



## OQ PRODUCT HANDLING GUIDE

# n-Undecanal CAS # 112-44-7

n-Undecanal is a clear, colorless, mobile, oily liquid with an intense, fruity odor. n-Undecanal is a reactive liquid and rapid, uncontrolled polymerization may occur. Exposure to elevated temperatures, oxygen, or contaminants may cause hazardous polymerization.

n-Undecanal can spontaneously combust if wiped up with rags, paper towels, etc.

n-Undecanal is available from OQ in the following packages:

- UN 1A1/X1.2/300 55-Gallon Carbon Steel Drums with Morton 105 R4 Lining or equivalent
- MC 307 or DOT 407 Tank Trucks
- IMO 1 ISO Tanks

### Storage

Recommended Blanketing	Nitrogen <sup>1,2,3</sup>
Recommended Temperature	
Maximum	120°F (48.9°C)
Minimum	32°F (0°C)
Recommended Pressure	Atmospheric
Bulk Quantities	Outside, detached tanks
Small Containers	Cool, dry, well ventilated areas

### Handling

- Thoroughly review Material Safety Data Sheet before handling product.
- Keep containers closed and Nitrogen padded when not in use.
- Open containers slowly to allow any excess pressure to vent.
- Keep away from heat, sparks, flame, or other sources of ignition.
- Protect small containers from physical damage.
- Use proper electrical grounding and bonding procedures when loading, unloading, and transferring.<sup>1</sup>
- Refer to the OXEA Material Safety Data Sheet for more information on materials to avoid.
- Use spark-resistant tools.
- Electrical equipment and circuits in all storage and handling areas must conform to requirements of national electrical code (Articles 500 and 501) for hazardous location.
- Spontaneous Combustion may occur in rags or paper towels if used for spill clean-up.

See the National Fire Protection Agency (NFPA) #30 "Flammable and Combustible Liquids Code" and consult with qualified fire protection specialists to determine specific storage tank design requirements. Refer to the OQ Safety Data Sheet for more specific health and environmental

information and refer to the OQ Product Descriptions for additional physical properties and general product information. Safety Data Sheet and Product Descriptions for n-Undecanal are available through your OQ sales representative.

1. Refer to NFPA #77 "Static Electricity" for proper electrical grounding procedures.
2. See the National Fire Protection Agency (NFPA) #30 "Flammable and Combustible Liquids Code" and consult with qualified fire protection specialists to determine specific storage tank design requirements.
3. Blanketing should be used to retain quality in long-term storage conditions.

This information is based on our present state of knowledge and shall be intended to provide general notes on our products and their field of application. It shall therefore not be construed as guaranteeing specific characteristics of the products described and/or their suitability for a particular application. Any existing industrial property rights shall be observed. The quality of our products is warranted under our General Conditions of Sale.

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### Materials of Construction for Storage and Transportation

Item	Recommended	Acceptable
Tank	Stainless Steel <sup>1</sup>	Lined Carbon Steel <sup>2</sup> , Aluminum
Piping	Stainless Steel <sup>1</sup>	Carbon Steel <sup>4</sup> , Aluminum
Valves	Stainless Steel <sup>1</sup>	Cast Iron, Carbon Steel <sup>4</sup>
Pumps	Stainless Steel <sup>1</sup>	Cast Iron, Carbon Steel <sup>4</sup>
Relief Valves	Stainless Steel <sup>1</sup>	Cast Iron, Carbon Steel <sup>4</sup>
Gaskets	Glass Filled PTFE <sup>3,5</sup>	EPDM <sup>6</sup>
Pump Seals	Mechanical Seal: Double mechanical seal, back to back arrangement carbon to silicon carbide faces, Kalrez O-rings	Mechanical Seal: carbon to tungsten carbide faces,  EPDM <sup>6</sup> O-rings
Valve Packing	PTFE <sup>5</sup>	Graphite
Pipe End Connections	Welded and flanged system	Threaded with PTFE <sup>5</sup> tape thread lubricant
Heat Exchanger	Product Side: Stainless Steel <sup>1</sup>	-
Hoses	Stainless Steel <sup>1</sup>	EPDM <sup>6</sup> , Silicone
Tank Truck	Stainless Steel <sup>1</sup>	-
Tank Car	Lined Carbon Steel <sup>2</sup>	Stainless Steel <sup>1</sup>
Barge	Stainless Steel <sup>1</sup>	-
Ship Tank	Stainless Steel <sup>1</sup>	-

1. Type 304 or 316 Stainless Steel.

2. Lining refers to a high baked phenolic.

3. May be use if an increase in iron content, color, or the presence of high boiling point impurities is not a problem.

4. Maximum storage temperature 120°F (49°C).

5. Polytetrafluoroethylene.

6. Ethylene – Propylene – diene – monomer – (peroxide cured grade).

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