



## Hazardous Materials Technician Certification

<b>Skill # 16.1 Chlorine “B” Kit – Fusible Metal Plug</b>	<b>Maximum Time Allowed: 15 min.</b>								
<b><u>INSTRUCTIONS TO THE CANDIDATE</u></b>									
Given a simulated leaking Chlorine “B” ton container and working as a member of a team of two, the candidate dressed in Level “A” personal protective equipment will safely control a leak using the clamp and other necessary equipment from the Chlorine “B” Kit provided.									
<b><u>CANDIDATE PERFORMANCE</u></b>									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="width: 50%;">1<sup>st</sup> Attempt</th> <th colspan="2" style="width: 50%;">2<sup>nd</sup> Attempt</th> </tr> <tr> <th style="width: 25%;">Yes</th> <th style="width: 25%;">No</th> <th style="width: 25%;">Yes</th> <th style="width: 25%;">No</th> </tr> </table>	1 <sup>st</sup> Attempt		2 <sup>nd</sup> Attempt		Yes	No	Yes	No
1 <sup>st</sup> Attempt		2 <sup>nd</sup> Attempt							
Yes	No	Yes	No						
◆ Candidate has informed the evaluator that they have been trained in this skill.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Entry and all control operations are conducted as a team and performed in a safe manner, approaching from up hill and up wind. Avoids down wind positions and contact with product when possible.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
If more than one container is in the location, attempt to locate the leaking ton container by visible chlorine vapor or by using vapor from an aqua ammonia (ammonium hydroxide) squeeze bottle to create a visible reaction (vapor cloud).	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
If the container is connected to piping/process unit, close valves that connect the ton container to the process and turn off the process after consulting with the process operator/owner (verbalize contacting the operator/owner before turning systems off).	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Observes any conditions that would indicate reactivity with container or other product	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Safely pin-points the location of the leak in the container. Detects the presence and location of non-visible leak using aqua ammonia vapor.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Attempts to roll/position ton container so that the leaking fusible plug is in the uppermost position.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
If the leak is in fusible material in the plug the candidate shall complete the following:									
Assemble all tools that will be required for this operation. Wrench 200      Yoke 4C      Stud 4E      Gasket 4G	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Fit Yoke with Stud over head of fusible plug.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Place Gasket against face of fusible plug.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
Tighten Stud using Wrench until the leak stops.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
◆ Check for leakage using ammonium hydroxide vapor and tighten the set screw further if necessary. <i>(If the leak is not controlled with proper use of this process the candidate must recognize the “B” Kit “Hood Assembly” or small drift pin must be used)</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>								
<b>Total steps candidate must complete to pass:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;"><b>9</b></td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;"><b>Total</b></td> </tr> </table>		<b>9</b>		<b>Total</b>				
	<b>9</b>		<b>Total</b>						

◆ **Critical Step** - Failure on this step mandates failure on the entire objective!

Candidates Name \_\_\_\_\_

1<sup>st</sup> Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_

2<sup>nd</sup> Evaluator Signature \_\_\_\_\_ Date \_\_\_\_\_



## Hazardous Materials Technician Certification

Skill # 16.1 Chlorine "B" Kit – Fusible Metal Plug

Objective(s): 7.1.2.2(3)(c), 7.4.3.(1)(a) NFPA 472 Standard 2008 Edition

### INSTRUCTIONS TO THE MONITOR/EVALUATOR

1. The candidate must indicate that they have been instructed how to perform this skill. A negative answer is an immediate failure. No second attempt is allowed. This step doesn't count for the total number of steps the candidate must complete.
2. Evaluator or support staff shall assemble the Chlorine "B" ton container prop, air supply for simulating ton container leaks, and a complete Chlorine "B" Emergency Repair Kit.
3. PPE should be level A protective gear
4. Evaluator shall prepare the prop/air supply to simulate the appropriate leak.
5. Maximum pressure on the leaking device shall not exceed 175 psi (normal range 75-110 psi).
6. The evaluator and all personnel in the immediate area must wear eye protection. Hearing protection may be necessary with specific props/leaks and operating pressures.
7. The proctor must provide the candidate with the following equipment:
  - a. **Chlorine B Kit.**

Proctor/Candidate Comments

I was informed of the task steps missed that resulted in the failure of this skill and the OSU-FST re-test policies.

\_\_\_\_\_  
Candidate Signature

\_\_\_\_\_  
Date