

# Lead in painted surfaces

## Repainting and removal

## Guidance for professional decorators

*The information contained in this publication is believed at the time of publication to be true and accurate. It is based on general principles and is intended for general guidance and information only. Its applicability to individual circumstances must be considered, having full regard to the specific prevailing conditions. All recommendations contained in this publication are made without guarantee and the British Coatings Federation cannot accept any liability in respect of consequences arising (whether directly or indirectly) from use of such advice. Mentioning any specific company or product is not a recommendation or endorsement.*

© BCF 2016

## Contents

|    |   |
|----|---|
| 1. | Introduction  |
| 2. | How to determine if a painted surface contains lead   |
| 3. | Hazards associated with lead  |
| 4. | Best Practice for the removal & renovation of lead-painted surfaces <ul style="list-style-type: none"><li>i) Precautions</li><li>ii) Preparation</li><li>iii) Removal</li><li>iv) Clean up and waste disposal</li></ul>   |
| 5. | References and Resources on lead in paint <ul style="list-style-type: none"><li>i) UK government advice</li><li>ii) Construction industry advice</li><li>iii) Specialist companies providing advice on lead paints</li><li>iv) Specialist laboratories that can test paint samples</li><li>v) How to source lead test kits</li><li>vi) How to find a professional decorator with experience with lead paint</li></ul> |
|    | Annex A - Guidance provided to the General Public in BCF Guidance Document HS 032 <ul style="list-style-type: none"><li>i) Recommended step-by-step approach</li><li>ii) Do's and Don'ts</li></ul>  |

## 1. Introduction

This document is intended for professional decorators; there is an additional simplified document, HS032, specifically to provide guidance for the general public and is freely available from the BCF website. Annex A contains the basic guidance provided by the BCF in this document, including a Do's and Don'ts section.

Lead pigments were taken out of most decorative paints in the 1960s and lead pigments and driers (at very low levels) were completely removed from decorative paints by the early 1980s. Many wood or metal surfaces (especially items such as sash window frames) painted before the 1960s could contain significant levels of lead. Lead pigments, either as a white pigment (lead carbonate/lead sulphate) or sometimes as a colouring pigment (yellow and red lead chromes) were widely used in decorative paints applied in houses and other buildings (schools, hospitals etc.) prior to the 1960's. Although leaded paint has not been used for many decades old lead painted surfaces can still be found, and can represent a possible source of exposure.

The BCF and our UK decorative paint members want to ensure that professional painters and decorators are fully aware of the potential risks associated with the renovation of painted surfaces that contain lead, to ensure the safety of themselves and the general public whilst working on projects in private homes, commercial properties and public buildings. We recommend the adoption of these best practices, protecting decorators and others from the exposure to any disturbed old lead painted surfaces during removal and repainting activities. We have also included a comprehensive set of web links to other organisations, which provide additional support on this subject

*Please note - links & mention of third parties do not imply or confer endorsement by the BCF*

## 2. How to determine if a painted surface contains lead

To determine whether or not lead-containing paint is present on any particular surface, the paint may be tested by:

- (a) an experienced professional decorator with lead expertise;
- (b) using a lead test kit, that gives a simple indication of the presence of lead;
- (c) a specialist company;
- (d) a specialist laboratory.

There have been a number of advances in recent years with regard to practical testing methods for lead, including non-invasive methods such as X-ray Fluorescence (XRF). Further details on the different analytical methods employed may be found in the WHO publication from 2011 – [http://www.who.int/ipcs/assessment/public\\_health/lead\\_paint.pdf](http://www.who.int/ipcs/assessment/public_health/lead_paint.pdf)

Please see section 5 for more details and references / links to appropriate organisations that may be able to assist with the identification and quantification of the lead content in a surface.

### 3. Hazards associated with lead

Lead is very hazardous to health. It can be breathed in as dust, fume or vapour. It can be swallowed in the form of paint chips, dust or dirt containing lead or in drinking water or in food, especially if you have not washed your hands. It can also be ingested by children sucking e.g. old cots painted with white lead paint.

If the amount of lead in your body gets too high it can cause:

- Headaches
- Tiredness
- Irritability
- Constipation
- Nausea
- Stomach pains
- Anaemia
- Loss of weight

Continued uncontrolled exposure can cause high blood lead levels that can have very serious health consequences, such as:

- Kidney damage
- Nerve and brain damage
- Infertility

Very young children would be particularly vulnerable to these potential adverse health effects of elevated levels of lead in the blood. Children absorb lead mostly by eating it or touching contaminated dust or soil and then putting their fingers into their mouths. An unborn child is at particular risk from lead exposure, especially in the early weeks before a pregnancy becomes known. If you are a woman capable of having children, you should take special care to follow good working practices and a high level of personal hygiene. Similarly, unnecessary exposure of children to lead should be prevented as much as possible.

If you think that your health, or that of anyone else, may have been affected by exposure to lead then you should contact your local doctor immediately or call the relevant NHS non-emergency helplines on:

England – NHS non-emergency service = **111**

Wales – NHS Direct Wales = **0845 4647**

Scotland – NHS 24 = **111**

#### **4. Best Practice for the removal & renovation of lead-painted surfaces**

Whilst lead is hazardous to health it is important to realise that the main risk is if the paint film is damaged, unsound or flaking off, where lead-containing particles and dust may be inhaled. There is also a risk to human health by ingestion e.g. physical contact with a lead painted surface when a child licks the surface. Ideally, old lead painted surfaces should only be treated, overcoated or removed if the paint (film) is flaking or chipping away or if dusts and particles are present, or if there is the possibility of the painted surface being chewed or sucked by children.

**If the lead-containing painted surface is in good condition and/or is already protected (over-coated) with a non-lead containing paint, which is maintained in a good condition, then removal could result in a greater exposure to lead dusts and particles than would otherwise occur from leaving the paint undisturbed.**

##### **i) Precautions**

It is important that the following precautions are taken when renovating/removing old lead paint from a building surface:

- a) Avoid creation of lead-containing dusts or fumes.
- b) Prohibit anyone not involved in the work from the area, and preferably the whole building, until the work has been fully completed and the area has been thoroughly cleaned. Inform anyone who is in the building that the work is being carried out.
- c) Ensure no children or pregnant women are present in any area where renovation work which involves the disturbance of lead-containing surfaces is taking place.
- d) Do not smoke, eat or drink in the work area.

##### **ii) Preparation**

It is advised that the following steps are taken prior to starting work:

- a) Remove furniture, curtains and soft furnishing as far as possible. If this cannot be done, cover these and other permanent items (including flooring) with plastic sheeting sealed with heavy duty tape. Beware of slipping on these surfaces.
- b) Keep people out of the area.
- c) Wear overalls, particulate filter face mask, and rubber or latex gloves within the work area, and remove them before leaving the area.
- d) For outside working, contamination of the soil should be avoided. Cover all grass, garden beds etc. within the near vicinity with plastic sheeting. Avoid working in windy or wet conditions.

### iii) Removal

To remove the old lead-containing paint, carry out one or more of the following:

- a) To prepare surfaces in good condition (no flaking, loss of adhesion from the underlying surface) for repainting the surface should be rubbed down wet with waterproof abrasive paper to provide a key for new coat(s) of paint. The debris from rubbing down should not be allowed to dry out and form dust. It should be removed with a damp cloth and the cloth, abrasive paper and any other debris placed in a plastic bag, sealed and disposed of (see iv) below). Avoid any dust creation.
- b) In the case of walls and ceilings these can either be treated with wallcoverings or lining paper, or by repainting, after the preparation stage a) has been completed.
- c) To completely remove lead paint in a poor condition;

**Either:** Use a chemical paint stripper, ensuring that all instructions on the container are carefully followed. A suitable face mask to protect from fumes might be required. Such masks will NOT protect against dusts and should not be used for such purposes.

[For stripping doors a specialist stripping company, which can remove the paint safely and completely in stripping baths, can be used.]

**Or:** Use a paint scraper and wet abrasive paper, both these operations should be carried out after wetting the surface and the surface should be kept wet throughout to avoid dust and flakes becoming air-borne. A suitable face mask to protect exposure to lead-containing dusts should be worn. The debris from scraping and rubbing down should not be allowed to dry out and form dust. It should be removed with a damp cloth and the cloth, abrasive paper and other debris placed in a plastic bag, sealed and disposed of.

**Or:** Use Infra-Red (IR) stripping equipment to soften the paint film sufficiently to be able to scrape it off. The softened paint should be scraped immediately into a suitable container before it re-hardens. A suitable face mask to protect exposure to lead-containing dusts should be worn. Any subsequent surface preparation should be done wet with waterproof abrasive paper.

**Or:** Use a hot air gun to soften the paint film sufficiently to be able to scrape it off. The softened paint should be scraped immediately into a suitable container before it re-hardens. A suitable face mask to protect exposure to lead-containing dusts should be worn. Take care that the paint does not burn as this can create inhalable lead fumes. Do not use a blow lamp or gas torch as this can burn the paint. Any subsequent surface preparation should be done wet with waterproof abrasive paper.

#### iv) **Clean up and waste disposal**

Vacuum all surfaces with a vacuum cleaner fitted with a high efficiency particle air filter (HEPA). Many vacuum cleaners are fitted with HEPA filters and are marked as such. Thoroughly wash all surfaces, both those from which lead-containing paints have been removed and others in the work area. Allow to dry before applying new paint, or wallcoverings.

Dispose of all debris, including cleaning cloths, masks and filters in plastic bags and seal with tape. Clean up all debris frequently, as well as at the end of each day. Remove all debris from the work area before redecorating.

Treat as hazardous waste and utilise an approved specialist hazardous waste disposal service. For further information, please follow this link:

<http://www.rightwasterightplace.com/#intro>

**DO NOT burn or incinerate lead-containing wastes.**

### 5. **References and Resources on lead in paint**

#### i) **UK government advice**

##### **Health and Safety Executive**

A simple introductory overview of the issues related to lead paint may be found in the HSE leaflet CIS 79, 'Old lead paint – what you need to know as a busy builder', which may be found through the following link - <http://www.hse.gov.uk/pubns/cis79.pdf>

The best leaflet for professional decorators to refer to with regard to working safely with lead, the risks involved to human health, and employer responsibilities, is the HSE leaflet 'Lead and You' INDG305, which can be found at <http://www.hse.gov.uk/pubns/indg305.pdf>.

There is also a page on the website specifically dedicated to lead as a hazardous substance in construction environments - <http://www.hse.gov.uk/construction/healthrisks/hazardous-substances/lead.htm>.

There are increasing concerns with regard to the creation of lead paint dust during the demolition of buildings, or through using dry sanding rather than wet sanding techniques. Although not specifically mentioning dust from lead paint, the best practice guidance provided in the leaflet CIS 36 'Construction dust' - <http://www.hse.gov.uk/pubns/cis36.pdf>, may also be useful as a reference, to ensure minimal dust exposure to humans.

With regard to legislation, the Construction (Design and Management) Regulations 2015 (CDM 2015) specifically mentions lead paint as a hazardous material, and this needs to be included when preparing a health and safety file for any construction project (HSE publication L153) - <http://www.hse.gov.uk/pubns/priced/l153.pdf>.



The Control of Lead at Work (CLAW) Regulations 2002 (SI 2002/2676) should also be consulted, through the following link to the HSE website (their 118-page document L132) - <http://www.hse.gov.uk/pubns/priced/l132.pdf>, with an Approved Code of Practice and guidance information. Paint stripping and blast removal / abrasion of lead painted surfaces are listed under activities that may result in significant exposure. Full details are provided with regard to recommended practices to ensure minimum exposure and the safe treatment of lead-painted surfaces.

### **Defra**

The primary general reference document for the public on working with surfaces previously painted with lead-based paints is the Defra publication, 'Advice on lead paint in older homes' - [www.gov.uk/government/publications/advice-on-lead-paint-in-older-homes](http://www.gov.uk/government/publications/advice-on-lead-paint-in-older-homes)

This is a 2-page Defra leaflet that provides a straightforward introduction to the subject, and recommended methods to treat lead painted surfaces safely, if action is required. It also contains the following contact number and links:-

Defra helpline - 03459 33 55 77

[helpline@defra.gsi.gov.uk](mailto:helpline@defra.gsi.gov.uk)

In addition, there is a Defra page specifically focussed on the health effects of lead, at

<https://www.gov.uk/government/publications/lead-properties-incident-management-and-toxicology>

This contains 3 documents (last update May 2016) – a brief general information document on lead (with a good FAQ section), an incident management document and a toxicology overview.

### **ii) Construction industry advice**

The following organisations provide specific advice with regard to how to safely work with lead painted surfaces that require maintenance:

**Association for Project Safety** – [www.aps.org.uk](http://www.aps.org.uk)

Practice note 1/15 on Lead paint, lead dust and CDM,

[http://www.aps.org.uk/sites/default/files/115%20APS\\_Lead\\_Paint\\_Practice\\_Notes.pdf](http://www.aps.org.uk/sites/default/files/115%20APS_Lead_Paint_Practice_Notes.pdf)

**The Construction Industry Training Board (CITB) 2016** – [www.citb.co.uk](http://www.citb.co.uk)

GB02, GB03, GB04 - Construction Site Safety – Health and Welfare, interactive forms for general use

<http://www.citb.co.uk/publications/companion-websites/ge-700-companion/checklists-and-forms/>

GB02 – Lead hazards checklist

GB03 – Lead-containing paint risk assessment

GB04 – Lead health surveillance record

The CITB also leads the **Construction Dust Partnership**, whose aim is

‘To raise awareness within the construction industry about lung diseases related to hazardous workplace dust and to promote good practice to prevent these diseases, particularly for those undertaking high risk tasks’ - <http://www.citb.co.uk/health-safety-and-other-topics/health-safety/construction-dust-partnership/>

### iii) Specialist companies providing advice on lead paints

The following specialist companies can conduct checks for lead paint and lead dust:-  
**Lead Paint Safety Association (LIPSA)**, telephone 0844 544 6187, e-mail [info@lipsa.org.uk](mailto:info@lipsa.org.uk)  
website [www.lipsa.org.uk](http://www.lipsa.org.uk)

**Lead Test Home Analysis Service**, telephone 0131 669 8770, (0790 194 1954),  
e-mail [contact@leadtest.co.uk](mailto:contact@leadtest.co.uk), website [www.leadcheck.co.uk](http://www.leadcheck.co.uk)

**Envirohive**, telephone 01276 501439, e-mail [info@envirohive.co.uk](mailto:info@envirohive.co.uk),  
website [www.envirohive.co.uk/leadpaint.html](http://www.envirohive.co.uk/leadpaint.html)

### iv) Specialist laboratories that can test paint samples

The best way to identify a suitable and convenient specialist laboratory is to contact the **United Kingdom Accreditation Service (UKAS)**, telephone 0208 917 8555 website [www.ukas.org](http://www.ukas.org). The appropriate list of laboratories may be found under the ‘Accredited Organisations’ tab, testing labs for paints and varnishes that specialise in metal content:

[http://www.ukas.com/browse/accredited\\_organisations/?org\\_cat=10087&parent1=Paints,%20varnishes,%20pigments%20,1090&parent=Chemicals%20,234&org\\_type=Testing%20Labs&cat\\_name=Metal%20content](http://www.ukas.com/browse/accredited_organisations/?org_cat=10087&parent1=Paints,%20varnishes,%20pigments%20,1090&parent=Chemicals%20,234&org_type=Testing%20Labs&cat_name=Metal%20content)

The following labs can provide an assessment of paint samples:

**BLC (British Leather Technology Centre)**, telephone 01604 679999, [info@blcleathertech.com](mailto:info@blcleathertech.com),  
website [www.blcleathertech.com/testing-services/paint-lead-testing.htm](http://www.blcleathertech.com/testing-services/paint-lead-testing.htm)

**Eurofins Laboratories**, telephone 0161 868 76 00, [ProductTesting-MA@eurofins.com](mailto:ProductTesting-MA@eurofins.com),  
website [www.eurofins.com/product-testing-services/industries/chemical.aspx](http://www.eurofins.com/product-testing-services/industries/chemical.aspx)

**Sandberg Laboratories**, telephone 020 7565 7070, [gavin.mayers@sandberg.co.uk](mailto:gavin.mayers@sandberg.co.uk),  
website [www.sandberg.co.uk/laboratories/chemistry/lead-in-paint.html](http://www.sandberg.co.uk/laboratories/chemistry/lead-in-paint.html)

**LPD Lab Services**, telephone 01254 676074,

e-mail <mailto:Enquiries@lpdlabservices.co.uk?subject=Website%20Enquiries>,

[http://www.lpdlabservices.co.uk/consultancy/health\\_and\\_safety\\_consultancy/lead \(pb\) in paint analysis.php](http://www.lpdlabservices.co.uk/consultancy/health_and_safety_consultancy/lead_(pb)_in_paint_analysis.php)

**v) How to source lead test kits**

These kits are available from a number of manufacturers such as 3M, Nitromors, Abotex and Pro-Lab. If the instructions for use are followed carefully, and the test paper shows a positive response then lead is present. However, as the test is not necessarily 100% accurate a negative reading should not be relied upon to show the absence of lead and if you think there could be lead present then a professional test should be carried out (see sections (iii) & (iv) above). Although the main DIY outlets in the UK no longer stock these kits as a regular item, they are available through specialist decorator centres (e.g. the Brewers network) and on-line through e.g. e-bay: - [http://www.ebay.co.uk/sch/i.html?\\_nkw=lead+paint+test](http://www.ebay.co.uk/sch/i.html?_nkw=lead+paint+test)

The following organisations may also assist with supplying test kits:-

**Lead Paint Safety Association**, telephone 0844 5446187, e-mail [info@lipsa.org.uk](mailto:info@lipsa.org.uk) , website [www.lipsa.org.uk](http://www.lipsa.org.uk)

**Heritage Testing Limited**, telephone 01273 891785, email [enquiries@heritagetesting.co.uk](mailto:enquiries@heritagetesting.co.uk), website [www.heritagetesting.co.uk](http://www.heritagetesting.co.uk)

**Lead Test Home Analysis Service**, email [contact@leadtest.co.uk](mailto:contact@leadtest.co.uk), website [www.leadtest.co.uk](http://www.leadtest.co.uk)

**Lead Check** can provide 3M Lead Check Swabs order online from [www.leadcheck.com](http://www.leadcheck.com) (USA)

**vi) How to find a professional decorator with experience with lead paint**

The following organisations should be able to assist with identifying a professional decorator with expertise in handling painted lead surfaces:-

**Painting and Decorating Association**, 32 Cotton Road, Nuneaton CV11 5TW  
telephone 0247 635 3776, e-mail [info@paintingdecoratingassociation.co.uk](mailto:info@paintingdecoratingassociation.co.uk)  
website [www.paintingdecoratingassociation.co.uk](http://www.paintingdecoratingassociation.co.uk)

**Scottish Decorators Federation**, Castlecraig Business Park, Stirling FK7 7SH  
telephone 01786 448838, e-mail [info@scottishdecorators.co.uk](mailto:info@scottishdecorators.co.uk)  
website [www.scottishdecorators.co.uk](http://www.scottishdecorators.co.uk)

**The Guild of Master Craftsmen**, 166 High Street, Lewes BN7 1XU,  
telephone 01273 478449, website [www.guildmc.com](http://www.guildmc.com)

## **Annex A - Guidance provided to the general public in the BCF document HS 032**

### **a) Recommended step-by-step approach**

#### **Step 1 – Do you suspect that lead may be in the painted surface you are renovating?**

- ❖ No.....> decorate as normal practice
- ❖ Yes.....> test the surface (see section 4 below)

#### **Step 2 – Has the presence of lead been confirmed?**

- ❖ No.....> consider further (professional) testing, before proceeding as normal practice
- ❖ Yes.....> consider employing professional decorators

#### ***If you decide to proceed with decorating a lead-painted surface yourself.....***

#### **Step 3 – Is the surface in good condition, or overcoated with a non-lead paint layer?**

- ❖ Yes.....> don't disturb the surface, paint over as normal practice
- ❖ No.....> prepare the area for activity.
  1. Remove all furniture, curtains and soft furnishings.
  2. Cover all exposed surfaces (including floors) with plastic sheeting, seal with tape
  3. Use Personal Protective Equipment - overalls, rubber/latex gloves, particulate filter mask

#### **Step 4 – Treatment of old lead paint surface**

1. If the surface can be prepared without needing complete removal, rub down wet with waterproof abrasive paper & make sure the debris does not produce a dust.
2. If the whole paint film needs to be removed, use a standard paint stripper and wet scraping and abrasion. Infra-red stripping or a hot-air gun may be used to soften the film, with caution – do not burn the paint or create paint fumes.

#### **Step 5 – Clean-up, removal and disposal of debris**

1. Wash all surfaces (the specific work area and all surrounds) thoroughly
2. Vacuum all surfaces with a vacuum that has a HEPA filter
3. Carefully dispose of all debris, including face masks and all filters, in a heavy duty plastic bag, ensure that this does not get damaged in transit to the dustbin.

## b) Do's and Don'ts



### DO

**Test the painted surface if you suspect that lead may be present, especially if you are renovating an old house (> 40 years old)**

**Consider employing a professional decorator if old lead paint is present**

**Keep any dust creation during surface preparation to an absolute minimum**

**Use chemical stripper or wet abrasive paper to remove the paint, if removal is necessary**

**Wear the recommended personal protective equipment (PPE)**

**Thoroughly clean up the whole area after paint removal has been completed**



### DO NOT

**Remove paint if it is in a sound condition, especially if the lead paint is not the top layer – overcoating is the safest option to prevent exposure**

**Allow bystanders, not involved with the renovation work, to remain in the area / room**

**Use dry abrasive paper or techniques to remove lead paint**

**Create any dry paint dust during the whole process, keep all debris wet**

**Use blow lamps or gas torches to strip the paint**

**Create lead fumes by over-heating lead-containing paints**

**Burn or incinerate lead-containing waste**