

NHS WALES

Estates and Facilities Alert



Llywodraeth Cymru
Welsh Government

Date: 15th April 2015

Cathays Park, Cardiff
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Safe use of Liquid Drain Cleaners

To: Chief Executives, LHBs
Chief Executives, NHS Trusts
NHS Wales Shared Services Partnership - Contractor Services

A list of people who need to have early sight of this information is given in the Alert

The content of Estates and Facilities Alerts is agreed between staff representatives from the four NHS administrations and issued throughout the United Kingdom. The Alert is endorsed by the Welsh Government as being relevant to NHS Wales and is issued by:

Neil Davies, Director, Specialist Estates Services, NHS Wales Shared Services Partnership

For advice see details on the alert

Contact point in Wales:

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Alerts are available in full text at:

within NHS Wales: <http://howis.wales.nhs.uk/sites3/page.cfm?orgid=254&pid=64173>
outside NHS Wales: <http://www.wales.nhs.uk/sites3/page.cfm?orgid=254&pid=81844>

Estates and Facilities Alert

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Safe use of Liquid Drain Cleaners

Summary

Many commercially available drain solvents contain chemicals that produce an exothermic reaction when they come in contact with water. The heat generated by this reaction can raise the water temperature to above boiling point, producing steam. If the drain is not well ventilated, this can cause a pressure increase in the drainage system which has the potential to cause unexpected damage.

Action

1. Avoid the use of liquid drain solvents to clear blocked drains where possible. The use of liquid drain solvents to be authorised only after other methods have been unsuccessful or impractical.
2. Prepare or update the risk assessment and method statements for the clearing of blocked drains, with a liquid drain solvent, taking into consideration the following;
 - a. COSHH
 - b. Regulations controlling discharges to sewer (your local water company can provide advice on what are acceptable discharges).
 - c. The possibility of the solvent accidentally escaping from the system via the disconnection of push fittings.
 - d. Check the integrity of the drainage system before applying the liquid drain solvent and continue to monitor during the clearing process.
 - e. If required take measures to protect the immediate area of work including areas on lower floors through which the drainage system is routed.
 - f. Provide warning signs that caustic chemicals are in use.
 - g. Be aware of and prepare for what action is required, in the event of the product coming into contact with the skin or inhalation of the fumes by an operator or others.
3. Only use liquid drain solvents in accordance with the manufacturer's recommendations, the following points are for guidance and not intended as an exhaustive list:
 - a. Note any restrictions of use on the product.
 - b. Do not exceed the recommended maximum dosage.
 - c. Only use at the recommended dilution.
 - d. Avoid applying a liquid drain solvent into a closed system.
 - e. Ensure that the open end of the system is well ventilated.
 - f. Operatives should wear appropriate PPE.

4. Report similar incidents to the appropriate Devolved Administration through existing incident reporting mechanisms

Action by

- Director of Estates
- Health and Safety Managers

Deadlines for action

Actions underway: 01 May 2015

Actions complete: 01 June 2015

Background

A liquid drain solvent was being used by maintenance personnel to clear a blocked drain attached to a sink on an upper floor of a hospital block. The solvent was a commercially available industrial drain cleaner containing Sulphuric Acid. During this procedure there was a leak of the solvent from the drainage system to a lower floor where a staff member slipped on the spillage and sustained serious burns to the body.

After application of the product to the drainage system of the sink, the sink was temporarily plugged and filled with water. It is believed that the Sulphuric Acid in the drain solvent reacted with the water retained in the drainage system pipe work causing a small amount of water to be converted to steam. As the pipe work was blocked at either end the steam increased the pressure in the drainage system causing an access plug/cap to dislodge allowing some of solvent to escape and leak to the floor below.

Problem

Mixing of Sulphuric Acid with water generates heat. Depending on concentrations of acid and amount of water it is possible for heat to raise the temperature of the water to above the boiling point producing steam.

Water in the form of steam, at standard atmospheric pressure, occupies 1,600 times the volume of the liquid. If water changes to steam, in a fixed volume and within a closed system, it will cause a major increase in pressure within the system which may lead to damage and escape of solvent.

Drainage systems may contain a number of push fitting and access plugs/caps which may not be readily visible to the person using a drain cleaner and susceptible to dislodgement with a pressure increase.

Manufacturer contacts

Various manufactures.

Distribution

- Directors of Estates
- Estates staff
- Appropriate External contactors (contacted to maintain plumbing and sanitary service)
- H&S Managers
- Governance Leads

Enquires

The above sections of this Alert were compiled by the NIAIC, CMO's Group, Department of Health and Social Service Northern Ireland and distributed nationally without modification.

If you have enquiries about this notice, contact the appropriate Regional Office, quoting reference number found at the top of this alert.

England

The web-based D&F reporting system is managed by the NHS and Social Care Information Centre on behalf of the Department of Health. For further information on this system, including obtaining login details, please contact the **efm**-information Helpdesk. Tel 0300 303 5678.

Reporting adverse incidents in England

Defects or failures should be reported on this system: <http://efm.hscic.gov.uk/>

Northern Ireland

Enquiries and adverse incident reports in Northern Ireland should be addressed to:

Northern Ireland Adverse Incident Centre, CMO Group,
Department of Health, Social Services and Public Safety

Tel: 028 9052 3868 Fax: 028 9052 3900

Email: NIAIC@dhsspsni.gov.uk

<http://www.dhsspsni.gov.uk/index/hea/niaic.htm>

Reporting adverse incidents in Northern Ireland

Please report directly to NIAIC using the [forms on our website](#).

Scotland

Enquiries and adverse incident reports in Scotland should be addressed to:

Incident Reporting and Investigation Centre, Health Facilities Scotland, NHS National Services
Scotland

Tel: 0131 275 7575 Fax: 0131 314 0722

Email: nss.irc@nhs.net

Reporting adverse incidents in Scotland

NHS Boards and Local Authorities in Scotland – [report to Health Facilities Scotland](#).

Contractors such as private hospitals carrying out NHS work and private care homes that accept social work funded clients – [report to Health Facilities Scotland](#).

Private facilities providing care to private clients report to the [Care Inspectorate](#) and [MHRA](#).

Wales

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