

**Guidance Notes** on the  
**Globally Harmonised System (UN GHS)** for  
the  
**Classification, Labelling and Packaging** of  
**Chemicals**  
**(CLP Regulation)**

(Ref: QM\_OHSD\_SE004)

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## Table of Contents

1.0	Transition to CLP/GHS .....	3
2.0	Classification & Labelling of Substances & Mixtures.....	3
3.0	New GHS Label .....	3
4.0	Hazard Statements (Hazard Codes): .....	5
5.0	Signal Words:.....	5
6.0	Precautionary Statements: .....	6
7.0	Safety Data Sheets: .....	6
8.0	What about re-labelling of chemicals, revision of COSHH risk assessments, Safe Systems of Work, and Standard Operating Procedures ? .....	7



## 1.0 Transition to CLP/GHS

The **CLP** Regulation is a new European Union (EU) regulation for the **Classification, Labelling and Packaging** of chemical substances and mixtures (previously known as preparations) replacing the Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIP) in the United Kingdom. The legislation implements throughout the EU, and in most territories worldwide, a new system for classifying and labelling chemicals, based on the United Nations' **Globally Harmonised System (UN GHS)**.

CLP/GHS effectively came into force across the EU on the 20th January 2009, with a transition stage commencing on the 1<sup>st</sup> December 2010 and eventual full replacement of current implementing legislation CHIP by 1<sup>st</sup> June 2015.

### **CLP/GHS Time Line in the EU:**

YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Individual Substances	CHIP <b>or</b> CHIP	& CLP/GHS	Classification - CHIP & CLP/GHS				Classification, Labelling and Packaging according to CLP/GHS only				
Mixtures (preparations)	Classification, Labelling and Packaging - CHIP <b>or</b> CHIP & CLP/GHS		Labelling, Packaging - CLP/GHS								

## 2.0 Classification & Labelling of Substances & Mixtures

Hazards are categorised under three main hazard elements:

- Physical
- Health
- Environmental

Once a substance or mixture has been re-classified under the new system, the hazard(s) are communicated as in the existing systems through **Labels** and **Safety Data Sheets**.

## 3.0 New GHS Label

The new GHS labels are made up of a number of elements, including product and safety information.

- **Product Name or Identifier:** Name or number used for a hazardous product (name as determined by IUPAC, ISO, CAS) on the label (and in the SDS). Also includes Identification of Hazardous Ingredients where appropriate)
- **Supplier identification:** The name, address and telephone of the manufacturer or supplier of the product should be provided on the label.
- **Supplemental information:** Supplemental label information is non-harmonized information on the container of a hazardous product that is not required or specified under the GHS.



## Guidance

- **Hazard Statements (Hazard codes):** Identify hazards of product
- **Signal words:** Indicate relative degree of severity of identified hazards
- **Pictograms:** visual identifiers equivalent to previous symbol
- **Precautionary Statements** Measures to minimize or prevent adverse effects.
- **Pictograms:** There are now only 9 pictograms, all a white background with a red diamond frame with the black hazard symbol inside. **NB.** All pictograms relating to transport remain governed by the Carriage of Dangerous Goods Regulations.

Table 1

GHS Pictograms and Hazard Classes		
<p><b>pic 1803</b></p>  <p>Oxidizers</p>	<p><b>pic 1802</b></p>  <p>Flammables Self Reactives Pyrophorics Self-Heating Emits Flammable Gas Organic Peroxides</p>	<p><b>pic 1801</b></p>  <p>Explosives Self Reactives Organic Peroxides</p>
<p><b>pic 1809</b></p>  <p>Acute Toxicity (severe)</p>	<p><b>pic 1808</b></p>  <p>Corrosives</p>	<p><b>pic 1804</b></p>  <p>Gases Under Pressure</p>
<p><b>pic 1807</b></p>  <p>Carcinogen Respiratory Sensitizer Reproductive Toxicity Target Organ Toxicity Mutagenicity Aspiration Toxicity</p>	<p><b>pic 1806</b></p>  <p>Environmental Toxicity</p>	<p><b>pic 1805</b></p>  <p>Irritant Dermal Sensitizer Acute Toxicity (harmful) Narcotic Effects Respiratory Tract Irritation</p>

#### 4.0 Hazard Statements (Hazard Codes):

Hazard (H) statements are standardised wording to indicate the hazards of a product. In the EU, the **H-statements** will replace **Risk phrases (R-phrases)**.

Hazard statements are assigned a unique numerical code with the format Hnxx, where H stands for "hazard statement"; n=2 for **physical** hazards, n=3 for **health** hazards, and n=4 for **environmental** hazards; and xx is a sequential numbering scheme e.g. H290, 2=physical hazard, 90 relates to a specific numbering scheme - "May be corrosive to metals". See Table II below as to how H-Statements H300-H303 relate to acute toxicity categories, H3=health hazard; toxicity categories 00=category1 & 2, 01=cat 3, 02=cat 4, and 03=cat 5. The assigned unique numerical code is useful when translating labels and SDS written in other languages and also as a reference for conversion from R-phrases to H-statements.

#### 5.0 Signal Words:

The signal word indicates the relative degree of severity of a hazard. The signal words used in the GHS are "**Danger**" for the more severe hazards and "**Warning**" for the less severe hazards. Some lower level hazard categories do not use signal words.

Table 2

Acute Toxicity - Oral								
EU	T+ R28		T R25		Xn R22			
LD <sub>50</sub>	≤5	5-25	25-50	50-200	200-300	300-2000	2000-5000	
GHS	Cat 1		Category 2		Category 3		Category 4	Category 5
LD <sub>50</sub> (mg/kg)	≤ 5		> 5 < 50		≥ 50 < 300		≥ 300 < 2000	≥ 2000 < 5000
PICTOGRAM								No Symbol
SIGNAL WORD	Danger		Danger		Danger		Warning	Warning
HAZARD STATEMENT	Fatal if swallowed		Fatal if swallowed		Toxic if swallowed		Harmful if swallowed	May be Harmful if swallowed
HAZARD CODE	H300		H300		H301		H302	H303

## 6.0 Precautionary Statements:

Precautionary Statements (**P-Statements**) provide standardized wording and/or pictograms to supplement the hazard information by briefly providing measures to be taken to minimize or prevent adverse effects from physical, health or environmental hazards. First aid is also included in precautionary information. In the EU, **P-statements** will eventually replace the current **Safety phrases (S-phrases)**. P-statements are also assigned a unique numerical code with the format P<sub>xx</sub> where P stands for "Precautionary Statement". xx is a sequential numbering scheme, and the value of n refers to:

1. General precautionary statements
2. Prevention precautionary statements
3. Response precautionary statements
4. Storage precautionary statements
5. Disposal precautionary statements

E.g. A label might bear a statement such as "Pressurized container; Do not pierce or burn, even after use (P251)". P indicates a Precautionary Statement, the 2 indicates it is a prevention precautionary statement, and 51 is part of specific numbering scheme relevant to the statement.

## 7.0 Safety Data Sheets (SDS):

The safety data sheet (the word "material" has been dropped) should provide comprehensive information about the chemical product and should contain 16 sections (see below). Suppliers must continue to provide SDS's with chemicals. These are generally also available on the supplier's website.

1. Identification of substance / mixture and supplying company
2. Hazard(s) identification
3. Composition/ information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/ personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory Information
16. Other Information



## 8.0 What about re-labelling of chemicals and revisions of COSHH risk assessments, Safe Systems of Work, and Standard Operating Procedures?

**All existing hazardous chemical stocks and dilutions held in the College must be re-labelled with the new labels by 2015.**

In most cases, COSHH risk assessments will not have to be completely re-assessed. Current Workplace Exposure Limits (WEL) (HSE [EH40/2007](#)) are still applicable to those substances with WEL's and so are concentration limits of certain substances listed under Annex I of CHIP (now under Part 3 of Annex VI to the CLP Regulation).

Identified hazardous substances in current COSHH risk assessments should be cross checked with the new CLP/GHS Safety Data Sheets to ensure correct hazard classification. All the current risk and safety phrases will need to be replaced with the equivalent CLP/GHS hazard and precautionary statement codes during the transition period through the **natural process of risk assessment review**.

The current COSHH forms on the Health and Safety Department website will be updated in due course to refer to hazard and precautionary statements in addition to the risk and safety phrases until all substances have met the ultimate deadline of 1st June 2015. If you use any local variants of these forms, please update them with the new statements.

Safe systems of work, Standard Operating Procedures, Method Statements for projects etc must also be amended with the updated information.

A limited translation table is available to aid transference from risk phrases to H -statements at [http://ec.europa.eu/enterprise/sectors/chemicals/files/ghs/w\\_annex\\_vii\\_en.doc](http://ec.europa.eu/enterprise/sectors/chemicals/files/ghs/w_annex_vii_en.doc)

- **Other useful websites:**

- <http://www.hse.gov.uk/ghs/index.htm>
- [http://echa.europa.eu/home\\_en.asp](http://echa.europa.eu/home_en.asp)
- [http://www.unece.org/trans/danger/publi/ghs/ghs\\_rev03/03files\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html)
- [http://echa.europa.eu/legislation/classification\\_legislation\\_en.asp](http://echa.europa.eu/legislation/classification_legislation_en.asp)
- [http://www2.unitar.org/cwm/publications/cw/ghs/GHS\\_Companion\\_Guide\\_final\\_June2010.pdf](http://www2.unitar.org/cwm/publications/cw/ghs/GHS_Companion_Guide_final_June2010.pdf)
- <http://www.sigmaaldrich.com/safety-center/globally-harmonized.html>



## Document Control

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