

AN (NI) 2002/01

DATE: 13 March 2002

For Attention and Action by:
Chief Executive of each HSS Trust
General Manager/Chief Executive of each HSS Board
Chief Executive of each Agency



HEALTH ESTATES
ESTATE POLICY

**NORTHERN
IRELAND
ADVERSE
INCIDENT
CENTRE**

TITLE:

**PIN-INDEX MEDICAL GAS CYLINDERS, SIZE C, D,
E, F AND G: POTENTIAL RISK OF MISMATCH TO
MEDICAL DEVICES**

MANUFACTURER/SUPPLIER

BOC.

PROBLEM

Pin-index valves on BOC cylinders may not conform to the European Standard BS EN 850. This allows the possibility of inadvertently fitting certain types of regulators upside down on any gas cylinder, in some cases with a gas-tight fit. This defeats the gas specific pin-index safety system designed to prevent the delivery of hypoxic gas mixtures.

DISTRIBUTION

This notice should be brought to the attention of all who need to know or be aware of it, including those listed below, in accordance with local procedures. This will include:

- Liaison Officers
- Risk Managers
- Health & Safety Officers/Advisors
- Device Managers
- Estates Managers
- Directors of Anaesthetics
- Medical Directors
- Clinical Directors
- Nurse Directors
- All Wards
- Medical, Nursing and Care Staff
- Ambulance Staff and Paramedics
- Supplies Staff
- Outpatient Departments
- Accident & Emergency Departments
- General Medical Practitioners
- General Dental Practitioners
- Community Pharmacists
- Day Procedure Units
- Practice Nurses
- Nursing Homes
- Hospices
- Special Care Baby Units
- Maternity Wards
- Paediatric Units
- Trust Pharmacy Managers

Boards/Trusts should ensure that if appropriate, this information is passed to all persons having the responsibility for the premises registered under "THE REGISTERED HOMES (NI) ORDER 1992.

IMMEDIATE ACTION

- When attaching pin-index cylinders to gas regulators, or the yokes of medical devices, ensure that the correct cylinder is used and the pins are correctly inserted into the valve before opening.
- Ensure that gas regulators and medical devices incorporating gas regulators are used and regularly serviced in accordance with the manufacturer's instructions.
- All persons involved in the use and handling of medical gas cylinders must receive appropriate training in their safe use, either from their employer or the cylinder suppliers.

ADVISE

NOTICE

BACKGROUND

Some pin-index cylinder valves that have been supplied to cylinder manufacturers do not conform to the European Standard BS EN 850. These non-compliant valves allow the pins to fit between the top of the valve and the thumb wheel if the regulator is placed upside down on the cylinder. This defeats the pin-index safety system allowing any regulator to be fitted to any cylinder. Compliant and non-compliant valves are similarly marked, however the attached diagram shows the difference in the spacing between the gas outlet and the top of the valve (Annex A).

No incidents have been reported with these valves since their introduction in 1997. It is unlikely that cylinders could be mismatched to a medical device with a fixed yoke such as an anaesthetic machine. However it is possible on any device where the cylinder orientation is not fixed, for example those using swivel regulators or those on a hose.

Where cylinders are inadvertently incorrectly attached to medical devices with a gas-tight fit, there are serious safety issues for the patient including the delivery of a hypoxic gas mixture and increased risk of fire. Where a non-gas-tight fitting occurs there is increased fire risk and the possibility of cryogenic burns to the user.

At the time of publication it is estimated that 40% of all BOC Gas cylinders have non-conforming pin-index valves. The manufacturer has corrective action plans to replace them, however with the large number of affected cylinders the replacement programme will take some time. It will always remain possible that affected cylinders are retained in the areas of slow cylinder turnover or where they are used only for emergencies, therefore users are requested to remain vigilant for the foreseeable future.

The PD sized oxygen cylinders used for domiciliary patients have bull-nose type valves and are not affected by this problem.

ENQUIRIES

Enquiries to the manufacturer should be addressed to:

BOC Gases, Customer Service Centre, Priestley Road, Worsley, Manchester, M28 2UT

Tel: 0800 111 333
Fax: 0800 111 555

Enquires to the NIAIC should quote the reference number AN (NI) 2002/01 and be addressed to:

Northern Ireland Adverse Incident Centre (NIAIC), Health Estates, Estate Policy Directorate, Stoney Road, Dundonald, Belfast BT16 1US.
Marked for the attention of Mr Brian Godfrey

Tel: 02890 523714
Fax: 02890 523900
Email: brian.godfrey@dhsspsni.gov.uk

Brian Godfrey
NIAIC Manager

HOW TO REPORT ADVERSE INCIDENTS

Adverse Incidents relating to medical devices, non-medical equipment, plant and buildings should be reported to NIAIC as soon as possible. Advice on how to report is given in Safety Notice SN (NI) 2002/01. If you are in doubt about how to report incidents, please speak to your liaison officer or contact NIAIC using the telephone number provided. Adverse Incident reporting forms and an on-line reporting facility are available on the NIAIC website at www.dhsspsni.gov.uk/niaic

*Heath Estates is an Executive Agency of the Department of Health, Social Services and Public Safety
Áisíneacht Feidhmeannach don Roinn Sláinte, Serbhístí Sóisialta agus Sábháilteacht Phoiblí*



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