



These specifications apply to the acceptance and loading of ISO Containers at LyondellBasell (LYB) facilities, as well as at third-party facilities contracted by LYB

Product Handling Equipment Specification (PHES) - ISO Container	
Commodity [select from drop-down]:	Butanediol (BDO)
SDS Number:	BE177
Refer to SDS section 14 for this product's transport classification	
General ISO Container Information:	
DOT Specification:	IM 101, UN T-11 (stainless steel ISO container); maximum 24K liter capacity; ISO container must be approved and designated by LYB to transport Butanediol; a dedicated ISO container is not required, but service dedication will require LYB's written pre-approval prior to loading or transportation; data plate information must be legible and correctly stamped; inspection documentation must be with driver as additional proof of inspection/test date verification to prevent equipment rejection
Insulation:	Required
Heating Capabilities:	Required
Gasket Material:	White butyl rubber, white EDPM, virgin Teflon, or Teflon encapsulated; dome gasket must give a leak tight seal upon completion of loading
Connections/Fittings:	All must be stainless steel, solid flange or plug must be attached to the ISO container, as applicable; must be capable of being sealed with a 1/8" wire cable seal; dome lid and valve cover must capable of being sealed with 1/8" wire cable seal
Liquid Connection:	Export shipments: Blind flange on bottom outlet if ISO container is to be loaded on rail or vessel; bottom outlet must have a solid closure; dust caps are not acceptable; Domestic Shipments: Flanged 3" male camlock (quick connect) with sealable dust cap; bottom rear loader; both shipment types must be capable of being sealed with a 1/8" wire cable seal
Vapor Connection:	1.5" ball valve with bull plug; bull plug must be attached with chain/cable and valve must be able to be sealed with a 1/8" cable seal; protective cover for manifold and vapor connection must have the capability to be sealed; this applies for export or domestic shipments
Nitrogen Padding:	Nitrogen purged for drying and moisture control; clean ISO container must have a 5-7 psig pad upon arrival at loading facility; re-load/reuse container may return with last off-loading pressure or minimum of 5-7 psig

Tank Cleanliness:	If container is cleaned, a cleaning certificate is required showing the container is clean, dry, and odor free; if ISO container is a re-load, the prior LYB shipping documents are required as proof that last-contained was LYB material; ISO container must be on file with loading site as dedicated to LYB Butanediol
Strapping Chart:	Required; level gauge indicator also preferred
Hoses:	Hoses are not required to load at LYB facilities, and are not available for transport with ISO containers for export shipments
Additional Appurtenances:	Carrier should always note carrier's instructions field of the LYB shipping document for any additional equipment, driver's requirement, etc.; all opening to ISO container must be capable of being sealed with 1/8" wire cable seal; product labeling is required with container/driver upon arrival to loading facility; driver must ensure product name and all labelling is applied to both sides of ISO container prior to leaving loading facility; driver must have current and matching LYB shipping notice, Transwide call-off, or manifest document, and arrive at pickup point at the scheduled time to be accepted for loading; driver must always notify LYB of any requested light loading due to potential exceedence of gross legal weight; driver responsible for re-sealing ISO container for residue transport once offloaded
Misc. Restrictions:	No additional personnel in tractor unless team driver(s); pets are strictly prohibited; customer pickup (CPU/collect) orders are prohibited; to be delivered by LYB-contracted carrier only
Acceptable Prior Cargoes:	Not applicable
Prohibited Prior Cargoes:	Not applicable
Disclaimer:	LYB reserves the right to reject any ISO container based on its actual condition or suitability as determined during on-site inspection and in accordance with applicable transport regulations