Annex 1

Proposals on the alignment of health and safety regulations with the EU direct acting Classification, Labelling and Packaging Regulation

This consultative document is issued by the Health and Safety Executive in compliance with its duty to consult under section 50(3) of the Health and Safety at Work etc Act 1974.

Comments should be sent to:

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Bootle
Merseyside
L20 7HS

E-mail: CLPalignmentconsultation@hse.gsi.gov.uk

To reach there no later than 1 August 2014

The Executive tries to make its consultation procedure as thorough and open as possible. Responses to this consultation document will be lodged in the Health and Safety Executive's Knowledge Centre after the close of the consultation period where they can be inspected by members of the public.

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 (DPA) and the Environmental Information Regulations 2004 (EIR)). Statutory Codes of Practice under the FOIA and EIR also deal with confidentiality obligations, among other things.

If you would like us to treat any of the information you provide, including personal information, as confidential, please explain your reasons for this in your response. If we receive a request under FOIA or EIR for the information you have provided, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will be disregarded for these purposes. Requests for confidentiality should be made explicit within the body of the response.

HSE will process all personal data in accordance with the DPA. This means that personal data will not normally be disclosed to third parties and any such disclosures will only be made in accordance with the Act.

Annex 1

Proposals on the alignment of health and safety regulations with the EU direct acting Classification, Labelling and Packaging Regulation

Contents

Consultation by the Health and Safety Executive

The HSE has a statutory duty to consult stakeholders to seek their views on its proposals. It believes that public consultation provides an open and transparent approach to decision making. Following consultation, the HSE will make a recommendation to the Minister of State on the best way forward.

How to Respond

A summary of the proposal and the questionnaire can be found at www.hse.gov.uk/consult/live.htm. You are welcome to comment on any issue raised by this document.

You can:

Complete the online questionnaire; or

Respond by email – you should send this to CLPalignmentconsultation@hse.gsi.gov.uk

Respond on paper – you can do this either by:

- Printing the online questionnaire; or
- Making a written response in whatever format you wish.

Send your completed response to:

Susan Polak
Health and Safety Executive
5S1 Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

We would be grateful if you could send an email address when you provide your response so that we can inform you of when the HSE intends to publish information concerning consultation responses on the HSE website.

Responses must be received by 1 August 2014

If you require a more accessible format of this document please send details to creative@hse.gsi.gov.uk and your request will be considered.

What happens next?

We will acknowledge all responses and give full consideration to the substance of arguments in the proposals; we may contact you again if, for example, we have a query in respect of your response.

We will tell you when the HSE will publish information concerning the consultation responses. We will provide a summary of those responses and we will produce a summary of the views expressed to each question; this information will be placed on the HSE's website.

Code of Practice on Consultation

HSE is committed to best practice in consultation and to the Government's Consultation Principles. The Government is improving the way it consults by adopting a more proportionate and targeted approach, so that the type and scale of engagement is proportional to the potential impacts of the proposal. The emphasis is on understanding the effects of a proposal and focussing on real engagement with key groups rather than following a set process.

The key Consultation Principles are:

- departments will follow a range of timescales rather than defaulting to a 12 week period, particularly where extensive engagement has occurred before;
- departments will need to give more thought to how they engage with and consult with those who are affected;
- consultation should be 'digital by default', but other forms should be used where these are needed to reach the groups affected by a policy; and
- the principles of the Compact between government and the voluntary and community sector will continue to be respected.

Additional guidance can be found at: https://www.gov.uk/government/publications/consultation-principles-guidance

How your responses will be handled

We will acknowledge all responses and give full consideration to the substance of arguments in the development of proposals. The HSE will then decide on how best to take the regulations forward based on an interpretation and analysis of the consultation responses.

Queries and complaints

If you have any comments or complaints about the way this consultation exercise has been conducted, please contact the HSE Consultation Co-ordinator by email - teresa.farnan@hse.gsi.gov.uk or by post:

Teresa Farnan
Health and Safety Executive
7th Floor
Caxton House
6-12 Tothill Street
London
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We aim to reply to all complaints within ten working days. If you are not satisfied with the outcome, you can raise the matter with HSE's Acting Chief Executive, Kevin Myers, at Health and Safety Executive, Redgrave Court, Merton Road, Bootle, Merseyside, L20 7HS. You can also write and ask your MP to take up your case with us or with Ministers. Your MP may also ask the independent Parliamentary Commissioner for Administration (the Ombudsman) to review your complaint.

Summary

1. In January 2009 the European Union direct acting Classification, Labelling and Packaging of Substances and Mixtures Regulation (EC) No 1272/2008 (CLP Regulation) was introduced in all EU member states. The CLP Regulation progressively replaces the Dangerous Substances Directive (DSD) and the Dangerous Preparations Directive (DPD), which deal with the classification, hazard communication and packaging of chemicals, and will come fully into force on 1 June 2015 (subject to some minor transitional arrangements continuing until 2017).

2. The CLP Regulation adopts across Europe the United Nations Globally Harmonised System (GHS) on the classification and labelling of chemicals. This means the existing European classification system and hazard warning symbols will be replaced by GHS and a new set of hazard pictograms.

3. Currently, many European directives reference the existing classification system to define their scope of application. When the CLP Regulation comes fully into force on 1 June 2015 these references will become obsolete and will need to be replaced by relevant references to the CLP Regulation.

4. As part of this updating process an amending directive, 2014/27/EU[1], has recently been adopted which makes amendments to five worker protection directives to align them with the CLP Regulation. As a consequence, amendments to replace references to the existing classification system and hazard warning symbols need to be made to relevant UK health and safety at work regulations by 1 June 2015.

5. In addition, a number of minor technical consequential amendments will need to be made to a number of UK health and safety related regulations to ensure the references they contain also properly align with the CLP Regulation so that they remain workable. These include for example, replacing references to DSD and DPD with a reference to the CLP Regulation.

6. To make the necessary changes the Health and Safety Executive (HSE) is proposing to introduce a set of amending regulations to come into force on 1 June 2015.

Background

7. 'Classification' of a chemical is the scientific assessment of its intrinsic properties to identify whether it has the potential to cause harm, for example, to cause cancer,

[1] Directive 2014/27/EU amending Council Directives 92/58/EEC, 92/85/EEC, 94/33/EC, 98/24/EC and Directive 2004/37/EC of the European Parliament and of the Council, in order to align them to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2014:065:0001:0007:EN:PDF

explode, irritate the eyes etc. Chemicals are classified and labelled so that those using them have information about their hazardous effects to enable them to take suitable precautions to protect both people and the environment.

8. Across the world a number of different systems, including a European one, for classifying chemicals and communicating this information have developed. Recognising this situation caused confusion, the United Nations has developed a Globally Harmonised System (GHS) on classification and labelling to facilitate international trade and to better protect people and the environment.

9. The direct acting Classification, Labelling and Packaging regulation (the CLP Regulation) adopts GHS in the EU. The CLP Regulation has been progressively introduced since January 2009 and replaces the Dangerous Substances Directive (DSD) and Dangerous Preparations Directive (DPD), which currently deal with the classification, hazard communication and packaging of chemicals in the EU. These directives are implemented in Great Britain by the Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP 2009).

10. When the final requirements of the CLP Regulation come into force on 1 June 2015, DSD and DPD will be repealed (transitional arrangements for products already in the supply chain will remain until 1 June 2017). The CHIP 2009 Regulations will also be fully revoked on 1 June 2015 by the Biocidal Products and Chemicals (Appointment of Authorities and Enforcement) Regulations 2013.

11. Although the development of GHS was heavily influenced by the EU classification system, the CLP Regulation introduces a number of changes to the classification and information provided with hazardous chemicals. These changes include:

    - a change in some of the classification criteria to determine whether a substance or mixture should be classed as hazardous;
    - a new system of hazard classes and the introduction of some new hazard classes;
    - the introduction of new red-framed diamond shaped pictograms to replace the orange square danger symbols;
    - the introduction of *'hazard statements'* to replace *'risk phrases'*; and
    - changes to some terminology, for example, *'preparations'* are now known as *'mixtures'*.

12. Further details about the introduction of the CLP Regulation and the changes it makes can be found on HSE's website at: http://www.hse.gov.uk/chemical-classification/legal/clp-regulation.htm

Amending Directive 2014/27/EU

13. Five worker protection directives refer to DSD and DPD to define their scope. As the CLP Regulations will repeal DSD and DPD, an amending directive 2014/27/EU has been introduced which updates references in these worker protection directives to align them with CLP. The amendments are mainly technical changes to replace old references with the relevant new ones and are not intended to introduce new requirements. The worker protection directives affected are:

    i) Safety Signs at Work Directive (SSWD) (92/58/EEC)

ii) Chemical Agents Directive (CAD) (98/24/EC)
iii) Carcinogens and Mutagens Directive (CMD) (2004/37/EC)
iv) Pregnant Workers Directive (PWD) (92/85/EEC)
v) Protection of Young People at Work Directive (YPWD)(94/33/EC)

14. These directives are implemented by a number of existing regulations in Great Britain and these will need to be amended to take account of the changes made by the amending directive. The regulations affected are:

- Health and Safety (Safety Signs and Signals) Regulations (SSSR) 1996
- Control of Substances Hazardous to Health Regulations (COSHH) 2002
- The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
- The Management of Health and Safety at Work Regulations (MHSW) 1999

15. The changes required to relevant health and safety Merchant Shipping and Vessels regulations are the subject of a separate parallel consultation being conducted by the Maritime and Coastguard Agency.

The proposed changes

16. The changes proposed to the affected regulations are the minimum legally required to implement the amending directive. This approach has been taken with the aim of ensuring any additional costs of implementation to business are kept to the minimum possible. Details of HSE's assessment of the impact of the changes on business are set out in the Consultation Stage Impact Assessment at annex 2.

17. The document is divided into four sections, A to D, which explain the amendments required to each of the four sets of regulations affected. Each section is followed by a number of questions relating specifically to the amendments required to comply with the amending directive. Whilst we appreciate there may be wider issues please limit your responses to the specific questions posed.

18. You do not have to complete the questions for every section, only those sections that are relevant to you. Please note where legal drafting is proposed in this document it will be subject to legal checks following the consultation which may require minor amendments to be made.

Section A: Health and Safety (Safety Signs and Signals) Regulations 1996

19. The Health and Safety (Safety Signs and Signals) Regulations (SSSR), which implement the Safety Signs at Work Directive, require duty holders to display a suitable safety sign or label in the workplace to warn of hazards, including hazardous substances, only where a significant risk to workers remains after other control measures have been applied.

20. The regulations currently include in Schedule 1 Part II, Para 3.2 a list of warning signs, seven of which can be used to warn of the presence of hazardous substances. These signs are yellow black framed triangles containing a black pictogram. The regulations also set out in Schedule 1 Part III, requirements for the use of signs and labels on containers and pipes where these are needed in addition to labels placed on containers

by suppliers and other markings used to identify pipes.

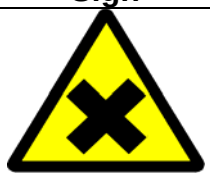
21. A number of changes to the regulations to implement the amending directive are proposed. The overarching effect of the changes is to make the use of warning signs and labels for hazardous substances more specific to the particular hazard the substance presents. This means, in some circumstances, duty holders will need to replace certain generic signs and labels with ones using the new specific hazard warning pictograms introduced by CLP.

22. The changes and their practical effect are summarised in the tables one and two below.

23. Details of the amendments to be made to the wording of the regulations are set out in annex 1.

Annex 1

Table 1 – Changes to the warning signs requirements for hazardous chemicals

Sign	Change	Affect
 *Harmful or irritant material* Replaced by  *long term health hazard*[2] *harmful*	Removal of the *'Harmful or irritant material'* yellow and black warning sign from use.	Where this sign is used it will need to be replaced with one of the appropriate CLP pictograms for '*long term health hazard*'[2] or *'harmful'*. With the exception of the '*General danger'* sign (see below) the use of the other six yellow and black warning signs for hazardous chemicals is unchanged.
 *General danger*	Restriction on the use of the '*General danger'* sign to warn of hazardous chemicals. In future this sign can only be used for stores which contain a number of different hazardous chemicals.	Where this sign has been used to warn of a single hazardous chemical in a store or work area it will have to be replaced by an appropriate yellow and black warning sign where one is currently specified in the Schedule I, part II of SSSR or the appropriate CLP pictogram. – see below for more information.

24. In future, for the purposes of warning of the presence of chemicals subject to the CLP Regulation any yellow and black warning sign used, including those used to replace the *General danger* warning sign, must be included in Schedule 1 Part II Para 3.2 of SSSR. It will no longer be possible to use a yellow and black warning sign developed using the intrinsic features described in that Schedule. For example, if it is necessary to warn of *gas under pressure* a sign or label the using the CLP diamond pictogram should be used because there is no appropriate yellow and black warning sign in the Schedule (even though there may be an accepted version in use elsewhere). However, if the material is *flammable* either the appropriate yellow and black warning sign or the CLP diamond pictogram can be used.

[2] Long term health hazards such as, carcinogenicity, mutagenicity, reproductive toxicity, respiratory sensitisation, specific organ toxicity and aspiration hazard

Table 2 – Changes to labelling and signs requirements for containers and pipes

Many containers used will already be appropriately marked by the supplier.[3] Visible pipes are frequently marked using established colour banding systems or site specific means of identification. Where this is the case no changes will normally be required. The previous orange square warning symbols are no longer to be used on containers and visible pipes; they must now be marked with the appropriate CLP pictogram or an appropriate yellow and black warning sign using the same pictogram where one exists. CLP introduces new pictograms for two new hazard classifications, *'gases under pressure'* and '*long term health hazards*', In addition the harmful or irritant cross symbol with be replaced by the new exclamation mark pictogram and the pictogram for corrosivity will now be used in circumstances where the chemical is *'corrosive to metals'*		

[3] Under the requirements of CLP products supplied in containers will increasingly be labelled by the supplier with the correct CLP pictograms. This means no action will need to be taken by the user to update labels on containers unless they choose to decant hazardous chemicals into bespoke containers on site. Transitional arrangements under the CLP regulations mean products already in the supply chain on 1 June 2015 with non-CLP labels can continue to be supplied until June 2017.

Section A - Questions

Q1. Do you think that the amendments proposed to the Health and Safety (Safety, Signs and Signals) Regulations 1996 are sufficient to implement the amending directive?

If not, please explain

Impact on business

The following questions relate to the Impact Assessment at annex 2. Please note, where the word sign is used it should be read to mean sign or label

Q2. HSE has excluded micro units (1-9 employees) from the estimate of costs as they are assumed to have less complex processes and therefore are more likely to rely on the labelling provided on packaging and containers by suppliers to provide necessary warning information. If they do use signage it was considered likely that this would be a *General danger* warning sign on a storeroom containing a number of chemicals, which is not affected by these changes. Do you think this assumption is realistic?

Q3. HSE has assumed that hazardous chemicals signage is commonly used in the following broad industry groups (see Impact Assessment Appendix A para A4):

- All classifications related to mining, manufacturing, agriculture, and aquaculture;
- Energy generation, water treatment, sewerage and remediation activities;
- Wholesale, distribution and transport activities (where hazardous chemicals may be transported and stored);
- Scientific, research, testing and engineering activities; and
- Defence, education and human health.

Do you think this is reasonable?

If not, please explain which other industry groups should be included or excluded.

Q4. Are you aware of any common scenarios in which the *harmful or irritant* yellow and black warning sign (black X, see Table 1) is currently used? If so please describe.

Q5. To the best of your knowledge are signs other than the *General danger* yellow and black warning sign (exclamation mark, see Table 1) commonly used on stores of hazardous chemicals?

If so which other signs are used and in what circumstances?

Q6. What do you think the main impacts of the restriction on the use of the *General danger* yellow and black warning sign in relation to hazardous chemicals will be?

Q7. Is HSE's estimate of the average cost of a single hazardous chemicals sign to be typically between £3 and £7 reasonable?

If not, what would be a reasonable estimate?

Q8. To the best of your knowledge how frequently do signs need to be replaced due to wear and tear?

Q9. Approximately how many hazardous chemicals signs do you think you will need to change due to these amendments?

Q10. HSE has estimated the labour cost of replacing a sign as £2.40 per sign based on it taking 15 minutes with a wage of £9.50/hr, is this reasonable?

If not, what would be a reasonable estimate?

Q11. HSE has assumed that the most significant costs associated with the proposed changes to signage is the cost of familiarisation with the changes. Is the estimated familiarisation cost per business of £15 (based on it taking 30 minutes to an hour to become sufficiently familiar to make decisions on whether new signs may be required, with a wage of £20/hr) reasonable?

If not, what would be a reasonable estimate?

Q12. Do you have any other comments on the Impact Assessment, including other assumptions made, that are not covered by questions 2 – 11?

Section B - Control of Substances Hazardous to Health Regulations 2002

25. The Control of Substances Hazardous to Health Regulations 2002 (COSHH) implement the Carcinogens and Mutagens Directive and parts of the Chemical Agents Directive that relate to health hazards. The regulations place a duty on employers to prevent or adequately control exposure to hazardous substances in the workplace. Where exposure cannot be prevented, employers must assess the risk to employees and apply control measures.

26. The amendments required to COSHH are minor technical ones which update various references to implement the amending directive and align the regulations with CLP. They do not change the scope of application of the regulations or impose any new requirements on duty holders. The proposed changes are outlined below:

Regulation 2 – Interpretation

'substance hazardous to health'

27. Currently, paragraph (a) of Regulation 2 - the definition of a *'substance hazardous to health'* says:

    'substance hazardous to health' means a substance (including a preparation) -

    (a) which is listed in Table 3.2 of part 3 of Annex VI of the CLP Regulation and for which an indication of danger specified for the substance is very toxic, toxic, harmful, corrosive or irritant

28. The reference to Table 3.2 of the CLP Regulation needs to be replaced as it contains classifications made in accordance with CHIP 2009 only to support the transitional period from January 2009 until June 2015. Substances or mixtures classified after 1 June 2015 will not be added to Table 3.2 of CLP, and therefore the table will become redundant.

29. The proposed new wording is:-

    'substance hazardous to health' means a substance (including a mixture) -

    (a)which meets the criteria for classification as hazardous within any health hazard class laid down in the CLP Regulation [whether or not the substance is classified under that regulation]

30. CLP no longer specifies the indications of danger (very toxic, toxic harmful, corrosive or irritant) currently referred to in COSHH. Instead a reference to the health hazard classes of the CLP Regulation will be made which maintains the current position for what constitutes a substance hazardous to health under COSHH.

31. The rest of the definition of a substance hazardous to health is unchanged.

'carcinogen'

32. Currently "carcinogen" is defined in regulation 2 as follows:

33. *(a) a substance or preparation which if classified in accordance with the classification provided for by Regulation 4 of the CHIP regulations would be in the category of danger, carcinogenic (category 1) or carcinogenic (category 2)whether or not the substance or preparation would be required to be classified under those Regulations; or*

    (*b) a substance or preparation -*

    (i) listed in Schedule 1; or
    (ii) arising from a process specified in Schedule 1 which is a substance hazardous to health;

The proposed new wording is:

(a) a substance or mixture which meets the criteria for classification as a category 1A or 1B carcinogen set out in Annex I of the CLP regulation; or

(b) a substance or mixture -

(i) referred to in Schedule1 ; or
(ii) released by a process referred to in Schedule 1;

This wording maintains the current position as the new CLP categories of 1A and 1B are equivalent to Category 1 and Category 2 under CHIP 2009.

'mutagen'

Currently "mutagen" is defined in regulation 2 as follows:

"mutagen" means a substance or preparation which if classified in accordance with the classification provided for by Regulation 4 of the Chemicals (Hazard Information and Packaging for Supply) Regulations would be in the category of danger, mutagenic (category 1) or mutagenic (category 2) whether or not the substance or preparation would be required to be classified under those Regulations;

The proposed wording is:

"mutagen" means a substance or mixture which meets the criteria for classification as a category 1A or 1B germ cell mutagen set out in Annex I of the CLP regulation, whether or not the substance or mixture would be required to be classified under those regulations.

34. This wording maintains the current position as the new CLP categories of 1A and 1B are equivalent to Category 1 and Category 2 under CHIP 2009.

Regulation 7(7)(c) – Prevention or control of exposure to substances hazardous to health

35. Regulation 7(7)(c) currently refers to the risk phrases R45, R46 R49 and R42, R42/43. Exposure to substances carrying these risk phrases must be reduced to 'as low a level as is reasonably practicable'.

36. To maintain the current policy position the proposal is to replace R45, R46 R49 and R42, R42/43 with the following **hazard statements:**

H350 – may cause cancer;
H340 – may cause genetic defects;
H350i – may cause cancer by inhalation;
H334 – may cause allergy or asthma symptoms or breathing difficulties if inhaled.

Section B - Questions

Q13. Do you agree or disagree that the changes described above for the COSHH Regulations will not change the scope of the regulations or impose any new requirements?

If you disagree please explain

Section C - Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002

37. The Dangerous Substances and Explosive Atmosphere Regulations set out the requirements to protect workers from fire, explosion and similar events related to hazardous substances which are used, or are present, in the workplace. DSEAR implements those aspects of the Chemical Agents Directive relating to the physical hazards of substances.

38. The changes to the classification system for hazardous chemicals introduced by the CLP Regulation mean that there are two new physical hazard classes, *'corrosive to metals*' and *'gases under pressure'* under which chemicals may now be classified as hazardous.

39. To address this change the amending directive extends the scope of the Chemical Agents Directive to apply to all the physical hazard classes under the CLP Regulation. As DSEAR implements those aspects of the Chemical Agents Directive in relation to physical hazards DSEAR needs to be amended to link clearly to the physical hazard classes set out in the CLP Regulation. As a result, DSEAR will be extended to include hazardous chemicals which meet the criteria of the two new physical hazard classes of '*corrosive to metals*' and '*gasses under pressure*'.

40. It is anticipated the practical impact on business, if any, of these changes will be minimal because the intrinsic hazards of the chemicals being used, or present, in workplaces is unchanged. The need to carry out a risk assessment and have in place procedures for the safe use of chemicals not currently covered by DSEAR is already required by the general requirements of the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999. Therefore, assuming businesses are already complying with these duties, they are unlikely to need to take any additional action.

Regulation 2 - Interpretation

41. In order to reflect the changes to the Chemical Agents Directive which result from the amending directive, the following amendments to regulation 2 (interpretation) of DSEAR are proposed:

'dangerous substance'

The current definition of a 'dangerous substance' is:

(a) a substance or preparation which meets the criteria in the approved classification and labelling guide for classification as a substance or preparation which is explosive,

oxidising, extremely flammable, highly flammable or flammable, whether or not that substance or preparation is classified under the CHIP Regulations;

(b) a substance or preparation which because of its physico-chemical or chemical properties and the way it is used or is present at the workplace creates a risk, not being a substance or preparation falling within subparagraph (a) above; or

(c) any dust, whether in the form of solid particles or fibrous materials or otherwise, which can form an explosive mixture with air or an explosive atmosphere, not being a substance or preparation falling within subparagraphs (a) or (b) above;

It is proposed to change this to:

(a) a substance or mixture which meets the criteria for classification as hazardous within any physical hazard class laid down in the CLP Regulation [whether or not the substance is classified under that regulation]

(b) a substance or mixture which because of its physico-chemical or chemical properties and the way it is used or is present at the workplace creates a risk, not being a substance or mixture falling within subparagraph (a) above; or

(c) any dust, whether in the form of solid particles or fibrous materials or otherwise, which can form an explosive mixture with air or an explosive atmosphere, not being a substance or mixture falling within subparagraphs (a) or (b) above;

42. This proposed change slightly broadens the range of substances and mixtures in the scope of DSEAR through the introduction of the physical hazard classes in the CLP Regulation which include '*gases under pressure'* and *'corrosive to metals'* as well as those relating to flammable and explosive substances and mixtures.

'**hazard'**

43. The current definition of hazard is:

"hazard" means the physico-chemical or chemical property of a dangerous substance which has the potential to give rise to fire, explosion, or other events which can result in harmful physical effects of a kind similar to those which can be caused by fire or explosion, affecting the safety of a person, and references in these regulations to "hazardous" shall be construed accordingly

the proposed wording is:

"hazard" means the physico-chemical or chemical property of a dangerous substance which has the potential to:

a. *give rise to fire, explosion, or other events which can result in harmful physical effects of a kind similar to those which can be caused by fire or explosion; or*
b. *be corrosive to metals*

affecting the safety of a person, and references in these regulations to "hazardous" shall be construed accordingly

44. This change results in broadening the definition of hazard for substances and mixtures within the scope of DSEAR to ensure that those which are *'corrosive to metals'* are covered. A gas under pressure may give rise to the same physical effects as those caused by an explosion and so are captured within this definition under sub-paragraph (a). Substances and mixtures corrosive to metals are captured under sub-paragraph (b).

Section C - Questions

Q14. Do you think that the amendments to the DSEAR Regulations are sufficient to implement the amending directive?

If not please explain

Q15. Do you agree or disagree with the statement in paragraph 40 that assuming businesses are already complying with their general duties, they will not need to take any additional action? If you disagree please explain why.

Section D - Management of Health and Safety at Work Regulations 1999 (MHSW)

45. The Management of Health and Safety Regulations (MHSW) place a general duty on employers to assess the health and safety risks that their employees are exposed to whilst at work. In addition, the regulations implement the specific risk assessment requirements set out in the Pregnant Worker Directive and the Young People at Work Directive.

Pregnant Workers

46. In addition to the general risk assessment duty of MHSW, regulation 16 requires that the risk assessment should include assessment of any specific risks to females of childbearing age who could become pregnant and any risks to new and expectant mothers. These risks can be from any process, working conditions, or physical, biological or chemical agents.

47. The current wording of Regulation 16(1) is:

Where -
(a) the persons working in an undertaking include women of child-bearing age; and

(b) the work is of a kind which could involve risk, by reason of her condition, to the health and safety of a new or expectant mother, or to that of her baby, from any processes or working conditions, or physical, biological or chemical agents, including those specified in Annexes I and II of Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding,

the assessment required by regulation 3(1) shall also include assessment of such risk.

48. The amending directive makes various changes to Annex I of Directive 92/85/EEC, the Pregnant Workers Directive to align it with CLP which is referenced in regulation 16(1)(b) MHSW. Annex 1 provides a non-exhaustive list of physical, biological and chemical agents which should be considered when carrying out the risk assessment. The way Annex I of Directive 92/85/EEC is currently referenced by MHSW means that any amendments made to the Annex are not automatically covered by MHSW. As a consequence, the reference needs to be amended to refer to the amending directive.

    It is proposed to amend the reference as follows:

    '…*including those specified in Annexes I and II of Council Directive 92/85/EEC* ***as amended by Council Directive 2014/27 EU,****…..'*

49. The changes made to Annex 1 of Directive 92/85/EEC do not have any practical effect as the list of physical, biological and chemical agents it contains which need to be considered as part of the risk assessment is and remains, a non-exhaustive one. The duty to carry out a risk assessment which must consider <u>all</u> risks that could affect the health and safety of an employee is unaffected. Annex I simply has the effect of providing a list of examples.

Young People

50. Due to changes made by the amending directive to the annex of the Young People at Work Directive, 94/33/EC, a similar referencing issue arises in respect of the risk assessment requirements for young people. Under regulation 3(5) of MHSW employers are required to ensure that young people employed by them are not exposed to risk due to; lack of experience, being unaware of existing or potential risks and/or lack of maturity. There is a specific requirement to consider risks to young people from chemical agents within this.

51. The current wording of Regulation 3(5)(g) is:

    In making or reviewing the assessment, an employer who employs or is to employ a young person shall take particular account of-

    (g) 'risks from agents, processes and work listed in the Annex to Council Directive 94/33/EC on the protection of young people at work'

52. Again to ensure changes made to the Annex to Directive 94/33/EC are covered by MHSW an amendment to create an ambulatory reference is required as follows: -

    (g) 'risks from agents, processes and work listed in the Annex to Council Directive 94/33/EC, ***as amended by Council Directive 2014/27 EU,*** *on the protection of young people at work'*

53. The list in the Annex to Directive 94/33/EC is a non-exhaustive one and therefore the changes made to it do not have any practical effect as the general risk assessment duty is unchanged.

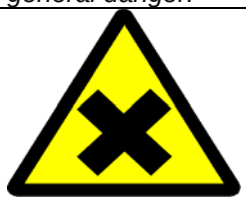
Section D - Questions

Q16. Do you agree or disagree that the changes to the Management of Health and Safety at Work Regulations described above will not impose any new requirements?

If you disagree please explain

Annex 1 – Proposed amendments Health and Safety (Safety Signs and Signals) Regulations 1996

Regulation	Current Wording	Proposed Amendment
3(1)(a) - Application	*to signs used in connection with the supply of any dangerous substance, preparation, product or equipment except to the extent that any enactment (whether in an Act or instrument) which requires such signs makes reference to these Regulations;*	*to signs used in connection with the supply of any **hazardous** substance, **mixture**, product or equipment except to the extent that any enactment (whether in an Act or instrument) which requires such signs makes reference to these Regulations;*
Schedule 1 Part I para 12	*12 Areas, rooms or enclosures used for the storage of significant quantities of dangerous substances or preparations must be indicated by a suitable warning sign taken from paragraph 3.2 of Part II, or marked as provided in paragraph 1 of Part III, unless the labelling of the individual packages of containers is adequate for this purpose.*	*12 Areas, rooms or enclosures used for the storage of significant quantities of **hazardous** substances or **mixtures** must be indicated by a suitable warning sign taken from paragraph 3.2 of Part II, or marked as provided in paragraph 1 of Part III, unless the labelling of the individual packages of containers is adequate for this purpose. **If there is no equivalent warning sign in paragraph 3.2 of Part II to warn about hazardous chemical substances or mixtures, the relevant hazard pictogram, as laid down in Annex V to Regulation No 1272/2008, must be used.***
Schedule 1 Part III para 1	*Containers used at work for dangerous substances or preparations defined in Directives 67/548/EEC[(a)] and 88/379/EEC[(b)] and containers used for the storage of such dangerous substances or preparations, together with the visible pipes containing or transporting dangerous substances and preparations, must be labelled (pictogram or symbol against a coloured background) in accordance with those Directives.* *Paragraph 1 does not apply to containers used at work for brief periods nor to containers whose contents change frequently, provided that alternative adequate measures are taken, in particular for information and/or training, which guarantee the same level of protection.* *The labels referred to in paragraph 1 may be:* *—replaced by warning signs as provided for in Part II, using the same pictograms or symbols,*	*Containers used at work for **chemical** substances or **mixtures classified as hazardous according to the criteria for any physical or health hazard class in accordance with Regulation (EC) No 1272/2008,** and containers used for the storage of such **hazardous** substances or **mixtures**, together with the visible pipes containing or transporting **such hazardous** substances **or mixtures**, must be labelled **with the relevant hazard pictograms in accordance with that Regulation.*** *Paragraph 1 does not apply to containers used at work for brief periods nor to containers whose contents change frequently, provided that alternative adequate measures are taken, in particular for information and/or training, which guarantee the same level of protection.* *The labels referred to in paragraph 1 may be:*

Regulation	Current Wording	Proposed Amendment
	—supplemented by additional information, such as the name and/or formula of the dangerous substance or preparation and details of the hazard, *—for the transporting of containers at the place of work, supplemented or replaced by signs applicable throughout the Community for the transport of dangerous substances or preparations.*	*—replaced by warning signs as provided for in Part II, using the same pictograms or symbols.* ***If there is no equivalent warning sign in Schedule 1, Part II, the relevant hazard pictogram set out in Annex V of Regulation No 1272/2008 must be used.*** *—supplemented by additional information, such as the name and/or formula of the* ***hazardous*** *substance or* ***mixture*** *and details of the hazard,* *—for the transporting of containers at the place of work, supplemented or replaced by signs applicable throughout the Community for the transport of* ***hazardous*** *substances or* ***mixtures****.*
Schedule 1 Part III para 5	*Stores of a number of dangerous substances or preparations may be indicated by the warning sign for general danger.*	*Stores of a number of* ***hazardous*** *substances or* ***mixtures*** *may be indicated by the warning sign for general danger.*
Schedule 1 Part II (3.2) Harmful or Irritant Material Warning sign		***Warning sign 'Harmful or irritant material' is deleted***
Schedule 1 Part II (3.2) General Danger Warning sign		******This warning sign shall not be used to warn about hazardous chemical substances or mixtures, except for cases when the warning sign is used in accordance with the second point of paragraph 5 in Part III***

Title: ALIGNMENT OF DOMESTIC LEGISLATION WITH THE EU DIRECT ACTING CLASSIFICATION, LABELLING AND PACKGING REGULATION (CLP) – TRANSPOSITION OF AMENDING DIRECTIVE 2014/27/EU

IA No: HSE 0087

Lead department or agency:
Health and Safety Executive (HSE)

Other departments or agencies:

Impact Assessment (IA)

Date: 31 March 2014

Stage: Consultation Annex 1

Source of intervention: EU

Type of measure: Secondary Legislation

Contact for enquiries: Sarah Mallagh - sarah.mallagh@hse.gsi.gov.uk **Michael Zand –** michael.zand@hse.gsi.gov.uk

Summary: Intervention and Options

RPC Opinion:

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, Two-Out?**	**Measure qualifies as**
-£3.94 million	-£2.91 million	£0.27 million	No	N/A

What is the problem under consideration? Why is government intervention necessary?

The EU direct acting Classification, Labelling and Packaging Regulation (CLP), which implements in the EU the United Nations Globally Harmonised System (GHS) on the classification and labelling of chemicals, comes fully into force in June 2015. An amending directive with a transposition deadline of 1 June 2015 has been adopted which updates five health and safety directives, including the Safety Signs at Work Directive, to reflect CLP. In addition, consequential amendments to a range of domestic regulations to replace old references to align them with CLP also need to be made.

What are the policy objectives and the intended effects?

The objective is to align domestic legislation with CLP to ensure the law continues to be workable so that the effective protection of workers (and others) is maintained. The amendments will be made in such a way to ensure any additional costs to business are minimised.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The wording of the EU direct acting CLP regulation and the amending directive 2014/27/EU leave no discretion to implement other than by a range of technical amendments to existing legislation. Other options to make wider changes to the affected legislation were considered in the context of the Government's Transposition Guidance, but the only option proposed is to make the minimum changes legally required to correctly transpose the amending directive and to align domestic legislation with CLP to achieve legal certainty for business.

Will the policy be reviewed? It **will not** be reviewed. **If applicable, set review date:**

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro Yes**	**< 20 Yes**	**Small Yes**	**Medium Yes**	**Large Yes**
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded: n/a**	**Non-traded: n/a**	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: ---------- Date: ----------

Summary: Analysis & Evidence

Policy Option 1

Description: Make the minimum legally required changes to implement the amending directive and CLP consequential amendments.

FULL ECONOMIC ASSESSMENT

Price Base Year 2013	PV Base Year 2014	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: - **5.71**	High: - **2.38**	Best Estimate: - **3.94**

COSTS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Cost** (Present Value)
Low	£2.4	1	0	£2.4
High	£5.7		0	£5.7
Best Estimate	**£3.9**		0	**£3.9**

Description and scale of key monetised costs by 'main affected groups'

- Total one-off costs to businesses and public sector organisations of purchasing replacement signs of £390,000, one-off labour costs for installing signs of £190,000, and total familiarisation costs associated with signage changes of £3.4 million.
- £2.9 million of these costs are estimated to fall to businesses, and £1.0 million to public sector organisations.

Other key non-monetised costs by 'main affected groups'

BENEFITS (£m)	**Total Transition** (Constant Price)	Years	**Average Annual** (excl. Transition) (Constant Price)	**Total Benefit** (Present Value)
Low	0		0	**0**
High	0		0	**0**
Best Estimate	0		0	**0**

Description and scale of key monetised benefits by 'main affected groups'

Other key non-monetised benefits by 'main affected groups'

- The proposed changes will ensure the various domestic regulations remain workable when the old classification system is withdrawn and the regulations that implement them (CHIP) are revoked. This will avoid confusion for business and the costs and economic efficiency losses that this would give rise to in the 'do nothing' or baseline scenario, and ensure that effective worker protection is maintained.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

- Costs associated with changes to the Safety Signs and Signals regulations are based on a number of assumptions that will be tested at consultation.
- A key assumption is that changes to other regulations as a result of the EU amending directive will be negligible due to their limited and technical nature, and that any changes in scope will have previously been covered by general duties under existing health and safety regulations. There is a small risk that these changes could have larger than expected impact on businesses. Further information to clarify this risk will be sought from stakeholders at consultation.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			**In scope of OIOO?**	**Measure qualifies as**
Costs: 0.3	**Benefits:** 0.0	**Net:** -0.3	No	Not Applicable

EVIDENCE BASE

1. Problem under consideration

1.1. EU direct acting Classification, Labelling and Packaging Regulation (CLP)

1. 'Classification' of a chemical is the scientific assessment of its intrinsic properties to identify whether it has the potential to cause harm - for example, to cause cancer, explode, irritate the eyes etc. Chemicals are classified and labelled so that those using them have information about their hazardous effects, to enable them to take suitable precautions to protect both people and the environment.

2. Across the world, a number of different systems, including a European one, for classifying chemicals and communicating this information have developed. Recognising this situation caused confusion, the United Nations has developed a Globally Harmonised System (GHS) on classification and labelling to facilitate international trade and to better protect people and the environment.

3. The direct acting Classification, Labelling and Packaging regulation (CLP) implements GHS in the EU. CLP has been progressively introduced since January 2009 and replaces the Dangerous Substances Directive (DSD) and Dangerous Preparations Directive (DPD), which currently deal with the classification, hazard communication and packaging of chemicals in the EU. These directives are implemented in the UK by the Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP).

4. The GHS is already in use outside the EU and it is likely that those organisations that export to/import from these markets will be both familiar with and using the CLP system for labelling which will mitigate any potential impact of any required changes.

1.2. Consequential amendments

5. On 1 June 2015, the final requirements of CLP will come into force and DSD and DPD will be revoked (transitional arrangements for products already in the supply chain will remain until 1 June 2017). The CHIP Regulations 2009 will also be fully revoked on 1 June 2015 by the Biocidal Products and Chemicals (Appointment of Authorities and Enforcement) Regulations 2013 (BCP 2013). As a result, consequential amendments will need to be made to existing UK regulations to replace out of date references to CHIP and DSD/DPD to align with CLP and ensure the legislation continues to make sense and is workable.

1.3. Amending Directive 2014/27/EU

6. Five worker protection directives refer to DSD and DPD to define their scope. As CLP will repeal DSD and DPD, an amending directive 2014/27/EU has been introduced, which updates references in these worker protection directives to align them with CLP. The amendments are technical changes to replace old references with the relevant new ones and are not intended to introduce new requirements. The worker protection directives affected are:

i) Safety Signs at Work Directive (SSWD) (92/58/EEC)
ii) Chemical Agents Directive (CAD) (98/24/EC)
iii) Carcinogens and Mutagens Directive (CMD) (2004/37/EC)
iv) Pregnant Workers Directive (PWD) (92/85/EEC)
v) Protection of Young People at Work Directive (YPWD) (94/33/EC)

7. These directives are transposed by a number of existing domestic regulations which include:

- Health and Safety (Safety Signs and Signals) Regulations 1996
- The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
- Control of Substances Hazardous to Health Regulations (COSHH) 2002
- The Management of Health and Safety at Work Regulations 1999
- A number of health and safety Merchant Shipping and Vessels regulations

1.4. Previous Impact Assessment

8. In 2007, HSE carried out an initial regulatory impact assessment of the costs and benefits that would result from the implementation of CLP. This estimated one off costs to the UK (industry, Government and other stakeholders) of between £95 million and £215 million, spread over the seven-year implementation/transition period. The assessment also concluded that the ongoing costs of compliance with CLP would be broadly the same as under the existing classification and labelling system.

9. The assessment included consideration of the costs for manufacturers and suppliers of switching from the previous classification system to CLP and the need to reclassify and re-label products, in addition to the benefits to business of improved international trade. It did not take account of the downstream costs of any changes required to domestic legislation necessitated by amendments to EU directives to reflect the revocation of DSD and DPD (i.e. the changes assessed in the present impact assessment).

10. An EU impact assessment has not been presented for Amending Directive 2014/27/EU, as it makes only minor technical modifications to bring the worker protection directives into alignment with CLP.

2. Rationale for action

11. We propose to implement the changes required by updating the existing domestic regulations which transpose the relevant directives. If the amendments are not made the domestic legislation will no longer make sense. Making the changes will avoid:

- creating provisions that are unenforceable in some cases, putting at risk the effective protection of workers; and

- costs and economic efficiency losses that would arise as a result of business confusion due to a lack of legal certainty.

12. Given the technical nature of the proposed changes, the additional costs to UK industry will be limited and will be one-off, transitional costs only.

13. The introduction of the GHS by CLP in the EU is widely supported by business as it will remove barriers to trade that currently exist due to the use of several different classification systems world wide. The changes required by CLP are not controversial and are welcomed as an overdue update of worker protection measures to reflect the evolution of the chemicals classification system.

14. Not making the necessary changes required by the amending directive and the consequential amendments would mean the relevant EU legislation would not be fully implemented, which may risk infraction proceedings.

3. Policy objective

15. The objective is to align existing domestic legislation with CLP to ensure it continues to be workable when the previous law dealing with the classification of chemicals is revoked. This will ensure the continued effective protection of workers (and others) and that there is legal certainty and clarity for business.

16. In determining the detail of the amendments to be made, the objective is to maintain the status quo as far as possible to minimise costs to business. This will be achieved by using copy-out and, where necessary, alternative wording which minimises changes in scope in the existing regulations, while implementing the minimum requirements of the amending directive.

4. Description of options

4.1. Do nothing

17. A 'do nothing' option has not been developed because the requirements of the EU direct acting CLP regulation and the amending directive mean action has to be taken to amend existing domestic regulations to ensure UK law continues to be workable and complies with EU obligations.[4] If no action is taken there would be expected to be significant costs to business caused by confusion due to the lack of legal certainty.

18. However, this 'do nothing' counterfactual forms the baseline against which the costs and benefits of Option 1 are assessed (see Section 5).

4.2. Option 1 - To make the minimum legally required changes

19. This option involves making:

a. the changes required to existing domestic regulations to transpose the amending directive by 1 June 2015; and

b. the consequential amendments required due to the revocation of CHIP 2009 and DSD/DPD as a result of CLP coming fully into force on 1 June 2015.

a) Transposition of the amending directive

20. Most of the changes required by the amending directive are simple technical amendments required to update references from the old classification system to CLP and do not change the requirements of the regulations. The only impact on businesses will be the need to familiarise themselves with the changes where there is any practical effect.

[4] This treatment is consistent with paragraph 2.4.22 of the BIS Better Regulation Framework Manual 2013 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211981/bis-13-1038-better-regulation-framework-manual-guidance-for-officials.pdf)

21. One of the changes required by the amending directive to the Chemical Agents Directive means a limited extension of scope of application will need to be made to the DSEAR regulations. This is necessary to ensure all the physical hazard classes eg. '*corrosive to metals*' and *'gases under pressure'* listed in CLP are covered. The practical impact on business, if any, is minimal because the general duties of the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations already place duties on businesses to carry out a risk assessment and put in place arrangements to safely management hazardous chemicals not covered by other legislation.

Amendments to the Safety Signs and Signals Directive

22. The Health and Safety (Safety Signs and Signals) Regulations, which implement the Safety Signs and Signals Directive, require businesses to display a suitable safety sign or labels in the workplace to warn of hazards, including chemicals, only where a significant risk to workers remains after other control measures have been applied. The changes made by the amending directive aim to make the use of warning signs and labels for hazardous chemicals, where required, more specific. This means that, in some limited circumstances, businesses will need to replace certain signs and labels with the new hazard warning symbols (pictograms) introduced by CLP.

23. These changes will result in some transitional costs to business, which are assessed in Section 5.2.2.

b) Consequential amendments

24. When CLP is fully implemented on 1 June 2015, DSD and DPD - and the CHIP regulations which transpose them - will be automatically revoked and replaced by CLP. In order to ensure domestic legislation continues to make sense, a number of minor technical consequential amendments will need to be made to a range of existing domestic regulations.

25. These changes will have very little, if any, impact on business. This is because the chemicals being stored and used by businesses and their intrinsic hazards will not change so the precautions that need to be taken to protect workers will remain the same.

26. The long lead in period means there is a high level of awareness of CLP and the new classification system. On this basis, combined with the limited and technical nature of the changes, we do not expect significant familiarisation costs for business.

27. As the impacts on business are negligible, and the UK has no discretion about how to implement the change to the classification system because it is implemented by an EU direct acting regulation, a proportionate approach has been taken to the analysis of the costs and benefits

4.3. Consideration of other options

28. The wording of the EU direct acting CLP regulation and the amending directive leave no discretion to implement other than by a range of technical amendments to existing legislation. Therefore, HSE has not considered non-regulatory options.

29. Some of the sets of existing regulations affected by these changes go beyond the minimum requirements of the directives they transpose. The need to make amendments to the regulations provides an opportunity to consider whether there is a case at this stage to propose wider amendments to address this.

30. The requirements of the affected regulations, for example the Control of Substances Hazardous to Health Regulations, are informed by a long history of regulatory experience and are defined based on the body of evidence of risk to workers (and others) to exposure to hazardous substances and other hazards.

31. To justify proposing changes to the established regulatory arrangements, there would need to be new risk-based evidence available sufficient to challenge the existing position, supported by evidence that such changes would deliver significant benefits to business. The HSE Board considered the case for making wider changes but did not believe there was currently sufficient evidence available to propose such fundamental changes. They did, however, agree that further work should be done to consider the issues with view to making proposals in the future.

32. The issues concerned with possible wider amendments are potentially controversial and could be seen by some stakeholders as presenting a reduction in worker protection, which could therefore risk complicating and delaying the process to make the required amending regulations in time to achieve the transposition deadline. These wider changes are not being sought by business.

33. The timetable for achieving the minimum consequential changes required is very tight. The significant additional work wider changes would require would put this timetable at risk. The European Commission is also currently undertaking a review of all worker protection directives. It is likely therefore that more fundamental changes to some of the directives concerned, e.g. the Chemical Agents Directive, may be proposed by the European Commission in the near future, which would provide a further an opportunity to consider wider changes.

5. Monetised and non-monetised costs and benefits of options

5.1. General assumptions

34. Guidance issued by the Department for Business, Innovation and Skills (BIS)[5] states that where a policy has costs and benefits that extend into the future and the policy has no identifiable end point, the impacts of the policy should be appraised over ten years. As this is the case for this policy, an appraisal period of ten years is used when considering the impact of costs and benefits in the future.

35. Given that the monetised impacts in this assessment are expected to occur in the first year of the appraisal period (transitional costs only), no discounting is applied to the monetised cost estimates. The BIS Impact Assessment Calculator was used to estimate Equivalent Annual Net Costs to Business (EANCB) over the ten year appraisal period, where 3.5% discount rate is applied, as recommended by the Green Book[6] for any appraisal period of less than 30 years.

[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211981/bis-13-1038-better-regulation-framework-manual-guidance-for-officials.pdf

[6] http://www.hm-treasury.gov.uk/d/green_book_complete.pdf

36. All costs and benefits are calculated for the Great Britain.[7] Estimates are given in constant (2013) prices.

37. Wage data is taken from the Office for National Statistics' Annual Survey of Hours and Earnings (ASHE) 2013.

38. This assessment assumes the proposed changes would come into force in mid-2015 and adopts this as the first year of the appraisal period.

5.2. Costs - Option 1 (To make the minimum legally required changes)

5.2.1. The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002

39. The limited change in scope to application of DSEAR has the potential to increase the administrative costs on business, as a wider range of chemicals will need to be considered under the risk assessment requirements of the regulations. However, the intrinsic hazards of the chemicals being used by businesses is unchanged and the need to carry out a risk assessment and have in place procedures for the safe use of chemicals not currently covered by DSEAR is already required by the general requirements of the Health and Safety at Work Act and the Management of Health and Safety Regulations. Therefore, assuming businesses are already complying with their general duties, they will not need to take any additional action.

40. HSE therefore expect no significant additional compliance costs associated with changes to DSEAR. Additionally, on the basis that requirements on business are unlikely to change in practice, HSE also expect no significant costs arising from the need to familiarise with the legislative change. HSE will seek information at consultation to verify these assumptions.

5.2.2. Health and Safety (Safety Signs and Signals) Regulations 1996

5.2.2.1. *Description of changes to hazardous substance signage requirements*

41. Anecdotal evidence from the safety sign industry is that the switch to new CLP signs and labels will have limited impact. Labels are digitally reproduced which means making changes is quick to do and relatively cheap. The long lead in for CLP means signs and labels with the new CLP pictograms are already available, so much of the costs of switching to the new system have already been absorbed. The industry also confirmed that stocks held are small so no significant costs from the disposal of non-compliant stock are expected.

42. However, HSE expects that there will be some additional costs to businesses having to replace a small proportion of affected workplace signage for hazardous substances, where previous uses are no longer compliant or where new signs have been introduced. Table 1 describes the key changes, which are expected to have the greatest impact and drive the majority of cost estimates in Section 5.2.2.2. Table 2 summarises changes to labelling and signs requirements for pipes and containers. For the reasons discussed in Table 2, these are not expected to lead to significant additional costs to organisations:

[7] Northern Ireland has its own separate relevant legislation which will be amended by the Northern Ireland Executive.

Table 1 – key changes to hazardous substance signs requirements

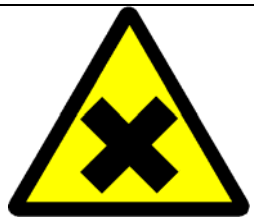
Removal of the *'Harmful or irritant material'* sign from use. Where this sign is used it will need to be replaced with one of the appropriate CLP pictograms for '*long term health hazard*' and *'harmful'*. With the exception of the '*General danger'* sign the use of the other six warning signs for hazardous chemicals is unchanged.	 Replaced by 
Restriction on the use of the '*General danger'* sign to warn of hazardous chemicals. In future this sign can only be used for stores which contain a number of hazardous chemicals. Where this sign has been used to warn of a single hazardous substance it will have to be replaced by the appropriate CLP pictogram or a suitable warning sign using the same pictogram where one exists in the annex to the Regulations.	

Table 2 –changes to labelling and signs requirements for pipes and containers

The previous CHIP orange warning pictograms are no longer to be used on containers and visible pipes; they must now be marked with the appropriate CLP pictogram or a suitable warning sign using the same pictogram where one exists. CLP introduces new pictograms for two new hazard classifications, '*long term health hazards*', and '*gases under pressure'*. In addition the label for corrosivity will now be used in circumstances where the chemical is *'corrosive to metals'* Note: many containers used will already be appropriately marked by the supplier.[8] Pipe work is frequently marked using established colour banding systems or site specific means of identification. Therefore HSE expect no additional costs from these changes to be limited.		

*Further information on CLP and the wider changes it introduces can be found at: http://www.hse.gov.uk/chemical-classification/legal/clp-regulation.htm

43. In order to inform the assessment of these costs, HSE contacted the Health and Safety Signs Association (HSSA), which represents suppliers and manufacturers of health and safety signs and labels. The HSSA was asked to circulate a survey to its members designed to elicit baseline information on the number of relevant signs sold on the market, to form the basis of estimates of signage replacement costs. Unfortunately, no responses to the survey were received in time to provide information for this document. However, information provided during discussions with HSSA broadly supported the assumptions made in the initial assessment below.

[8] Under the requirements of CLP products supplied in containers will increasingly be labelled by the supplier with the correct CLP pictograms. This means no action will need to be taken by the user to update labels on containers unless they choose to decant hazardous chemicals into bespoke containers on site. Transitional arrangements under the CLP regulations mean products already in the supply chain on 1 June 2015 with non-CLP labels can continue to be supplied until June 2017.

44. In the absence of quantitative information, HSE undertook an initial assessment of signage replacement costs based upon informed assumptions regarding the number of signs and premises affected by the changes, and the costs of purchasing and removing/replacing relevant signs. The methodology and assumptions are set out in detail in Appendix A; the results are summarised below. These initial estimates provide our 'best estimate' of potential costs given available information at this stage, and form a framework for gathering further information during formal consultation (see Section 6). HSE will seek information to refine the assumptions and analysis for the final stage assessment.

5.2.2.2. *Costs of purchasing and replacing signs*

45. Based upon assumptions detailed in Appendix A, HSE estimates total costs of £390,000 (best estimate) to organisations required to purchase replacement signs to comply with the changes described in Section 5.2.2.1. This is based on an estimate of 79,000 signs replaced at a cost of £5 per sign.

46. Additionally, organisations will incur labour costs of installing the replacement signs. At a rate of £10 per hour and 15 minutes per sign, total labour costs are estimated to be £190,000 (see Appendix A for further details).

47. Adding these estimates provides a total cost of purchasing and replacing signs (including labour costs) of £580,000 (best estimate). As detailed in Appendix A, low and high estimates are provided for assumptions to reflect uncertainty. Applying these gives a range for total purchase and replacement costs of £140,000 (low estimate) to £1.2 million (high estimate).

48. Some of the costs of replacing signs will fall to the public sector. Applying the assumptions in Table A.I (Appendix A) regarding the split of public/private sector[9] premises, estimated total purchase and replacement costs to businesses (including private businesses and third sector / civil society organisations) are £460,000 (best estimate), and to the public sector are £120,000 (best estimate).

49. Further information to revise these estimates and the assumptions detailed in Appendix A will be sought via the formal consultation and targeted consultation with stakeholders (see Section 6 for further details).

5.2.2.3. *Familiarisation costs – Safety Signs and Signals Regulations*

50. Feedback received so far from business is that because of the long lead in time for CLP many businesses are already familiar with the new classification system, since suppliers are already using the new hazard symbols on their products and informing customers of the changes. However, HSE expects that businesses currently using hazardous substance signs will need to spend some time to familiarise with the new requirements in order to determine which of their signs, if any, are no longer compliant and need replacing.

51. Based on the assumptions detailed in Section A.3, HSE estimate that 220,000 local units (or premises) will need to familiarise with the new signs requirements, each taking an average of between 30 minutes to 1 hour (best estimate 45 minutes) at a cost of £20 per hour. This results in average familiarisation costs of £15 per premises, or £3.4 million (best estimate) in total, with a range of £2.2 million to £4.5 million.

[9] Throughout this analysis, "private sector" is used to refer to private businesses plus civil society organisations.

52. As detailed in paragraph A8 (Appendix), around 160,000 local units are expected to belong to private sector businesses, while 61,000 are public sector. This gives an estimate of private sector familiarisation costs of £2.4 million (i.e. costs to business), and public sector familiarisation costs of £0.9 million.

53. For further detail and discussion of the assumptions underlying these estimates, please see Appendix A.

54. Estimated familiarisation costs are considerably greater than the estimate of costs associated with purchasing and replacing signage (£580,000 best estimate). This result is consistent with the expectation that the impact of replacing signs will be low, given that only a small number of all existing workplace hazardous substance signs are affected. However, because the scope of the changes in terms of number of premises that use all types of hazardous substance sign is broad, the cumulative cost of familiarisation across these premises is higher (although still very low at the organisation level).

5.2.2.4. *Total costs – Safety Signs and Signals Regulations*

55. Estimated total costs of purchasing and replacing signs are £580,000 (best estimate), with a range of £140,000 to £1.2 million.

56. Estimated total costs of familiarising with changes to workplace signage requirements are £3.4 million (best estimate), with a range of £2.2 million to £4.5 million.

57. Total costs associated with changes to the Safety Signs and Signals regulations are therefore estimated to be £3.9 million (best estimate), with a range of £2.4 million to £5.7 million. Applying the assumptions in Table A.I (Appendix), total costs to the private sector (business) are £2.9 million (best estimate), and costs to the public sector are estimated to be £1.0 million (best estimate).

58. Given that the new requirements will come into effect immediately once the changes are enacted, all of these costs are assumed to occur in the first year. However, guidance will be provided to reassure business that a risk based and proportionate approach would be taken to enforcement in relation to any failure to display the correct sign. This will include an indication that it would be unlikely that formal enforcement action would be considered appropriate whilst businesses were in transition to the new signs.

5.2.3. Merchant Shipping and Vessels Regulations

59. For the purposes of transposing the five health and safety directives affected by the amending directive there is separate, parallel legislation for UK ships made under the Merchant Shipping Act 1995 and the European Communities Act 2002. Although there are some presentational differences, the provisions they make are broadly the same as the legislation enforced by HSE in order to ensure common standards where work activities take place at the margins between the shore and the maritime sector. This means the majority of the changes that need to be made to the legislation are very similar minor technical amendments for which the cost to the industry is similarly assessed to be negligible.

Safety Signs

60. The Merchant Shipping and Fishing Vessels (Safety, Signs and Signals) Regulations makes provision for the use of international equivalent signing under international maritime conventions on the carriage of dangerous substances in bulk or as packaged goods and therefore on ships which operate internationally it is likely some of the changes will have no impact. Costs to ship-owners are therefore only likely to occur in relation to ship's stores.

61. Ship's stores would arrive on the ship already labelled in accordance with the regulations, and accompanied by the relevant safety data sheets. Therefore, there are no additional costs of signage. Similarly, given the long lead in time for CLP and the fact that the new CLP pictograms have been in circulation for some time (supported by feedback from businesses of a high degree of familiarisation with the CLP pictograms), we expect that there will be no additional familiarisation required for ship crews to learn the updated signage.

5.2.4. Other regulations affected by the amending directive

62. The amendments required to the Control of Substances Hazardous to Health Regulations are minor technical ones, which update various references to align with CLP. They do not change the scope of application of the regulations or impose any new requirements. No new or additional action will be required by business. For these reasons, costs to business are assessed to be negligible.

63. The changes to the Management of Health and Safety at Work Regulations are limited to updating references to the appropriate annexes of the Pregnant Workers and Young People at Work Directives. These annexes set out non-exhaustive lists of hazardous chemicals to which the relevant duties of the respective directives apply. Because these lists are non-exhaustive the amendments, which extend the lists to include more chemicals, do not change the scope of application or impose any new requirements, given that residual risks are covered by existing general duties. Costs to business are therefore assessed as being negligible.

64. HSE will seek to gather information at consultation to test these assumptions regarding the potential impacts to businesses of changes related to the amending directive.

5.2.5. Consequential amendments

65. As described in Sections 1.2 and 4.2, a number of minor, technical consequential amendments are required to existing UK regulations to replace out of date references to CHIP and DSD/DPD to align with the direct acting CLP regulation and ensure the legislation continues to make sense and is workable.

66. Given the technical nature of these changes, they are not expected to lead to changes in scope of the current requirements, and should therefore have very little, if any, impact on business. Even where there are limited changes in scope, we do not expect significant additional compliance costs, since the chemicals being stored and used by businesses and their intrinsic hazards are unchanged, and so the precautions that need to be taken to protect workers will remain the same.

67. The long lead in period means there is a high level of awareness of CLP and the new classification system. On this basis, combined with the limited and technical nature of the consequential amendments, we do not expect significant familiarisation costs for business.

68. HSE therefore expects that additional costs associated with consequential amendments will be negligible. HSE will seek information to verify this assumption at consultation.

5.3. Benefits

69. Making the necessary changes to align existing domestic legislation with CLP ensures the law remains workable when DSD and DPD and the CHIP regulations are revoked. This will avoid causing confusion for business and the costs and economic efficiency losses that this would give rise to. The changes will also mean there is a consistent use of the CLP classification system and hazard warning symbols across all supply, storage and use of hazardous chemicals, which will be simpler for business, and will help to ensure the continued proper protection of workers, which would be at risk if no action is taken.

70. With respect to the changes to the signs and labels required in certain circumstances, the new CLP hazard warning symbols differ in colour and shape compared to the old ones (e.g. from orange to red and white background, and from square to diamond shape) but the actual pictograms to indicate the hazard are broadly unchanged. This means replacement of the old signs for the new ones is not expected to improve worker protection beyond current levels. However, as discussed above, there is a risk that under the 'do nothing' counterfactual business confusion caused by legal uncertainty could undermine worker protection, which would be avoided under Option 1.

71. It has not been possible to quantify or monetise the benefits described above, given the level of data required and uncertainty as to how they may manifest. However, HSE expect that costs of inconsistent and confusing legislation to businesses, and potentially to workers would be considerable.

Total monetised net benefits

72. As it has not been possible to monetise the benefits of the proposal, net benefits are based solely on the monetised cost estimates for changes to signs requirements. Therefore, total monetised net benefits associated with Option 1 are estimated to be -£3.9 million (best estimate), with a range of -£2.4 million to -£5.7 million.

73. Total monetised net benefits to the private sector (business) are -£2.9 million (best estimate), and total monetised costs to the public sector are -£1.0 million (best estimate).

6. Rationale and evidence

74. Given the technical nature of the changes introduced by the amending directive and required changes to domestic regulations, HSE has taken a proportionate approach to this impact assessment. An initial scoping exercise was undertaken in HSE to identify which of the regulatory changes would be likely to have significant impacts on business and other organisations. For the reasons discussed in Section 4.2, this exercise identified only changes to the Health and Safety (Safety Signs and Signals) Regulations 1996 as having the potential to lead to significant additional costs. The detailed assessment of costs and benefits has therefore focussed on these changes.

75. It has been necessary to make a number of assumptions to provide an estimate of the cost of changes to workplace hazardous substance signage. HSE consulted with the Health and Safety Signs Association (HSSA), and while the HSSA provided useful information to inform the analysis, no responses to a survey circulated to HSSA members (major signs manufacturers and suppliers) were received. In the absence of the specific information that these responses would have provided, assumptions are based primarily on HSE expert knowledge.

76. In order to reflect uncertainty around these assumptions, we have provided low, high, and best estimate assumptions. These provide a range of total costs of £2.4 million to £5.7 million, with a best estimate of £3.9 million. HSE believe this range provides a reasonable reflection of uncertainty around the possible range of costs. However, there is some risk that given the number of assumptions made, costs to businesses and other organisations could be higher (or lower) than this range.

Outline of information to be sought at formal consultation

77. In order to refine these assumptions for the final stage analysis and clarify the potential impacts of the proposals, HSE will seek to gather further relevant information via the formal consultation, in addition to further targeted consultation of signs suppliers and users.

78. The key assumptions (as detailed in Appendix A) that HSE will seek to gather further information on are:

Health and Safety (Safety Signs and Signals) Regulations 1996

- The number of signs relating to hazardous substances per business / premises, across different premises sizes and industries
- The proportion of existing signs that would be non-compliant with the proposed requirements
- The proportion of signs that are replaced annually due to wear and tear
- The unit purchase costs of typical workplace hazardous chemicals signs
- The labour costs of replacing signs
- The likely time and cost associated with familiarisation with the proposed requirements
- The use of hazardous chemicals signs by micro units and businesses

Changes to other domestic regulations due to Amending Directive 2014/27/EU

- HSE will gather information to verify the assumption that changes to other domestic regulations will not incur significant costs to business in terms of compliance or familiarisation. This will focus in particular on identifying instances where existing general duties do not already cover the specific requirements brought by changes to the amending directive i.e. where there will be additional requirements on organisations.

79. HSE will refine the analysis for the final stage assessment, where relevant and substantive information is received.

7. Risks and assumptions

80. There is a risk that, as discussed in Section 6, costs to businesses and other organisations arising from changes to the Safety Signs and Signals regulations will be higher than estimated, given that the analysis is based on a number of assumptions. HSE believe that the low and upper estimates provide a reasonable reflect of uncertainty, and will seek further information to refine estimates for the final stage assessment.

81. There is some risk that there will be additional costs arising from implementation of the amending directive, other than those estimated relating to signage changes. We believe this risk is small, given the limited and technical nature of these changes, and the objective to use copy-out or alternative wording where possible to minimise changes in scope and resulting costs to business. We expect that any minor changes in scope will in practice not impose additional costs on businesses, as where not specifically covered by the regulations being amended, the general duties of the Health and Safety at work Act and the Management Regulations already require suitable steps are taken to ensure the safe use of hazardous chemicals. We will seek further information during consultation to clarify this risk and incorporate any substantive information on additional impacts into the final assessment.

82. The risk of unintended consequences is considered to be very low, considering the technical and limited nature of the changes.

8. Direct costs and benefits to business

83. As discussed in Section 5.2.2, as set out in detail in Appendix A, total costs to business are estimated to be £2.9 million. These are expected to occur in the first year of the appraisal period. As it has not been possible to quantify or monetise benefits associated with the policy proposal, net benefits to business are -£2.9 million.

84. Applying the methodology set out in the Better Regulation Framework Manual[10], Equivalent Annual Net Costs to Business (EANCB) over the ten year appraisal period are £0.27 million.

85. This measure is out of scope of One-In-Two-Out because it is a result of a change in EU obligations.

9. Wider impacts

86. Given the technical and limited nature of the regulatory changes required under Option 1, HSE does not expect any significant wider impacts. While the costs associated with signage changes are estimated to be in the range of £2.4 million to £5.7 million, these are spread across a large number of organisations and sectors, giving an average cost per premises of only around £20.

[10] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211981/bis-13-1038-better-regulation-framework-manual-guidance-for-officials.pdf

87. A single enterprise or business is likely to operate a number of local units or premises, and costs per business will vary given the nature of the chemicals used, with some businesses experiencing higher costs while others incur none. Nevertheless, these figures suggest that the costs per business are likely to be very low. Additionally, the number of affected signs and the costs of replacing them are expected to correlate closely with business size, meaning that small businesses should not be disproportionately affected.

88. The assessment assumes no costs to micro businesses. As discussed in Appendix A, they were excluded from the analysis as they are likely to have small, less complex, premises and processes and therefore are more likely to rely on the labelling provided by the supplier on packaging to provide the necessary warning information. We will test this assumption at consultation and update the analysis for the final assessment where possible. Even where micro businesses, are required to update workplace hazardous substance signage, we expect the number of signs to be replaced and corresponding costs to be very low.

Summary and preferred option

89. The preferred Option 1 is to make:

a. the changes required to existing domestic regulations to transpose the amending directive by 1 June 2015; and

b. the consequential amendments required due to the revocation of CHIP 2009 and DSD/DPD as a result of CLP coming fully into force on 1 June 2015.

90. Total quantified net benefits with this option, arising from changes to the Safety Signs and Signals regulations, estimated to be -£3.9 million (best estimate), with a range of -£2.4 million to -£5.7 million (i.e. net costs).

91. This does not include the potentially significant but unquantified benefits associated with the proposed changes in ensuring the law remains workable when DSD and DPD and the CHIP regulations are revoked. The proposed changes will avoid causing confusion for business and the costs and economic efficiency losses that this would give rise to.

92. Subject to consultation it is proposed to prepare an amending statutory instrument to make the necessary changes on 1 June 2015. Where appropriate HSE and Maritime and Coastguard Agency guidance will be updated to explain the changes made and what, if any action, business needs to take.

Appendix A. Calculation of sign costs

A1. This appendix sets out in detail the model used to estimate the total costs of purchasing and replacing hazardous substance signs under Option 1 (see Table AIII for a summary of costs and assumptions). This supports the estimates provided in Section 5.2.2 of the main document. Given the lack of information and uncertainty inherent in the assumptions made, low, high and best estimates are provided where possible to provide a range of cost estimates. As discussed in Section 6, HSE will seek to verify these assumptions at consultation and gather further information to refine the analysis where possible.

A.1. Number of signs to be replaced under Option 1

A.1.1. Industries and premises using hazardous substance signs

A2. Interdepartmental Business Register (IDBR) 2013 data on local units[11] by industry and unit size (measured by number of employees) was used to identify the number of potential premises currently required to display signage relating to hazardous substances. Firstly, industry classifications (at the two digit Standard Industry Classification (SIC) level) were sifted based on HSE expert knowledge according to whether premises were likely to display workplace signage relating to hazardous substances.

A3. This stage of the analysis considered *all* workplace hazardous substance signage, rather than only those signs requiring replacement due to the changes described in Section 5.2.2.

A4. During this exercise, of 99 industry classifications, 48 were included (i.e. 51 were excluded). Broadly, those industry classifications included were:

- All classifications related to mining, manufacturing, agriculture, and aquaculture included (SIC 01 – 32, except 09 'Mining support activities);
- Energy generation, water treatment, sewerage and remediation activities (SIC 35-39);
- Wholesale, distribution and transport activities (where hazardous chemicals may be transported and stored) (SIC 45-51)
- Scientific, research, testing and engineering activities (SIC 71, 72 and 74)
- Defence, education and human health (SIC 84-86)

A5. Other sectors were excluded on that basis that significant use of hazardous substances was unlikely and therefore hazardous substance signage would not be required. These were mainly sectors related to administrative, financial, telecommunications and information services, advertising, sports and other recreational sectors. In these sectors where hazardous chemicals use will be small scale e.g. for cleaning purposes, the labelling as supplied on packaging will normally be sufficient without the need for additional workplace signage.

A6. Micro units (1-9 employees) were excluded from this exercise as they will have small, less complex, premises and processes and therefore are more likely to rely on the labelling provided by the supplier on packaging to provide the necessary warning information. They are also likely to have a single store for a mixture of chemicals, which can continue to be marked with the '*general danger'* sign, meaning no action needs to be taken. However, there is no specific exemption for micro units or businesses, so this is an important assumption that will be tested at consultation.

[11] The Office for National Statistics defines a local unit as "an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place", i.e. a premises.

A7. This provided an initial estimate of 220,000 local units (small to large) displaying hazardous substance signs. These units or premises will include both public and private organisations. Three industry classifications in the list above were identified as comprising a significant proportion of public sector organisations, and the following assumptions were made to disaggregate these into public and private organisations:

Table A.I – assumptions regarding proportion of public sector premises in industries identified as having hazardous substance signage

Industry (2 digit SIC)	Total number of local units[a]	Proportion public sector	Justification
84 : Public administration and defence; compulsory social security	12,115	100%	All units public sector
85 : Education	35,335	90%	DfE national tables show just under 580,000 pupils at independent and non-maintained schools, or 7% of the 8.2 million school pupils in England. 90% of premises in public sector used as rough approximation. https://www.gov.uk/government/collections/statistics-school-and-pupil-numbers
86 : Human health activities	21,235	80%	ONS (2013) healthcare expenditure in UK (http://www.ons.gov.uk/ons/dcp171766_308689.pdf) estimates 83% healthcare expenditure was public. Some public expenditure represents commissioning of private providers, so 80% is used as an assumption for the proportion of premises in the public sector.

[a] Total excluding micro units

A8. Based on Table A.I, 160,000 local units or premises are identified private sector, while 61,000 are identified as public sector. These proportions will also be used to estimate the number of signs to be replaced in the public and private sectors, and the associated costs, in order to estimate Equivalent Annual Net Costs to Business (see Section 8).

A.1.2. Total number of hazardous substance signs

A9. Those industry classifications identified as having workplace signage relating to hazardous substances above were then divided into ‘low’ and ‘high’ intensity users of hazardous substance signs, based upon HSE expert knowledge of the likely intensity and variety of hazardous substance usage. All industrial sectors related to mining, manufacturing, energy generation, water, sewerage and waste treatment were identified as ‘high’ signs users (32 in total). The remaining sectors were identified as ‘low’ signs users (16 in total).

A10. Assumptions were then derived on the number of signs for ‘high’ and ‘low’ intensity users, by small (10-49 employees), medium (50-249 employees) and large (250+ employees) premises, as per Table A.II below:

Table A.II – assumptions on number of signs by local unit – 'low' and 'high' users

	Unit size (number of employees)		
Number of signs per local unit	**Small (10 to 49)**	**Medium-sized (50 to 249)**	**Large (250+)**
'Low' sign user)	1	3	5
'High' sign user)	5	10	20

A11. The signs concerned are those used to warn of hazardous chemicals and these are only required where a residual risk remains after other control measures have been applied. The number of signs likely to be used was based on the assumption that the number of employees in most cases will correlate to the scale and complexity of the physical premises and hence the number of signs required to indicate the presence of hazardous chemicals. The use of hazardous chemicals is usually restricted to certain areas so the use of signs is likely to be targeted accordingly.

A12. Pipe work containing hazardous substances is usually marked using colour banding in line with International or British Standards and/or established site conventions, not signs and labels as set out in these regulations, and so the marking of pipes has been excluded in these assumptions.

A13. This exercise resulted in a total number of 530,000 signs, or an average of 2.4 signs per premises (across low and high users, and small to large premises). Of these, based upon assumptions in Table A.I, 420,000 signs are estimated to be in the private sector, and 110,000 in the public sector.[12] This represents the number of *all* hazardous substance signs in the local units identified.

A.1.3. Number of hazardous substance signs to be replaced under Option 1

A14. As discussed in Section 5.2.2, the regulatory changes necessary under in Option 1 affect a small proportion of hazardous substance signs in practice. A key assumption in this analysis is the proportion of all hazardous substance signs that would need to be replaced to be compliant with the new requirements. On the basis that most signs are not affected, this analysis assumes a range of between 5% and 25% of existing signs[13] will need to be replaced to reflect uncertainty, with a best estimate of 15%.

A15. Applying this assumption to the total number of hazardous substance signs (530,000) estimated in paragraph A13 gives a range of 26,000 to 130,000 signs to be updated, with a best estimate of 79,000. Of these, applying the assumptions in Table A.I, we estimate that 63,000 of these signs are in the private sector, while 16,000 are in the public sector (rounded best estimates).

A16. HSE will undertake further targeted consultation alongside the formal consultation to refine the key assumptions above (number of signs per premises, proportion of signs already compliant with new requirements) for the final stage impact assessment (see Section 6).

[12] Average number of signs per unit for private sector organisations is estimated to be 2.6, while for public sector organisations is 1.8. The difference is due to a higher proportion of 'high' signs users in the private sector.

[13] While CLP introduces new classifications and pictograms, we do not expect there to be a greater total number of signs as a result. This is because the underlying hazard and risks posed by hazardous substance has not changed, and businesses are required under current arrangements to use signs to warn of residual risk. The additional impact is therefore the requirement to use different signs in a relatively small number of situations, rather than to use additional signs were they were previously not required.

A.2. Cost of replacing signs (signage plus labour costs)

A.2.1. Cost of purchasing signs

A17. Hazardous substance signs come in a range of sizes and materials, with corresponding variation in unit costs. For the purposes of this analysis, taking account of the variety of signage types would represent too much detail, given the level of uncertainty regarding the number of signs needing replacement. Therefore, this analysis uses information gathered from an internet search of major online signs providers to estimate an average unit cost: £5 is used as a best estimate, with a range of £3 to £7 to reflect uncertainty.

A18. Multiplying the unit cost estimates by the estimated number of signs to be replaced in Section A.1.3 gives a **best estimate of total purchase costs of replacement signs of** £390,000 (with a range of £79,000 to £920,000). Based on the assumptions in Table A.I, we estimate £310,000 of these costs to fall to private sector organisations, and £80,000 to public sector organisations.

A19. If all 530,000 hazardous substance signs were replaced, this would give a total cost of £2.6 million (best estimate). Given that the vast majority of hazardous substance signs will not need replacing (as discussed in Section 5.2.2), this represents a considerable overestimate and is not used further in the analysis.

A.2.2. Labour costs – signage replacement

A20. In addition to the expense of purchasing signs, organisations will incur time costs from removing old signs and installing replacements. Based on HSE expert knowledge, we assume that the removal and replacement of signs will take an average of 15 minutes per sign replaced. Given that this time could have otherwise been used productively, this represents an additional cost to these organisations.

A21. We use data from the Annual Survey of Hours and Earnings (ASHE) 2013[14] to estimate the economic cost of this time at £9.40 per hour, based upon a 'Process, plant and machine operative'. This gives a labour cost estimate of £2.40 per sign, and a **best estimate of total labour costs of** £190,000 (with a range of £62,000 to £310,000) for the replacement of those signs needing to be updated under Option 1 (i.e. those estimated in paragraph A15). Of these labour costs, applying the assumptions in Table A.I, we estimate £150,000 labour costs to the private sector (best estimate), and £38,000 costs to the public sector (difference due to rounding).

A22. The labour cost for replacing *all* 530,000 hazardous substance signs is estimated at some £1.2 million. For the reasons discussed in Section 5.2.2, this is considered a considerable overestimate and is not used further in the analysis.

A.2.3. Total cost of replacing signs

A23. Table A.III shows total costs of replacing signs, and those falling to private and public sector organisations, resulting from the analysis above.

[14] http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings/2013-provisional-results/stb-ashe-statistical-bulletin-2013.html

A24. This analysis estimates a total signage purchase cost of £390,000 (with a range of £79,000 to £920,000) and a total labour cost of £190,000 (with a range of £62,000 to £310,000). Based on these estimates, **total costs associated with purchasing and installing signs under Option 1 are** £580,000 **(best estimate),** with a low estimate of £140,000 and a high estimate of £1.2 million.

A25. Total purchase and labour costs to private sector organisations (i.e. businesses) are estimated to be £460,000 (best estimate).

A26. Total purchase and labour costs to public sector organisations are estimated at £120,000 million (best estimate).

A27. A proportion of existing signs are likely to be replaced in any given year in the absence of regulatory change as they reach the end of their service life (i.e. due to wear and tear). This means that *additional* costs associated with signage replacement are likely to be lower than estimated here. HSE will seek to gather information on the proportion of signs replaced annually to account for this in the final assessment.

A.3. Familiarisation costs

A28. HSE expects that businesses currently using hazardous substance signs will need to spend some time to familiarise with the new requirements in order to determine which of their signs, if any, are no longer compliant and need replacing.

A29. HSE estimates that this familiarisation time could take between 30 minutes to 1 hour, with a best estimate of 45 minutes. This familiarisation would most likely be undertaken by a health and safety officer or a local manager with responsibility for health and safety. In order to estimate the economic cost of this time (assuming it would otherwise be used productively), we have used wage data from the Annual Survey of Hours and Earnings (ASHE) 2013 for 'Production Managers and Directors' (SOC 111) at £20 per hour.

A30. Given that the nature of hazardous substance use is likely to vary by premises, and therefore requirements for relevant signage would also be site specific, we assume that each premises or 'local unit' would need to spend this time familiarising with the new requirements. Using the assumptions above on familiarisation time and hourly cost, this gives a familiarisation cost per local unit of £15 (best estimate, with a range of £10 to £20).

A31. As discussed in Section A.1.1, we estimate that around 220,000 local units or premises use or store hazardous substances in a way that requires the use of hazardous substance signage in the workplace. As discussed in Section 5.2.2, only a small subset of hazardous subset signs are likely to require replacement under Option 1. However, it is reasonable to assume that regardless of whether signs need to be replaced in a given premises, the local manager responsible for workplace signage will need to spend time familiarising with the new duties to determine whether signage changes are required.

A32. On this basis, taking the number of units (220,000) and familiarisation cost per unit (£15 best estimate), we estimate familiarisation costs arising from changes to signage requirements to be £3.4 million (best estimate, with a range of £2.2 million to £4.5 million).

A33. As detailed in paragraph A8 (Appendix), around 160,000 local units are expected to belong to private sector businesses, while 61,000 are public sector. This gives a best estimate of private sector familiarisation costs of £2.4 million (i.e. costs to business), and public sector familiarisation costs of £0.9 million.

A34. This assessment does not include familiarisation costs to micro units. As discussed in paragraph A6, HSE expect that operations on the scale of micro units will rely on product labelling, rather than workplace signage. Therefore, on the basis that these units are unlikely to use hazardous substance signs, we assume that they will not need to spend time familiarisation with changes to signs requirements as a result of these proposals. This is an important assumption that HSE will seek to verify at consultation.

Table AIII – Summary of costs analysis (may not add as rounded to 2 significant figures)

i. Number of signs to be replaced due under Option 1	**Low**	**Best**	**High**
Total number of 'hazardous substance' signs (thousands)	530	530	530
Private sector + civil society organisations (thousands)	*420*	*420*	*420*
Public sector (thousands)	*110*	*110*	*110*
Proportion of existing signs non-compliant with proposed requirements	5%	15%	25%
Total number of signs to be replaced under Option 1 (thousands)	26	79	130
Private sector + civil society organisations (thousands)	*21*	*63*	*100*
Public sector (thousands)	*5*	*16*	*27*

ii. Total cost of purchasing replacement signs under Option 1	**Low**	**Best**	**High**
Cost per sign (£)	£3	£5	£7
Total cost of purchasing signs to be replaced under Option 1 (thousands)	£79	£390	£920
Private sector + civil society organisations (thousands)	*£63*	*£310*	*£730*
Public sector (thousands)	*£16*	*£80*	*£190*

iii. Labour cost for installing replacement signs under Option 1	**Low**	**Best**	**High**
Labour time per sign (hour)	0.25	0.25	0.25
Hourly wage of sign installer (£)	9.50	9.50	9.50
Total labour cost for installing replacement signs (thousands)	£62	£190	£310
Private sector + civil society organisations (thousands)	*£50*	*£150*	*£250*
Public sector (thousands)	*£13*	*£38*	*£63*

iv. Familiarisation cost (signs)	**Low**	**Best**	**High**
Familiarisation time (hours per local unit)	0.5	0.75	1.0
Hourly wage of familiarising manager	£20	£20	£20
Familiarisation cost per unit (£)	£10	£15	£20
Total number of units using hazardous substance signs (thousands)	220	220	220
Private sector + civil society organisations (thousands)	*160*	*160*	*160*
Public sector (thousands)	*61*	*61*	*61*
Total familiarisation cost (thousands)	£2,200	£3,400	£4,500
Private sector + civil society organisations (thousands)	*£1,600*	*£2,400*	*£3,300*
Public sector (thousands)	*£610*	*£910*	*£1,200*

v. Total monetised costs under Option 1 (signs changes)	**Low**	**Best**	**High**
TOTAL costs – (signs + labour + familiarisation) (thousands)	£2,400	£3,900	£5,700
Private sector + civil society organisations (thousands)	*£1,700*	*£2,900*	*£4,200*
Public sector (thousands)	*£640*	*£1,000*	*£1,500*