HAZARDOUS WASTE IDENTIFICATION GUIDE

ANNEX 7-2

INFORMATION ON THE CLP INVENTORY

The classification and labelling inventory (the 'CLP Inventory') is established on the website of the European Chemicals Agency (ECHA) for collecting information on the classifications of substances and groups of substances harmonised at EU level (the information provided from Table 3 of Part 3 of Annex VI to the CLP Regulation) and on the independent classification of substances by manufacturers, importers and downstream users when registering substances under the REACH Regulation.

The CLP inventory can be found on the ECHA website: https://echa.europa.eu/information-on-chemicals/cl-inventory-database..

When no harmonised classification and more than one self-classification is reported in the CLP Inventory, the ECHA database on registered substances (2) can help supporting information obtained from the CLP Inventory: http://echa.europa.eu/de/information-on-chemicals/registered-substances.

Please note that the information in these databases is updated regularly.

Based on the above, the databases available on the ECHA website can be used to find the classification of a substance or group of substances that may render the waste hazardous.

The following is an example from the Danish Guidance on classification of hazardous waste[1] on how to find and use information from the CPL Inventory on the ECHA website on the classification of a substance that may render the waste hazardous.

The following search steps are performed on the ECHA website:

1. Upon logging in to the database[2], press the *CL Inventory* link to display the following window:

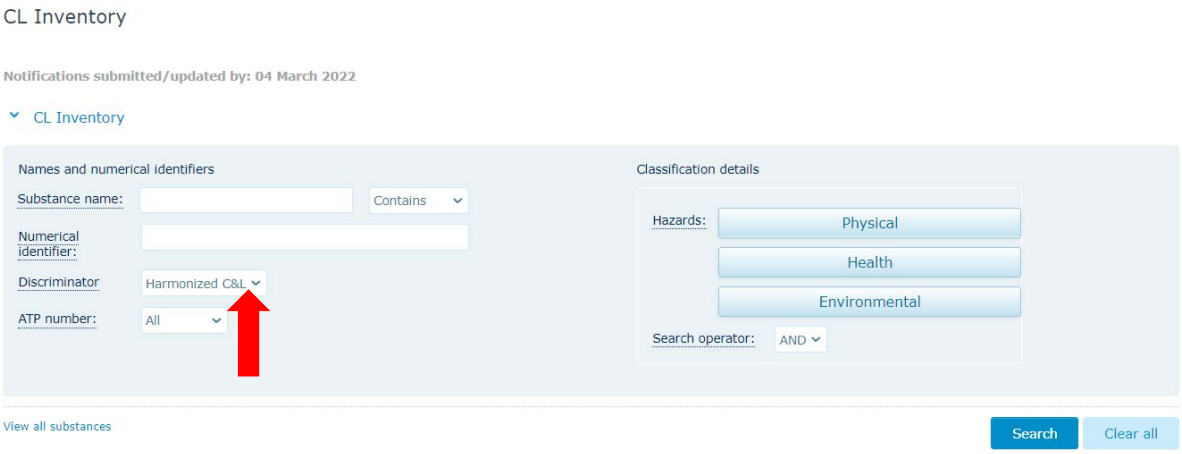


Fig. 1. The search window of the CLP Inventory.

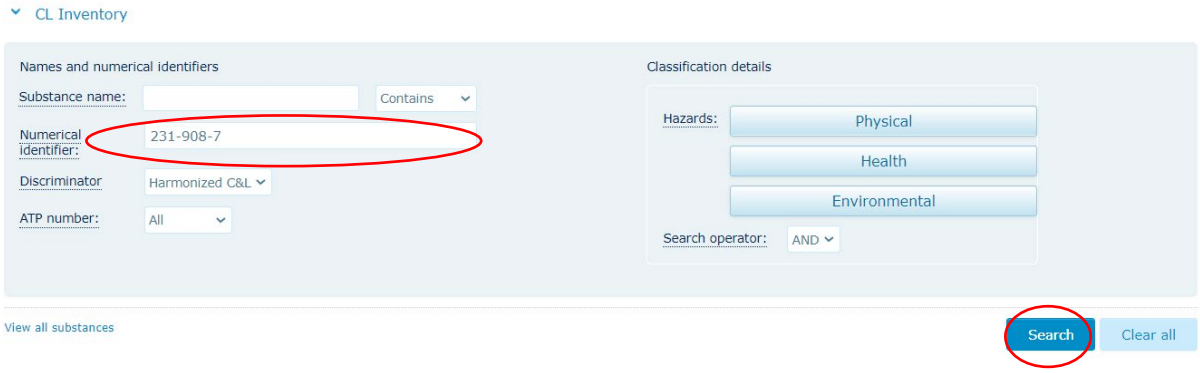
2. Select *Harmonized C&L* in the *Discriminator* box to get only harmonised classifications. Otherwise, you will receive information about all data being processed, including self-classifications.
3. In the *Substance name* box, type a name for the substance (in English!). If a CAS, index or EC number for a substance or group of substances is available, perform an extended search using this number by entering it in the *Numerical identifier* box. If possible, we suggest using the EC number.
4. Upon clicking the *Search* button a list of the relevant classified substances in the database appears at the bottom of the window.

[1] https://mst.dk/media/93596/vejledning-i-klassificering-af-farligt-affald_april-2017.pdf.

[2] https://echa.europa.eu/information-on-chemicals/cl-inventory-database.

As an example, the search was performed for **calcium hypochlorite**. This substance is often used to disinfect swimming pools and drinking water.

The search was based on the EC number of the substance.



Upon clicking the *Search* button to get a list of substances (see Fig. 2):

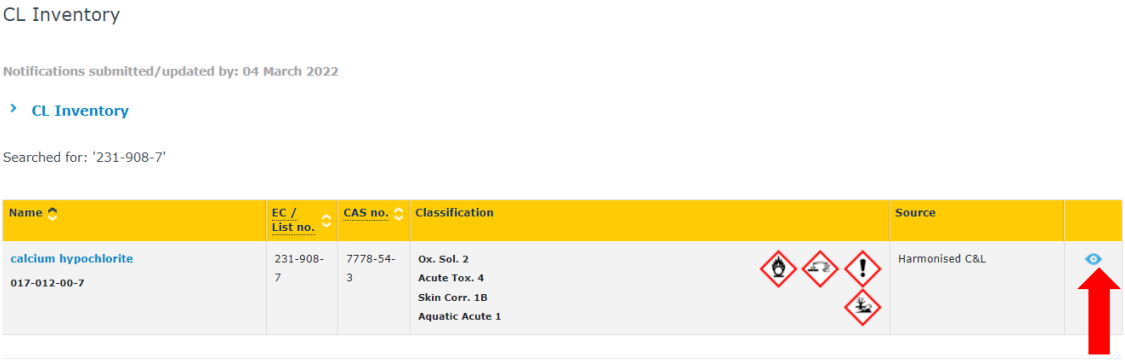


Fig. 2. Extract from the CLP Inventory.

To expand the window, press the 'eye' pictogram in the last column (see Fig. 2). The image of the expanded window is shown in Fig. 3.

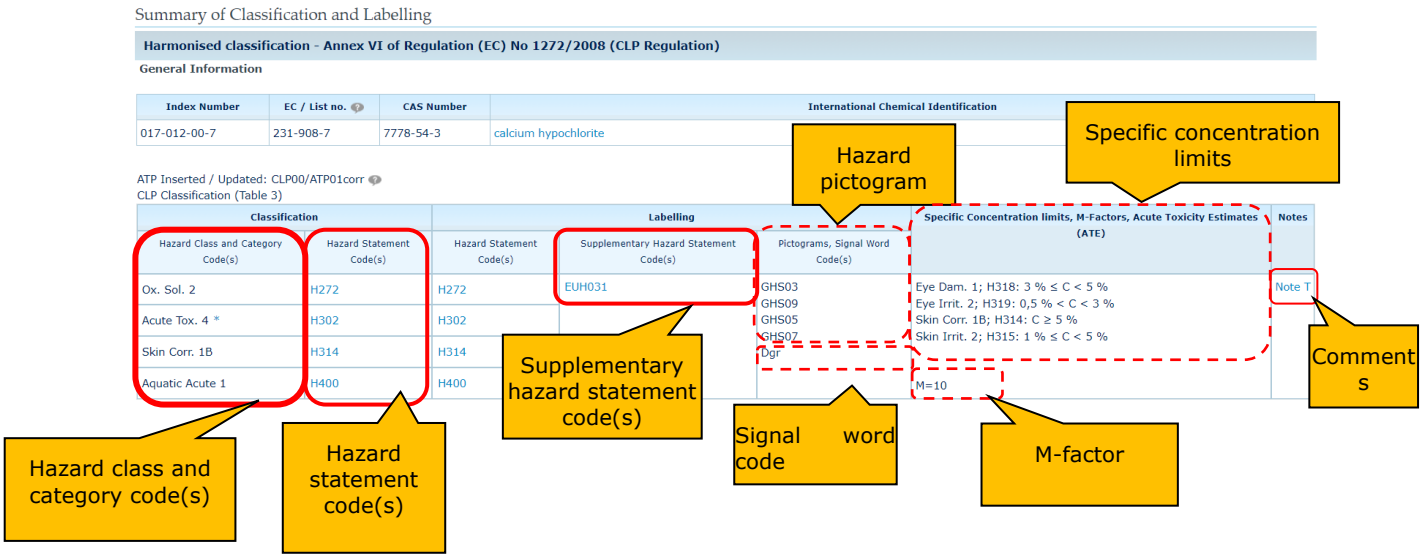


Fig. 3. Example of the expanded extract from the CLP inventory for disinfecting calcium hypochlorite.

In the analysis of the information provided in Fig. 3, first, general information on what to look out for is presented:

- the combination of hazard class and category codes and hazard statement codes (H-codes) (*columns 1 and 2* on the left side of the ECHA list);
- any supplementary hazard statement codes that may be included in the labelling requirements are shown in *column 4* (the EUH codes always indicate something, but note only the following codes: EUH001, EUH019, EUH029, EUH031, EUH032 and EUH044, as they apply to the assessment of hazardous properties HP 12 'Release of an acute toxic gas', and HP 15 'Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste');
- the note(s) associated with the classification (capital letters and/or figures). For substances, only notes B, D, F, J, L, M, P, Q, R and U and for mixtures only notes 1, 2, 3 and 5 are relevant. If a substance or a mixture is subject to comments, these are given in *column 7* of the extract from the ECHA database (on the right).

The table in Window 1 below shows what information is assessed from Fig. 3 to classify whether a waste containing calcium hypochlorite is classified as hazardous:

Window 1

First, the information from columns 1, 2, 4 and 7 of the CLP Inventory is transferred into column 1 and column 2 of the table below (see Fig. 3):

Hazard class and category code	Hazard statement codes	Concentration limit, %	Sum	Cut-off value, %	HP code
1	2	3	4	5	6
Ox. Sol. 2	H272				
Acute Tox. 4 *	H302				
Skin Corr. 1B	H314				
Aquatic Acute 1	H400				
	EUH031				
Note: T					

Sometimes different asterisks (*) are indicated next to the hazard class and category code as well as the hazard statement code. This marking has no effect on the classification of hazardous waste and concerns the translation of classifications from the former Dangerous Substances Directive 67/548/EEC. Their meaning is further described in Section 1.2 of Annex VI to the CLP Regulation.

When transferring information from the CLP Inventory to the table in Window 1, the analysis is performed according to the following steps:

1. The information given in the notes (Fig. 3, *column 7*) is first assessed, i.e. whether any notes may affect the classification. For substances, only notes B, D, F, J, L, M, P, Q, R and U and for mixtures only notes 1, 2, 3 and 5 are relevant (see the letter values in sections 1.1.3.1 and 1.1.3.2 of Annex VI to the CLP Regulation).

   In the case of calcium hypochlorite, only note T was mentioned. Since it is irrelevant, it may be further disregarded.

2. The next step would be the assessment of hazard statement codes (Fig. 3, *column 2*). Where a substance or group of substances contained in waste that may render the waste hazardous display only physically hazardous properties, i.e., where the first digit of the H-code is 2 (e.g. H200), the hazardousness of that waste is assessed by test methods in accordance with the provisions of Regulation No 1537/2017, where appropriate and proportionate. The assessment algorithms are set out *in Annex 8 to the Guide*.

3. If the substance has supplementary hazard statement codes (i.e. it contains EUH001, EUH019, EUH029, EUH031, EUH032 and EUH044, etc., see *Part 2 of Annex 7-1 to the Guide*) it is linked to hazardous properties HP 12 'Release of an acute toxic gas', and HP 15 'Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste'.

   Calcium hypochlorite is assigned an additional hazard statement code EUH031. This information must therefore be checked in addition to the information presented in *Table 21 of Annex 8 to the Guide* on samples of substances for which the HP 12 property may be attributed and their concentration limits. *Table 21 of Annex 8 to the Guide* shows that the calculated concentration limit for calcium hypochlorite is 0.6%. Therefore, wastes containing calcium hypochlorite in concentrations > 0.6% are Therefore classified as hazardous under HP 12.

4. If a substance has ecotoxic properties (HP 14, i.e. the first digit of the H-code is 4, e.g. H400 (see *Part 2 of Annex 7-1 to the Guide*)), further evaluation is required in accordance with Council Regulation (EU) 2017/997. An example of the HP 14 assessment is provided in *Annexes 4-1 and 9-2 to the Guide*. The assessment algorithms are set out *in Annex 8 to the Guide*.
5. If substances presenting a risk to health are identified, i.e. if the first digit of code H is 3 (e.g. H300), their concentrations are compared with the concentrations given in *Part 2 of Annex 7-1 to the Guide*. Waste is classified as hazardous if the concentrations of hazardous substances contained in the waste are equal to or above the concentration limit(s) established for the relevant combinations of hazard class and category code and hazard statement code (see *Part 2 of Annex 7-1 to the Guide*).

On the use of the information presented in *Part 2 of Annex 7-1 to the Guide*, see Window 2.

Window 2. **A brief description of the use of Part 2 of Annex 7-1 to the Guide:**

Part 2 of Annex 7-1 to the Guide provides the most relevant information for the classification of hazardous waste where the hazard class and category codes and hazard statement codes of the hazardous substances or groups of substances that may render the waste hazardous are known.

Since the information on hazard class and category codes and hazard statement codes for the substance has already been transformed from the CLP Inventory in the table in Window 1, the concentration limits for each combination of hazard class and category code and hazard statement code, summation information, cut-off values, and HP code are selected in accordance with the information in *Part 2 of Annex 7-1 to the Guide*. This information is filled in in columns 3, 4, 5 and 6 of the table.

Hazard class and category code	Hazard statement codes	Concentration limit, %	Sum	Cut-off value, %	HP code
1	2	3	4	5	6
Ox. Sol. 2	H272	-	No	-	HP 2
Acute Tox. 4 *	H302	25	Yes	1	HP 6
Skin Corr. 1B	H314	5	Yes	1	HP 8
Aquatic Acute 1	H400	-	-	-	HP 14
	EUH031	-	No	-	HP 12

Course of action:

1. Find the cut-off values associated with each hazard class and category code and hazard statement code assigned to a substance or substances that may render the waste hazardous (proceed following the H-codes).
2. Locate the H-code with the lowest cut-off value or concentration limit (the 'concentration limit').
3. Assess whether the concentration of the substance concerned contained in the waste is equal to or greater than the lowest concentration limit identified.

If the concentration of a substance contained in the waste is equal to or greater than the minimum concentration limit for that substance, the waste is classified as hazardous according to the HP property of the identified H-code.

For a complete overview of hazardous properties, check the concentration against all the concentration limits set for the properties of the substances in the waste and the extent to which they are exceeded.

For calcium hypochlorite, the lowest concentration limit that can be determined is 5%, which applies to Skin Corr 1B, H314 and is associated with the hazardous property HP 8 'corrosive'.

If the waste contains >5% calcium hypochlorite, it is classified as hazardous according to the property HP 8.

It is also classified as Acute. Tox. 4, H302, which is associated with the hazardous property HP 6 'acute toxicity' at concentrations above 25%.

Window 3. Which properties are 'the most hazardous'?

It is useful to set up hazard class and category codes and hazard statement codes to be considered in the classification of waste. *Part 4 of Annex 7-1 to the Guide* lists systematically all H-codes in ascending order of concentration limit (i.e. the H-codes with the lowest, including the most dangerous, concentration limit is at the top).

The information in *Part 4 of Annex 7-1 to the Guide* indicates that substances with the hazard class and category code Acute Tox. 1 and hazard statement code H330, where the concentration limit is 0.1%, are much more likely to render the waste hazardous than substances with the hazard class and category code Acute Tox.4 and hazard statement code H312, where the concentration limit is 55%.

Supplementary information if the CLP Inventory

In addition to basic information on classification, the CLP Inventory also provides a range of additional information that may be useful for classification and decision-making on further waste management process. For additional information, see the columns in Fig. 3 marked with a dashed red line. For support on the information in these columns, see Window 4.

Window 4. Supplementary information on the CLP Inventory

The supplementary information in Fig. 3 is marked with a dashed red line, i.e. hazard pictogram codes, signal word codes and specific concentration limits, and M-factors.

Hazard pictograms

The hazard pictogram codes are given in column 5. They contribute to a better assessment of the hazards and properties of the substance (see also *Part 6 of Annex 7-1 to the Guide* presenting hazard pictograms and general concentration limits that may be applied to the substances they indicate).

Signal word

The signal word also provides supplementary information. Two signal words are be used: 'Dgr' ('danger') or 'Wng' ('warning'). Where a substance presents a significant risk, the signal word 'Dgr' is used; if the risk is lower, the signal word 'Wng' is used.

Where waste contains several substances that may render the waste hazardous, and the primary purpose is simply to ascertain whether the waste is hazardous, it is first necessary to concentrate on the substance or group of substances to which the signal word 'Dgr' is assigned. It is mainly due to these substances that the waste is likely to be classified as hazardous. Calcium hypochlorite is assigned the signal word 'Dgr' and is therefore one of the substances to be assessed first.

Specific concentration limits and M-factors as shown in Fig. 3, *column 6*, do not apply to the classification of hazardous waste; however, they can be relevant as they may explain why certain substances or mixtures may be classified and labelled as hazardous but do not meet the criteria for hazardous waste (when only the general concentration limits are taken into account).

Explanation on the application of specific concentration limits

According to Article 10 of the CLP Regulation, specific concentration limits and generic concentration limits are limits assigned to a substance indicating a threshold at or above which the presence of that substance in another substance or in a mixture as an identified impurity, additive or individual constituent leads to the classification of the substance or mixture as hazardous. For the classification of hazardous waste, only general concentration limits are used, even if specific concentration limits are set for the substance or substances that may render the waste hazardous. In this respect, the classification of hazardous waste is simplified compared to the classification of substances under the CLP Regulation.

M-factor

M-factor does not apply to the classification of hazardous waste. However, for substances and mixtures classified under the CLP Regulation, M-factor is used for substances classified as hazardous to the aquatic environment — Acute, category 1 or Chronic, category 1 — and is used to determine the classification of a mixture containing a substance using the summation method.