
	<b>GILES CHEMICAL ~ PREMIER MAGNESIA</b>		
	<b>Company Procedure</b>		
	Title: <b>MgO Unloading Procedure</b>	Number: <b>P12-PR-200-006</b>	
	Owner: <b>Patrick Owen</b>	Revision: <b>04</b>	
	Effective Date: <b>07/15/16</b>	Page: <b>1 of 3</b>	

## 1.0 Purpose

The purpose of this procedure is to provide specific instructions for the safe and proper unloading and sampling of Magnesium Oxide (MgO) from the railcar into the silo.

## 2.0 Scope

This procedure applies to all MgO railcars unloaded at the Manufacturing facility.

## 3.0 Responsibility

Material Handler is responsible for unloading all incoming raw materials.

## 4.0 Safety Considerations

Safety glasses and appropriate safety apparel are to be worn at all times. Hearing protection is recommended for operators spending excess (2-3 consecutive hours) amount of time near car

**Ensure chocks and warning sign are in place before unloading.**

Safety is a condition of employment. Employees are not authorized to work in an unsafe manner and are prohibited from harming the environment of the facility or community.

## 5.0 Materials/Equipment-

- Sampling Scoop
- Sample Bag



## 6.0 Procedure:

### Housekeeping of Rail Site and Offloading Area

1. Inspect offloading area before and after use.
  - a. Walkways are to be kept clear of trash and/or trip hazards.
  - b. Check that all lighting and safety features are working properly.
  - c. Make sure that the exit egress is always unblocked and easily accessible.
2. All MgO hoses should be capped and stored properly on Hose Racks before and after use.
3. MgO hoses are to be inspected before use.
  - a. Broken ears, missing gaskets, worn or leaking hoses are to be repaired before use

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## Preparation for Unloading of the Bulk Rail Car

(Print out and follow *MgO History Log procedure (P12-PR-200-008)* when filling out log)

- To assure that the car will not move or be moved, do the following.
  - Check the hand brake on the rail car to make sure it is engaged;
  - Block or chock the wheels of the car
  - Confirm the placement of the derail and caution signs.
- Determine which silo can receive the full shipment ( one car per silo )
- Switch the Diverter valve to the Silo that the MgO will be loaded into.
- Visually verify, if possible, that the Diverter Valve switched correctly.
- Ensure that chocks and warning sign are in place before unloading.
- Ensure all the load seals are intact. If they are not, stop and inform the Plant Manager. The MgO may have been tampered with.

## MgO Unloading Procedure

### Obtain Sample of Contents:

- Obtain a sample bag from the Material Handlers desk.
- Open a hatch on one of the hoppers, collect a sample using sampling scoop in a sample bag.
- Record the railcar number, date, time, silo and the operator initials on the sample bag.
- Record the seal number from the opened hatch on the *MgO Car History Log*.
- Close the hatch securely and check that all hatches are tightly closed and air tight.
- Place sample in designated area on Material Handler desk for Quality Associate to pick-up for laboratory testing.

### Connect the air inlet hose:

- Remove the cap on the air inlet connection on the car.
- Remove the cap on the air supply hose from the blower.
- Connect the air supply hose to the air inlet connection on the car, making sure that the connection is secure.



### Connect the MgO discharge hose:

- Remove the cap on the product outlet on the car.
- Remove the cap on the transfer hose to the storage silo pipeline.
- Connect the transfer hose to the product outlet on the car (making sure the connection is secure).
- Connect the other end of the transfer hose to the pipeline.
- Check the product valve on the bottom of each hopper (should be **closed**).
- Ensure the aerating valves on the car are open.
- Check the pipeline valve (should be open)
- Check the blow down valve on the car (should be **closed**)
- Start the Blower.
- After the car has pressurized to 10 to 15 psi, open the control valve ½ the way.

**WARNING: Pressure should never exceed the limit listed on the railcar**

**WARNING: Transferring product at pressures higher than 10 psi. can cause the transfer pipe to clog**

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11. When the transfer line has been pressurized, double check to make sure that the product will be flowing into the correct storage silo.
12. Slowly open the product valve on the bottom of an end hopper
13. MgO passing through the discharge hose should be heard.
14. Adjust the control valve a little beyond ½ way to ensure the line stays clear.
15. As the car is unloaded the pressure in the hopper will fall.
16. When MgO is no longer heard to be passing through the discharge hose, pound on the side of the hopper to determine if it is empty (denoted by a hollow sound).
17. When the hopper is empty, close the product valve at the bottom of the hopper, and continue to the next hopper, using the same procedure as above. Repeat until all of the hoppers have been emptied.

#### **Prepare the MgO Rail Car for Release to the Railroad.**

1. Ensure all of the hoppers are empty
2. Securely close all of the product valves on the car
3. Close the tank and pipeline valves.
4. Turn the Blower off.
5. Slowly open the blow down valve on the car to release the pressure in the hoppers and line.
6. After all of the pressure in the car has been released, open the hatches on the top of the car to visually confirm that all of the MgO has been transferred.
7. When it has been confirmed that the car is empty, close and secure the hatches.
8. Disconnect the transfer hoses and secure the caps on both the transfer and the product outlets on the car.
9. Disconnect the air hose and replace the caps on the air hose and the air inlet on the rail car.
10. Ensure the hatch covers are all closed and tightly bolted down.
11. Ensure the product outlet cap is secure and the chain is in place.
12. Ensure air inlet cap is secure and the chain in place.
13. Insert hose plugs in all hoses.
14. Place all hoses and couplings on the rack and clear of the siding, walkways and rail cars.
15. Check the general condition of the rail car (ladders, handrails, platforms, etc.) and report any problems on the MgO Car History Log .
16. Remove the wheel chocks and warning signs.
17. Sign off on *MgO Car History Log* stating MgO car was physically checked, it is empty and it is ready for release.

#### **6.0 Reference Documents**

*MgO History Log procedure (P12-PR-200-008)*

*MgO History Log (P12-PR-200-F008)*

#### **7.0 Change Information**

Added section outlining Housekeeping of Rail Site and Offloading Area

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