

## TECH TOPIC

# Polymer Hopper Car Unloading

There are several topics to consider when receiving LyondellBasell polymers in railcars. The following should be considered when developing an effective hopper car unloading procedure.

### 1. Know the product in the railcar.

- a. Read shipping documentation to confirm the railcar number and content.
- b. Read the Safety Data Sheet (SDS) for the product (available at [www.LYB.com](http://www.LYB.com).) The SDS contains safety recommendations specific to each product that must be followed.

### 2. Take steps to secure the railcar so it can be safely unloaded.

- a. Never inspect the contents or connect unloading equipment to a railcar while it is connected to a locomotive.
- b. A best practice is to decouple the railcar and place de-railers on the track to prevent unintentional movement.
- c. Place signs on all sides of the railcar to alert others the railcar is being unloaded.
- d. Use safe fall protection procedures if you must work at heights.

### 3. Prepare the railcar and surrounding area.

- a. Ensure good house keeping in the unloading area.
- b. Inspect the surrounding area for hazards.
- c. Inspect the railcar for damage and tampering.
  - i. Verify cable seals are in place.
  - ii. It is a best practice to use an unloading checklist that documents the cable tie ID numbers.

### 4. Unload the railcar – Utilize a checklist procedure to unload the railcar that takes the following into consideration

- a. Proper grounding and bonding must be in place. Conveying of polymer generates static electricity, which may lead to an injury from shock or act as an ignition source for a fire or dust explosion.
- b. Spill prevention – include steps to prevent, contain, and immediately clean up any spills. Consider using a catch pan.



- c. Product contamination – Inspect hoses and unloading equipment to make sure they are free from contaminants. Open hoses ends should never be placed on the ground.
- d. Transfer velocity should be in target range for your system. Excessive transfer rates may result in formation of fines and streamers.
- e. Transfer temperature should be in target range for the product being transferred. High conveying temperature may result in formation of fines and streamers.

## 5. Post unloading activities

- a. All unloading hoses should be capped and returned to a hose rack at a designated storage area. Do not leave open hoses on ground.
- b. Clean up any spilled polymer. Recycle or properly dispose of recovered polymer.
- c. Perform housekeeping in area.
- d. Properly store all equipment.

## 6. Prepare the empty railcar for shipment.

- a. Inspect the railcar to confirm it is empty. Remove heel if necessary.
- b. Verify all hatches are secured.
- c. Properly install caps on unloading hoses to prevent potential damage and spills.
- d. Clean any polymer spills. Recycle or properly dispose of any spilled polymer.
- e. Remove derailler and safety signs when appropriate.
- f. Provide documentation and communication to railroad.



### References:

1. LyondellBasell Website  
<https://www.lyondellbasell.com/>
2. Operation Clean Sweep  
<https://www.opcleansweep.org/>
3. Association of American Railroads

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