

JUAC

Joint Union Asbestos Committee

WWII Gas masks should not be worn as asbestos fibres can be inhaled

No gas mask of WWII vintage should ever be worn.

WWII gas masks are potentially dangerous as they can release asbestos fibres. They can also be contaminated with harmful chemicals from previous use in gas drills. In addition some post war gas masks can release asbestos fibres and can be contaminated.

Tests have shown that asbestos fibres can be inhaled by wearing the masks.¹ Asbestos fibres can also be released from handling the masks, filters or carrying bag.



*WWII British Military mask. The filters contain crocidolite asbestos.
Masks, filters and carrying bags can be contaminated*

¹ Respirable Fibre Release from gas mask filters ISRP Conference Edinburgh 2002 Robin Howie Associates. Investigation into the potential exposure from an asbestos containing gas mask filter Report number: S0713/55 ENV Surveys Ltd 2 Aug 2013

Warning

In 2008 the Health and Safety Executive Northern Ireland issued an urgent warning to all schools and school boards. Their warning is relevant to all schools throughout the United Kingdom. They stated:

"In order to minimise the risk to pupils and staff in schools where masks are present, HSENI would instruct that if any school owns or has been loaned World War II gas masks to be used in displays or during course work in class these should be removed immediately. They can be stored safely by placing them inside an intact plastic bag and sealing this. This process should be repeated resulting in the gas mask being "double bagged" and sealed. A suitable label is attached with the wording 'Warning contains asbestos'!..."²

The local authority should be contacted for advice on how to safely dispose of the masks, filters and bags.

In 2004 the Imperial War Museum had issued the following guidance to their staff³:

"Most British gas masks of WW2 vintage have asbestos (blue and/or white) as a component in their filters ...Where unsure, it should be assumed that the filters do contain asbestos until proven otherwise. The filters may, in any case, contain other respiratory irritants. Thus no gas mask of WW2 vintage should ever be worn.

...Note:

There is a further health and safety issue with gas masks that have been exposed to chemicals eg used in 'live' gas tests and drills. Such gas masks should not be handled and should not go on display. They should be sealed in polyethylene bags (at least two layers) or an airtight inert container. This should be carried out in a fume cupboard, whilst wearing latex or nitrile gloves and a lab coat. The gloves should be disposed of and the lab coat disposed of/laundered after use. The enclosures should be labelled to indicate that they contain materials that are potentially hazardous and should not be opened. Any further enclosures that they are placed into, eg boxes, should be appropriate labelled as described above.

Gas masks coming from unknown sources, where it is impossible to identify whether the gas mask has been exposed to chemicals, should be treated as if they have."⁴



WWII British adult civilian mask. Filters normally contain chrysotile asbestos. Canvas carrying bags can be contaminated.

² HSENI Urgent Memo The use of World War II Gas masks in schools undated 2008. See:

http://www.onlineccms.com/filestore/documents/publications/CCMS_Circular_2013-02_Use_of_WWII_Gasmasks_in_Schools_180113.pdf

³ Personal communication IWM Head of Collections Access/Lees 14th October 2013

⁴ Asbestos in masks of the Second World War Guidance from the Imperial War Museum. 7 Dec 2004

In Britain about twenty five million military 'General Service Respirators (GSR)' were manufactured between 1935 and 1942 and those produced after 1937 contain crocidolite (blue asbestos). About three million 'Light respirators (LR)' were produced after 1942 until about 1965 and some of them can also contain crocidolite.

Civilian gas masks produced between about 1937 and 1942 normally contain chrysotile (white asbestos), although some can contain crocidolite. About one hundred and seven million civilian gas masks were produced. These included masks for adults, children and babies. The filters can potentially release asbestos fibres and the masks are potentially contaminated.⁵

As great, or perhaps a greater risk, comes from handling the masks, their filters or the canvas carrying bags. All the masks are now old and tests have shown that asbestos fibres can be released from the filters, particularly when they are split or worn. This will contaminate the people handling the equipment, the surrounding area and also the canvas carrying bags. If the bags are contaminated then the mask will be as well.

Gas masks from other countries can also contain asbestos and the same precautions should be taken.



WWII British child and baby gas masks. Filters normally contain chrysotile but can contain crocidolite asbestos.

Risks

There is no threshold exposure to asbestos below which there is no risk.⁶ Chrysotile can cause cancer, and crocidolite is up to five hundred times more likely to cause mesothelioma.⁷ Children are more at risk from asbestos exposure than adults. It is estimated that the lifetime risk of developing mesothelioma is about five times greater for a five year old child than it is for an adult aged thirty, and about four times greater for a ten year old child.⁸

⁵ Respirable Fibre Release from gas mask filters ISRP Conference Edinburgh 2002 Robin Howie Associates. Asbestos in masks of the Second World War Guidance from the Imperial War Museum. 7 Dec 2004

⁶ World Health Organisation Elimination of asbestos related diseases. Sep 2006 . WHO environmental Health criteria 203: Chrysotile Asbestos 1998 .High Court QBD Liverpool District. The Hon Mr Justice Nicol . Dianne Willmore and Knowsley Metropolitan Borough Council 24 July 2009 Para 4 .Hodgson & Darnton The quantitative risks of mesothelioma and lung cancer in relation to asbestos exposure. Epidemiology and medical statistics unit HSE. Ann Occup Hyg vol 44 p583 Is there a threshold? 2000)

⁷ Hodgson & Darnton The quantitative risks of mesothelioma and lung cancer in relation to asbestos exposure. Epidemiology and medical statistics unit HSE. Ann Occup Hyg vol 44 2000

⁸ Committee on Carcinogenicity Statement on the relative vulnerability of children to asbestos compared with adults. 7 June 2013

Two series of tests on military masks simulated the levels inhaled by the wearer. Both tests found similar levels, the first up to 0.01 f/ml (10,000 fibres in a cubic metre of air), and the second up to 0.009f/ml (9,000 fibres in a cubic metre of air).⁹ Depending on their activity a person would inhale about 1,500 fibres in a ten minute period. The contaminated bags had up to 2,000 crocidolite fibres in a centimetre square.¹⁰ The levels are unsafe, particularly for children.

Sealing and removal of asbestos

The Imperial War Museum advice for their staff is that the filters can be sealed or the asbestos can be removed. This must only be carried out by professional, qualified asbestos consultants and must never be attempted by a school. If any masks are offered to the school that have been made 'safe' then the school should ensure that documentary evidence proves that this has been performed by a professional organisation. Even then the masks must never be worn.

Sale and postage is illegal

The sale and postage of the masks, filters and bags is illegal if they contain asbestos. Despite this they are regularly traded on E-bay and posted to customers. Schools and individuals should never attempt to obtain masks by this means.

Action points for schools

- No WWII gas mask should ever be worn.
- If any school owns or has been loaned World War II gas masks to be used in displays or during course work in class these should be removed immediately.
- They can be stored safely by placing them inside a heavyweight polythene bag and sealing it by folding the neck over and firmly taping it. This should then be placed inside a second polythene bag and again sealed. A label should be firmly attached with the wording 'Warning contains asbestos'.¹¹
- If a mask has been loaned to the school then return it to the owner in the double polythene bags.
- Ensure the warning label is attached and also include this guidance.
- Or contact the local council and ask how to dispose of the mask.
- It is illegal to post asbestos containing materials.

- Filter canisters can be professionally sealed but as damage can break the seal it is strongly recommended that they are not handled but are disconnected from the mask. Ensure that there is documentary evidence that the sealing has been performed by a professional organisation.
- The asbestos can be professionally removed from the canisters. If that has been done then again ensure that there is documentary evidence that it has been performed by a professional organisation. (Most local authorities will have lists of licensed removal contractors.¹²)
- Even if the masks have been made 'safe' they should not be worn.
- Canvas carrying bags cannot be cleaned and should be treated as contaminated by asbestos fibres. They should not be handled.
- Replica masks are available and can be used without any restrictions.¹³

Effect of children's age and life expectation on mesothelioma risk. R. Howie 28th June 2012. See also Effect of age on mesothelioma risk. Darnton COC CC20132 annex A 2013. WATCH annex 2 Adjusting the H&D mesothelioma predictions to allow for life expectancy and age of first exposure undated. Age adjustment factors Darnton BOHS 17 Oct 2001.

⁹ Respirable Fibre Release from gas mask filters ISRP Conference Edinburgh 2002 Robin Howie Associates. Investigation into the potential exposure from an asbestos containing gas mask filter Report number: S0713/55 ENV Surveys Ltd 2 Aug 2013

¹⁰ Respirable Fibre Release from gas mask filters ISRP Conference Edinburgh Robin Howie Associates. 2002

¹¹ For further guidance see HSE's Asbestos Essentials Disposal of asbestos waste <http://www.hse.gov.uk/pubns/guidance/em9.pdf>

¹² If the local authority cannot provide details of licensed contractors then contact the asbestos consultancy associations ACAD or ATAC.

ACAD E-mail <http://www.tica-acad.co.uk/contact?type=acad> Switchboard: 01325 466704. ATAC E-mail info@atac.org.uk Switchboard 01283 566467



Asbestos warning label to be clearly displayed on double polythene bags

*Warning issued by the:
Joint Union Asbestos Committee (JUAC)
The Asbestos in School Group (AiS)
22nd October 2013*

¹³ Replica masks and WWII artefacts suitable for schools are available at:
www.replicawarehouse.co.uk/ww2_costumes_artefacts.htm