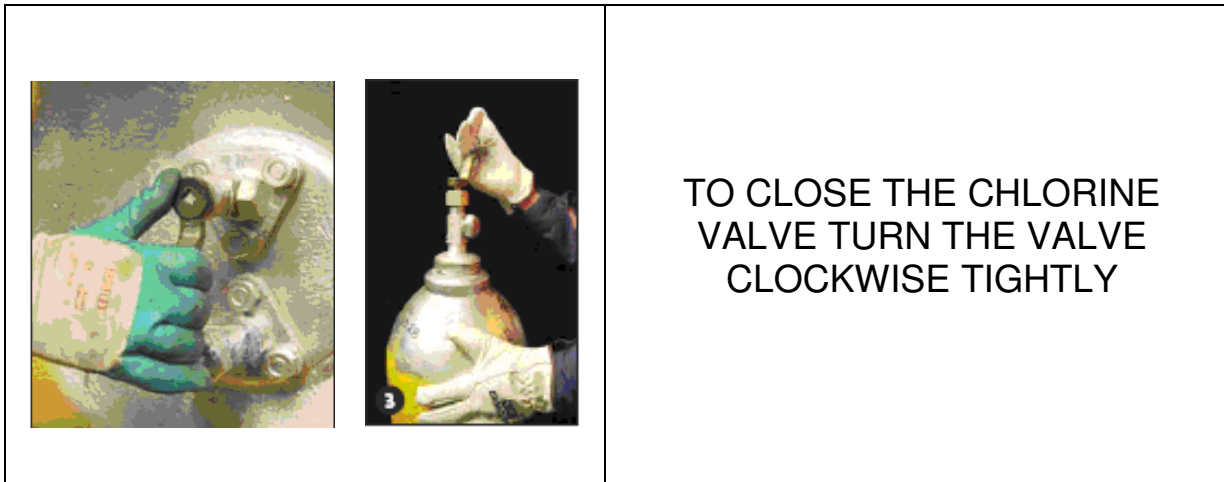


SAFETY ALERT

CHLORINE CONTAINER VALVES BEING LEFT OPEN WHEN DISCONNECTED AT CUSTOMER SITES AND RETURNED TO ORICA



Incident Details:

Some customers' personnel have left Chlorine valves on cylinders and drums in the open position after disconnecting the drums or cylinders. These containers have then been returned in this state to Orica's manufacturing plants. Orica have had 10 drums and 25 cylinders which have been returned from customers with valves opened in the last 12 months.

Key Issues:

If chlorine valves are left open by operators after disconnection from their system, then it presents a number of serious safety concerns:

- Chlorine being released at the customer's site and injuring personnel.
- A potential Chlorine release during transport of the container back to Orica.
- A potential serious Chlorine exposure to personnel involved in the transport and loading of the containers.
- A potential serious Chlorine exposure to Orica personnel at the plant while processing the returned containers that have the valves open.
- Severe corrosion of the Chlorine valve and container.
- Evacuation of public and operating personnel.
- Statutory fines and penalties.

Recommendations:

Note that investigation has not yet been completed. Further recommendations may arise

- Customers should notify and reinforce to all their operators that the valves on all chlorine containers should be tightly closed and checked for leaks prior to returning to Orica.
- All operators should be trained in the correct method of disconnecting chlorine containers.
- Orica will investigate and provide feedback to all customers when these incidents occur so we can prevent a re-occurrence of these dangerous situations.

This incident should be shared to prevent recurrence

Disclaimer: This information is provided as a general guide only and should not be relied upon as advice, information, representation or recommendation regarding the suitability of your organisation's storage and handling practices, nor should it be considered to cover all aspects of storage and handling or to be a substitute for obtaining independent professional advice and training regarding appropriate storage and handling practices. You should obtain independent professional advice to ensure that your organisation's storage and handling practices and procedures comply with all relevant laws. Subject to any non-excludable statutory provision to the contrary, neither Orica Australia P/L nor any of its related companies, or any officers, employees or representatives of those entities, will be responsible, whether in contract, tort, commercial law or under any statute for any loss, damage, expense, liability, cost or outgoing that results from your reliance on any of the information provided by Orica in, or in connection with, this information sheet.

IF THE CUSTOMER CLOSES THE VALVE SPINDLE FULLY AS REQUIRED, INJURY AND LOSS OF PRODUCTION CAN ALL BE PREVENTED

Disconnecting a Drum

- Vacuum System



- 1 Close Chlorine valve (valve closes in clockwise direction).
- Allow Chlorine system to continue running for 1 to 2 minutes to clear any Chlorine in pipework/dripleg.
- 2 Carefully loosen coupling without completely removing it. Check for

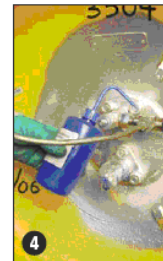
- Chlorine leak with an ammonia bottle.
- 3 If no Chlorine leak present remove coupling.
 - 4 Replace side cap checking that the fibre wad is in place inside the cap. Tighten with a spanner.

- 5 Replace valve protection cap. Make secure with a timber wedge and return the Drum to Orica Australia with a tag showing your company name and address.

Note:
Empty chlorine drums must be treated in the same fashion as full ones during handling and transport. An 'empty' drum can contain a residual amount of chlorine. When disconnecting a road tanker, breathing apparatus must be worn.

Disconnecting a Drum

- Copper Pigtail System - Gas Withdrawal



- 1 Shut the Drum valve (valves closes in a clockwise direction).
- 2 Shut the valve on the flexible connection and then, shut the isolation valve on the fixed pipework.
- 3 Using two spanners (to avoid twisting the flexible connection) carefully crack open the coupling.
- 4 Allow a short time for the small amount of chlorine in the coupling to disperse, then check for leaks.
- 5 If no leakage is detected, disconnect coupling.
- 6 Replace the cap nut, ensuring that its fibre wad is in place.
- 7 Replace the valve protection cap and return the Drum to Orica Australia with a tag showing your company name and address.



Note:
Empty chlorine drums must be treated in the same fashion as full ones during handling and transport. An 'empty' drum can contain a residual amount of chlorine. When disconnecting a road tanker, breathing apparatus must be worn.

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Disconnecting a Cylinder

- Vacuum System



- 1 Close Chlorine valve (valve closes in clockwise direction).
- Allow Chlorine system to continue running for 1 to 2 minutes to clear any Chlorine in pipework/dripleg.
- 2 Carefully loosen coupling without completely removing it.
- 2 Check for Chlorine leak with ammonia bottle.
- 3 If no Chlorine leak present remove coupling.
- 4 Replace side cap checking that the fibre wad is in place inside the cap. Tighten with a spanner.
- 5 Replace the valve protection cap and return the Drum to Orica Australia with a tag showing your company name and address.

Note:
Empty chlorine cylinders must be treated in the same fashion as full ones during handling and transport. An 'empty' drum can contain a residual amount of chlorine. When disconnecting a road tanker, breathing apparatus must be worn.

Disconnecting a Cylinder

- Copper Pigtail System

- 1 Shut the valve spindle on the cylinder.
- 2 Depressurise the line if possible.
- 3 Shut the auxiliary valve on the flexible connection and then shut the isolation valve on the fixed pipework.
- 4 Slightly loosen the coupling at the valve. Allow a short time for the small amount of chlorine in the coupling to disperse, then check for leaks.
- 4A Use two spanners on larger systems to avoid twisting the flexible connection.
- 5 If no leakage is detected, disconnect the coupling and replace the cap nut ensuring that its fibre wad is still in place. Tighten the cap nut to ensure no leakage in transport.
- 6 Replace the valve protection cap and return the container to Orica Australia with a tag showing your company name and address.



Thank you for your attention to this issue and if there are any questions or feedback, or if you would like to know more about our Chlorine Awareness Training , please contact Hydramet SA on (08) 8374 7800, hydrasa@hydramet.com.au or Hydramet WA on (08) 9251 5200 or email hydramet@hydramet.com.au

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