Chemical Release Investigation Kit & Template (CRIKT)  
For Local Health Departments

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>TRADE NAME(S)</th>
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<tbody>
<tr>
<td>Hydrogen Sulfide</td>
<td>Hydrosulfuric acid, Sewer gas, Sulfuretted hydrogen</td>
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**PREPARING FOR THE INVESTIGATION**

**Know the Agent**
- Hydrogen sulfide is a colorless, flammable gas with a strong rotten-egg like odor.
  - Read about hydrogen sulfide in the Hydrogen Sulfide Fact Sheet.
- Contact:
  - Public Health Preparedness & Response Branch (PHP&R): 888.820.0520.
- Print and review form:
  - Chemically Exposed Persons Line Listing.

**CONDUCTING THE INVESTIGATION**

**Evaluate Release/Exposure**
- Define scale/scope of exposure (work with N.C. Emergency Management, HazMat, an Environmental Health Specialist at the local or state level, N.C. Department of Environment and Natural Resources [N.C. DENR], and U.S. Environmental Protection Agency [U.S. EPA] if applicable).

**Identify Route of Human Chemical Exposure**
- Identify route of exposure:
  - Inhalation
  - Ingestion (as hydrosulfuric acid)
  - Dermal (skin) & eye contact
| Describe Exposed Population | • Interview responders and/or exposed individuals to obtain additional information about the hydrogen sulfide exposure within 24 hours.  
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<td>• Determine the following:</td>
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<td>o Geographic area affected</td>
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<td>o Population affected (general population, employees and residents)</td>
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<td>o How population exposed (in vicinity, inhalation or direct contact)</td>
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<td>o Define cases within the exposed population.</td>
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<td>o Contact OEEB (919.707.5900) to assist in developing a risk assessment to be shared with officials.</td>
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<td>o Once completed, provide OEEB with the Chemically Exposed Persons Line Listing.</td>
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| Implement Control Measures to Prevent Additional Exposures | • Decide on measures to protect citizens and the surrounding communities.  
|------------------------------------------------------------|
| • The environmental health specialist should consult with OEEB to discuss next steps to ensure no additional individuals are exposed.  
| • Inform residents/businesses of the hydrogen sulfide exposure through local emergency notification system, local TV and radio. Important points to include:  
| o Location of release/exposure  
| o Geographic area affected  
| o Shelter-in-place instructions  
| o Where to evacuate if needed  
| o Where to find shelter  
| o Where to seek medical care  
| • For more information, please listen to your local radio station or watch your local news channel.  
| • Work with your local incident management team and local health director to determine steps to be taken to re-enter |

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Hydrogen Sulfide Investigation Steps  
October 2015
residences/businesses.
  - The local incident management team will determine when residences/businesses are acceptable for re-entry and alert the local health director, who will then participate in the final decision.
  - Your local health director will then communicate with the on-scene coordinator.
  - The on-scene coordinator will then communicate to the community when they are permitted to return home or to their place of employment.

**INVESTIGATION RESULTS**

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<tr>
<th>Case Finding</th>
<th>Routine Precautions</th>
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| • During the course of the investigation, interview other exposed individuals for symptoms related to the hydrogen sulfide exposure.  
  - Work with your local medical facilities, local incident management team and/or the first responders to compile the exposed persons’ information.  
  - Contact local hospitals to determine total number injured, hospitalized, ED visits and deceased.  
  - Contact N.C. DETECT, North Carolina’s state syndromic surveillance system for additional information: 919.843.2361.  
  • Advise symptomatic individuals, especially children, to see their healthcare provider immediately for evaluation. | • Communicate the following control measures with residents/business owners.  
  - Remove all ignition sources from the immediate area.  
  - Ventilate the area of the spill or leak.  
  - Restrict access to the immediate |
area around the spill or leak unless wearing protective equipment.
  o Flush any dermal or eye exposures with large quantities of water.
  o Stop the flow of gas if possible without risk or wait for experts to arrive.
  o If possible, shift leaking containers so that gas escapes rather than liquid.

SPECIAL CONSIDERATIONS

| Risk Communication | • N.C. DHHS Communications Office is available to assist local health departments with media inquiries as needed 919. 855.4840. |

ADDITIONAL INFORMATION

| Glossary of Terms | DENR: Department of Environment and Natural Resources |
|                   | ED: Emergency Department |
|                   | EHS: Environmental Health Specialist |
|                   | EPA: Environmental Protection Agency |
|                   | OEEB: Occupational and Environmental Epidemiology Branch |
|                   | PHP&R: Public Health Preparedness & Response |