SAFETY ALERT

Sodium Hydroxide Spill

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Approved By: Claire Lyons

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1. What Happened?

An accidental release of Sodium Hydroxide occurred during a routine bulk delivery to an Irish Water, Water Treatment Facility. The chemical was being pumped from the bulk delivery tanker using compressed air and via a flexible fill line and connected to the tank inlet line via a 1.5" camlock connection (*figure 1*). It is thought that pressure from the compressor/pump caused the hose piping to vibrate and shake due to the bend in the piping (*figure 1*) causing the male end of the camlock connector to rupture within the connection point (*figure 1*). This resulted in the accidental release of Sodium Hydroxide within the bund and in the chemical room in general. It was also noted that the de-gassing of the tank on the lorry may have also contributed to the rupture of the camlock due to the air pressure within the hose. The failure of the fitting was attributed to the inadequate support of the flexible fill line from the tanker during filling.

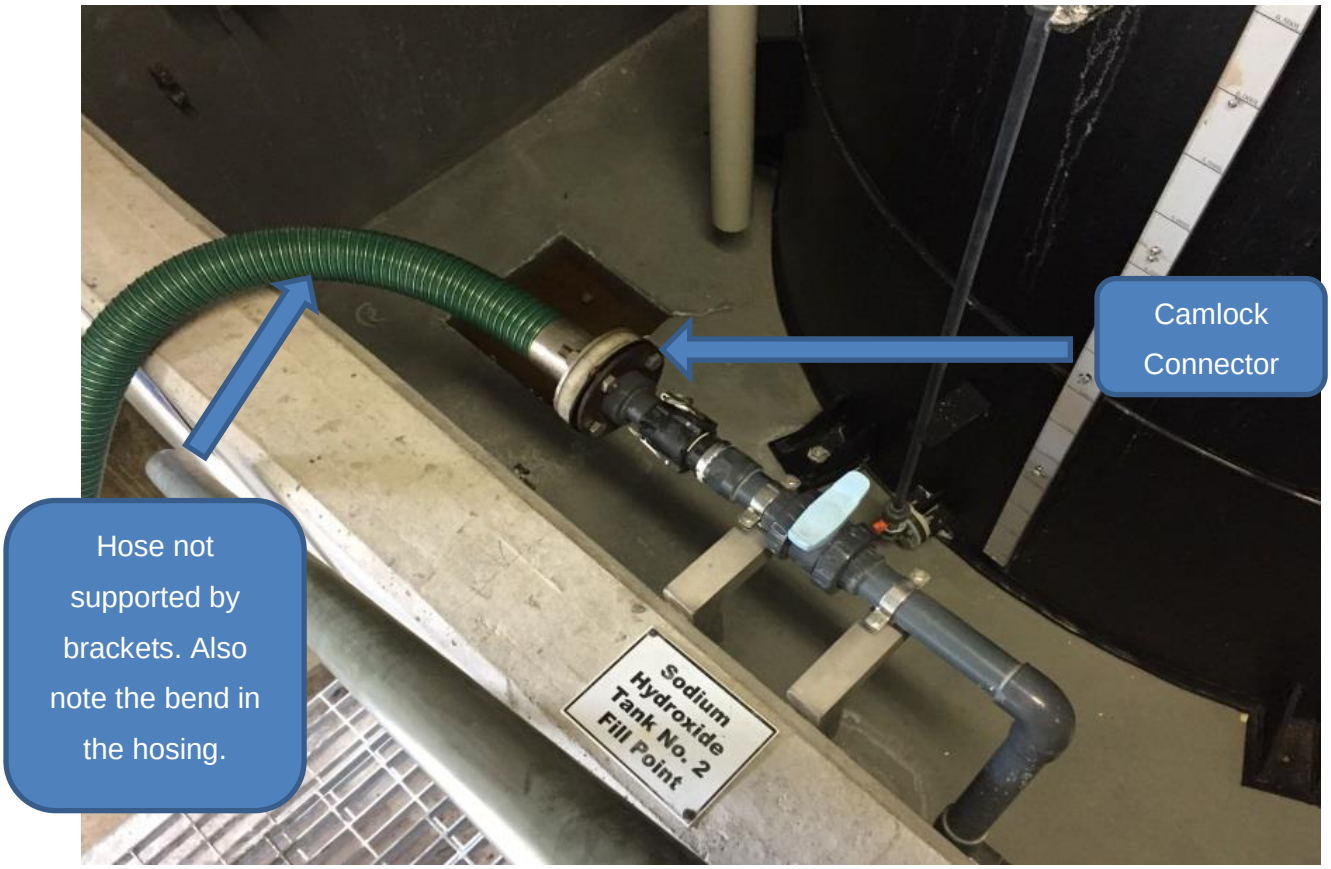

Figure 1

2. Immediate Actions

- The driver who was standing at the back of the lorry when the incident occurred immediately turned off the valve and then turned off the compressor.
- A spill kit was used to contain the chemical spill.

3. Further Actions

- Designers should ensure the following when designing and specifying fill lines to bulk storage vessels:
    - The length of the filling line should be as short as possible, and shall have the minimum number of bends as is practicable. The bulk storage tank shall be visible from the filling point, and the distance from the tanker to the filling point should not require the use of a tanker hose extension.
    - Filling lines shall be securely fastened to prevent mechanical vibration during filling activities.
- Chemical providers shall ensure a Pre-Delivery Chemical Checklist is completed prior to delivering chemical/s to a site for the first time or as part any new agreement under the new IW chemical framework. Where providers suspect inadequate support for flexible filling hoses to connection points this should be highlighted on the pre delivery inspection checklist.
- Operators should review chemical fill points to ensure that there is adequate bracketing to support flexible fill lines when attached to storage tank fill points.

4. Further Information

For further information on this safety alert please contact hsqe@water.ie

5. Distribution list

Internal		
Asset Operations ☒	Asset Delivery☒	Asset Strategy ☒
Asset Management☒	All IW staff ☐	
Other Please Specify _____		

External		
Local Authority ☒	DBO ☒	Capital Contracts ☒
Relevant Framework Contractors ☒		
Other Please Specify: Engineering Consultants_____		