specification	Standard
Acrylate	PPT	> 30 minutes	ASTM D1363
Oils, Waxes, Veg Oils, Fame	NVM	100 ppm	ASTM D1353
Acids, Alkalis	PH Test	6.9 – 7.1	ASTM E70

**Note 1:** Vessels offered for loading into coated tanks:

- Carrier to verify suitability of coating
- For newly coated tanks, either partially or fully recoated, the tanks must have carried 3 or more cargoes for a total of >90days at >90% full.
- Tank Coating Condition Questionnaire submitted to Charterers for review prior to fixing a coated vessel
- Coated tanks to be in very good condition with minimal blistering or breakdown, < 0.5% total tank area
- All blisters to be scraped to hard coating
- All defects to be noted in Survey Report
- Pipelines and fittings to be stainless steel

**Link to:** [WWT Verification Form](#)

## 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.



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