



## OQ PRODUCT HANDLING GUIDE

# Isobutyraldehyde CAS # 78-84-2



Isobutyraldehyde is a colorless, flammable liquid with an intense, pungent odor. It is slightly soluble in water and miscible with most organic solvents.

Isobutyraldehyde is a reactive liquid and rapid, uncontrolled polymerization may occur. Exposure to elevated temperatures or contaminants may

cause hazardous polymerization. Isobutyraldehyde is available from OQ 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
- Ship Tank and Barge

### Storage

|                         |                                 |
|-------------------------|---------------------------------|
| Recommended Blanketing  | Dry Nitrogen <sup>1,2</sup>     |
| Recommended Temperature | Ambient                         |
| Recommended Pressure    | 1.0-1.5 psig                    |
| Bulk Quantities         | Outside, detached tanks         |
| Small Containers        | Cool, dry, well ventilated area |

### Handling

Thoroughly review 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.<sup>1</sup>
- Refer to the OQ 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.

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. Material Safety Data Sheet and Product Descriptions for Isobutyraldehyde 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.

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>   | Aluminum,<br>Lined Carbon Steel <sup>2</sup>                                      |
| Valves               | Stainless Steel <sup>1</sup>   | Cast Iron,<br>Carbon<br>Steel <sup>3,4</sup>                                      |
| Pumps                | Stainless Steel <sup>1</sup>   | Cast Iron,<br>Carbon<br>Steel <sup>3,4</sup>                                      |
| Relief Valves        | Stainless Steel <sup>1</sup>   | Cast Iron,<br>Carbon<br>Steel <sup>3,4</sup>                                      |
| Gaskets              | Glass Filled PTFE <sup>5</sup>   | EPDM <sup>6</sup>   |
| Pump Seals           | Mechanical Seal:<br>Double Mechanical<br>Seal,<br>back-to-back<br>arrangement carbon to<br>silicon carbide faces | Mechanical Seal:<br>carbon to tungsten carbide<br>faces, EPDM <sup>6</sup> O-ring |
| Valve Packing        | PTFE <sup>5</sup>  | Graphite  |
| Pipe End Connections | Welded and flanged system  | Threaded with PTFE <sup>5</sup><br>tape thread lubricant                          |
| Heat Exchanger       | Product Side:<br>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>  | Carbon Steel <sup>3,4</sup>   |
| ISO Tank             | 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 used if an increase in iron content, color, or the presence of high boiling point impurities are 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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