



Propionaldehyde – CAS # 123-38-6

Propionaldehyde is a colorless, flammable liquid with a suffocating odor. It is slightly soluble in water. It is a reactive liquid and rapid, uncontrolled polymerization can occur. Exposure to elevated temperatures or contaminants may cause hazardous polymerization.

Propionaldehyde is available from OXEA in the following packages:

- UN 1A1/X1.2/300 55-Gallon Carbon Steel Drums with Valspar HXR0006 Red Phenolic lining

- DOT 111A100W1 Tank Cars or equivalent
- DOT MC 307 or DOT 407 Tank Trucks
- IMO 1 ISO Tank

Storage

Recommended Blanketing	Dry Nitrogen ^{1,2}
Recommended Temperature	
Maximum	100°F (37.8°C)
Minimum	48°F (8.9°C)
Recommended Pressure	
Maximum	35 psig
Minimum	10 psig
Bulk Quantities	Outside, detached tanks
Small Containers	Cool, dry, well ventilated area

Handling

- Thoroughly review Material Safety Data Sheet before handling product.
- Keep containers closed 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.¹
- 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.
- Do not load into compartments adjacent to heated cargos.
- Propionaldehyde vapor is heavier than air and can travel a considerable distance to a source of ignition and flashback.
- Propionaldehyde floats on water and may create a special hazard.

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 OXEA Material Safety Data Sheet for more specific health and environmental

information and refer to the OXEA Product Descriptions for additional physical properties and general product information. Material Safety Data Sheet and Product Descriptions for Propionaldehyde are available through your OXEA 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 may be used to retain quality in long-term storage conditions.

PRODUCT HANDLING GUIDE

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Propionaldehyde

Materials of Construction for Storage and Transportation

Item	Recommended	Acceptable
Tank ¹	Stainless Steel ²	Lined Carbon Steel ³ , Aluminum
Piping	Stainless Steel ²	Aluminum, Carbon Steel ^{3,4}
Valves	Stainless Steel ²	Cast Iron, Carbon Steel ^{3,4}
Pumps	Stainless Steel ²	Cast Iron, Carbon Steel ^{3,4}
Relief Valves	Stainless Steel ²	Cast Iron, Carbon Steel ^{3,4}
Gaskets	Glass Filled PTFE ⁶	EPDM ⁷
Pump Seals	Mechanical Seal: Double mechanical seal, back-to-back arrangement carbon to silicon carbide faces	Mechanical Seal: carbon to tungsten carbide faces, EPDM ⁷ O-rings
Valve Packing	PTFE ⁶	Graphite
Pipe End Connections	Welded and flanged system	Threaded with PTFE ⁶ tape thread lubricant
Heat Exchanger	Product Side: Stainless Steel ²	-
Hoses	Stainless Steel ²	EPDM ⁷ , Silicone
Tank Truck	Stainless Steel ²	-
Tank Car	Lined Carbon Steel ³	Stainless Steel ²
ISO Tank	Stainless Steel ²	-

1. Insulation and a minimum design pressure of 30 psig is recommended.
2. Type 304 or 316 Stainless Steel.
3. Lining refers to a high baked phenolic.
4. May be used if an increase in iron content, color, or the presence of high boiling point impurities are not a problem.
5. Maximum storage temperature 120°F (49°C).
6. Polytetrafluoroethylene.
7. Ethylene – Propylene – diene – Monomer – (peroxide cured grade).

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

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