

## Mercury Displacement Relays



### Watlow No Longer Manufactures Mercury Displacement Relays (MDRs)

Because MDRs contain mercury, they should not be placed in the normal waste stream (trash barrel). Mercury is listed as a hazardous material and therefore all MDRs are required by law to be recycled and or disposed of properly. To promote responsible handling of mercury Watlow has provided the following link to an approved recycling facility and short instructions on how to order the recycle shipping containers.

1. Click on the Retrofit Recycling link below.
2. Click on "Order Pre-Paid Recycling Services"
3. Click "OnyxPAK Pail for Mercury Devices". Enter the quantity you would like to order. Click "Add to Cart" and "Check Out".
4. Enter the payment information and complete all the necessary fields.

[www.retrofitcompanies.com/recycling.html](http://www.retrofitcompanies.com/recycling.html)

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## Mercury Handling, Clean-up Procedure and Disposal of Mercury Displacement Relays

### Mercury Handling and Clean-up Procedure

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### Facts about handling mercury

- Exposed mercury will give off vapors very slowly at room temperature and does not present an immediate health hazard, however, you should always error on the side of caution and ventilate the exposed area until the spill is cleaned up. A common clinical thermometer has enough mercury to contaminate a room 100 feet by 100 feet by 15 feet if not ventilated.
- When handling mercury you should wear hand protection such as latex or nitrile gloves. Use good personal hygiene. Do not eat, drink, or touch your mouth, nose and eyes until you have thoroughly washed your hands.

### Clean-up procedure

- Useful materials for clean-up include:

A small sealable container.

A piece of sponge or paper towel.

A small piece of rigid paper or plastic to use as a scoop for larger droplets of mercury.

A small amount of water.

Notes: Use a minimum amount of materials to limit the amount of materials to be disposed of. Lab Safety Supply sells a mercury spill kit. Their phone number is 1-800-356-0783.

- Be sure there are no electrical hazards before starting the clean-up operation. Mercury and mercury vapors are electrically conductive in the correct environment.
- Remove any jewelry that may accidentally come in contact with the mercury. Mercury readily dissolves gold.
- Use a damp piece of sponge to guide larger droplets of mercury onto the paper or plastic scoop and deposit them into the sealable container.
- The small droplets of mercury can be picked up by the damp sponge or towel and deposited into the container.
- Place all the contaminated materials into the sealable container.
- Label the container as "Mercury Contaminated Waste."
- Any device containing mercury should never be sent to a land fill. It should be sent to an approved mercury recycling center. Contact your local solid waste management authority for instructions on disposal or recycling of mercury and mercury-contaminated materials.



### **Disposal of Mercury Displacement Relays**

Watlow Winona developed this procedure for properly disposing of MDRs to be a good steward of the environment and comply with applicable laws.

By returning your Watlow MDR to an approved mercury recycler you can be sure that the MDR will be recycled or disposed of properly. However, the recycler will charge a recycling fee.

### **Definition**

*Mercury Displacement Relay (MDR)* - An electromechanical switching device having one or more poles that contain metallic mercury and a plunger which, when energized by a magnetic field, moves into a pool of mercury, displacing the mercury sufficiently to create a closed electrical circuit.

### **Procedure**

- MDRs must not be placed in the waste stream until the mercury is removed for recycling.
- Please contact Retrofit Recycling at 507-455-2181 or [www.retrofitcompanies.com/recycling.html](http://www.retrofitcompanies.com/recycling.html) to obtain a quotation for your recycle job.
- MDRs eligible for this service are Watlow Series A, H, HG, KD, L, LD, M and MD relays.

### **Hazardous Materials**

If the MDR you wish to recycle has one or more breached (open) poles, you must seal it in a non-porous container to prevent the escape of liquid and gaseous mercury. Acceptable non-porous containers are composed of high density polyethylene, or equivalent.

Watlow recommends the relay(s) be double-bagged in sealed Zip-Lock<sup>®</sup>-type storage bags and further sealed with heavy-duty packaging tape. Ship the unit with adequate packing material in a corrugated cardboard box (minimum burst strength of 20 pounds). Breached relays must be shipped as hazardous material.

Please include the following information on the hazardous material shipping label:

- Proper shipping name: Mercury contained in manufactured articles
- Emergency contact number: 507-454-5300
- Hazard Class or Division: 8
- Identification Number: UN2809
- Packing Group: 1 for air transport
- Packing Group: 3 for ground transport
- Type Label(s) and required information: Corrosive

**ISO 9001**

If additional assistance is required, contact Watlow at 507-454-5300 and ask to speak with the MDR product manager or site safety director.



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