# Chemical Safety Practices Recommendations

## Azoxymethane (AOM)

### Exposure Hazards (1)

- **Category 2**: Danger 
  Toxict
  - Fatal If Swallowed

- **Category 1B**: Danger 
  Carcinogenicity
  - May Cause Cancer

### Response to Exposure

Disulfiram may prevent the production of the toxic metabolites after acute AOM exposure. Do not self-medicate.

<table>
<thead>
<tr>
<th>Oral</th>
<th>Dermal</th>
<th>Inhalation</th>
<th>Injection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinse mouth; do not induce vomiting. Report to OHS.</td>
<td>Wash skin with soap and water for 15 minutes. Rinse eyes for 15 minutes. Report to OHS.</td>
<td>Leave area; go to clean air. Report to OHS.</td>
<td>Report to OHS.</td>
</tr>
</tbody>
</table>

### Special Precautions

- Azoxy methane is volatile and flammable.  
- HEPA filters will not prevent exposure.  
- Pregnant women should exercise additional caution when working with or around AOM.

### Personal Protective Equipment

- Gloves (Double glove) (Latex or Nitrile)  
- Skin Protection (Suit or Scrubs or Lab Coat)  
- Eye Protection (Safety-glasses or Goggles)  
- Closed-toe shoes

- **Respirator with Organic Vapor + P100** cartridges (3M #60926) if engineering controls are not available. Supplied air or SCBA systems should be used in the event of chemical spills.

### Engineering Controls

- Azoxy methane may not be used in a system which recirculates air.  
- Azoxy methane must be used in a 100% exhausted CFH or Class II, B2 BSC.

### Animal Handling

- Avoid exposure to animal waste until 10 days after last treatment.  
- Animals may exhale AOM for up to 10 days.  
  - (2) Treat animals as hazardous.

### Bedding Disposal

- Dispose of bedding as hazardous material until 10 days after last treatment. Seal bags.

### Work Practices

- Empty Azoxy methane containers and unused Azoxy methane must be disposed of as hazardous. Seal containers for disposal tightly to prevent evaporation. Follow LASP SOPs for preparation, handling, dosing, and disposal of Azoxy methane.

### References:


Questions or concerns: Please contact EHS, Ted Witte, theodore.witte@nih.gov or 301-846-5860  
Reviewed 12/21/2014 These recommendations are not final and may be updated.
Aozymethane (AOM) is metabolized to Methylazoxymethanol (MAOM) which then spontaneously degrades to form the compounds believed to cause carcinogenic damage. AOM and MAOM are volatile and will readily evaporate into the atmosphere and are exhaled for an extended period of time by treated animals, though if metabolized normally AOM expiration will mainly occur in the first few hours after injection. AOM and MAOM are also excreted in the urine, but in trace quantities (<2%). The bulk of the AOM will be metabolized to carbon dioxide. Activated carbon filters capable of trapping organic vapors are necessary to prevent personnel exposure.

While AOM metabolites are potentially damaging to all organs of the body, the tendency to cause colon cancer is caused in part by hepatic recirculation of the proximal carcinogen Methylazoxymethanol (MAOM), which is then deconjugated by enteric bacteria and reabsorbed. The formation of toxic metabolites can be prevented in animals by treatment with Disulfiram (Antabuse) and the reabsorption of MAOM does not occur in animals without enteric bacteria.

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