



CLP mixture calculation tool 2023

Why?

Chemical products supplied to third parties must be classified and labelled in accordance with the CLP Regulation (EC 1272/2008).

Even in-house mixtures (laboratory, reservoirs etc) require in some member-states CLP classification & labelling (occupational health legislation). The rules therefore also apply to downstream users.

Classifying and labelling mixtures is difficult and time-consuming. Therefore, we have developed a convenient and affordable tool in Excel for support.



The calculation tool

With the concentrations and hazard statements (H-codes) of the raw materials, the tool drafts a label with the (EU)H & P statements, pictograms, signal word and relevant substances. See a sample label below. The annexes show the input data.

Mixture:

X% substance 1, H-phrases
Y% substance 2, H-phrases
etc.



CLP mixture
calculation tool



Nickel Pickling bath mix
UFI: V6U0-Q0NJ-A004-CWSW



Danger

Restricted to professional users

May cause an allergic skin reaction. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Toxic if swallowed or in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. Corrosive to the respiratory tract.

Do not breathe mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Get medical advice/attention if you feel unwell.

Contains: Nickel Dichloride, hydrofluoric acid, Nitric Acid.

15 percent of the mixture consists of component(s) of unknown acute toxicity.

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With this tool the classification & labelling of mixtures or checking mixture classifications will only cost you a fraction of the time. Note that the tool is however not a replacement of the CLP regulation, and that errors can never be ruled out.



Cost & Users

Costs (excluding VAT):

- CLP mixture calculation tool: **€445***
- CLP classification search tool: **€100**** (optional)
- Update subscription: **€75/year** (optional).

**€50 discount when attending our CLP mixture classification training course.*

***Free for users of the CLP mixture calculation tool, otherwise €100 + €35/ year updates*

Updates

The tool is regularly updated following legislative changes and customer requirements. Updates within 1 year of purchase are free of charge.

Classification search tool

To help gathering information on classifications we have developed a separate tool in Excel. For up to 50 substances the tool gives (if any) CLP annex VI classifications, links to the REACH dossier page with classification information or the C&L inventory, ongoing harmonisations and SVHC candidate list inclusions.

Helpdesk & Training

We provide a free of charge helpdesk for questions about the tool. The tool does not require training, however knowledge of CLP mixture calculation & labelling rules is needed when using classification tools (see our training course: **CLP mixture classification**)

Users

Hospital & school laboratories, metal plating companies, chemicals suppliers.

Tenviro

Tenviro AB is a consultancy & training bureau specialised in chemical legislation with a background within the REACH & CLP helpdesk.

For questions, the order form, please contact Erwin Theelen via:

- **Contact information**



Specifications CLP mixture calculation tool

- system** Excel workbook in Microsoft (Office) 365 (other versions will not work)
- language** The tool is in English, but all label information can be shown in any of the official languages of the 27 EU member-states (and Norwegian).
- input** The tool requires for all substances in the mixture as input:
- the maximum concentration
 - the H-statements (codes) for health & environment and EUH codes for endocrine disruptors and PBTs
 - any applicable (CLP annex VI, REACH dossier, substance SDS):
 - M-factors and Specific Concentration Limits (SCLs)
 - LD/LC₅₀ or ATE values (if not known, the tool uses legal default values)
- Also, the flash- & boiling point, pH and viscosity of the mixture can be given.
- output** The tool calculates for the mixture:
- the H-statements for health & environment and EUH208 & EUH210 (other H & EUH statements can be added manually), signal word & pictograms
 - the applicable P-statements with an indication of importance (the 6 most appropriate statements must be selected by the user)
 - a draft label with recommendations for further editing & printing (in Word)
 - an indication regarding the need for poison centre notification (& UFI), SDS, tactile warning, child-resistant fastening and conclusions regarding CMR status & SEVESO III category, all based on only the H-statements.
- limitation**
- The tool works without a substance database and only uses rules based on substance concentrations & classifications. Note that when test-data for the mixture or similar mixtures (or sometimes ingredients) is available, classification should be based on that data instead
 - Health and environmental hazards can be calculated, for physical hazards such as flammability there are no calculation rules in CLP
 - 10 substances can be entered with each max. 15 H-statements (health, environmental, endocrine disrupting or PBT hazards)
 - The label has a fixed size which must be further edited (like in Word)
 - The tool is not a replacement of the legal CLP text and should not be used as only resource when placing products on the market.
- manual** The tool comes with a manual with an explanation of the tool and background information regarding CLP calculation rules.

As an attachment you will find examples/ screen dumps of some parts of the calculation tool. There is also an informative **introductory film**.



input

Entering required mixture & substance information & result overview

Enter mixture information	
Enter the name of the mixture	Nickel pickling bath mix
Is the pH of the mixture ≤ 2 or $\geq 11,5$?	no
If known, enter both (in °C) flashpoint	and boiling point:
Attention, not all cells are empty Hazardous mixture, label is required: H290 H317 H350 H373 H301+H311 H332 H314 EUH071	

Enter classification information for all substances																									
SUBSTANCE 1																									
Name:	Nickel dichloride																								
Max % in mixture (do not use % sign):	0,2																								
Indicate any unknown Acute toxicity:																									
H-codes (pick hazard codes from the list) in column D Pick health (H3), environmental (H4) & Endocrine disruptor, PBT (EUH380, 381, 430, 431, 440, 441, 450, 451) codes from the classification of the substance. For H317, H334, H300, H310, H330 the category is specified. For inhalation tox (H330, H331 & H332) also the phase related to test data: (v) vapour, (g) gas, (d/m) dust/mist (if not sure and no LC50 is known, choose (v) vapour). Add any physical (H2) hazards and any other EUH statements under worksheet Label info.	<table border="1"> <tr><td>h301</td><td></td></tr> <tr><td>H331(d/m)</td><td></td></tr> <tr><td>h315</td><td>20</td></tr> <tr><td>H317(1/1B)</td><td>0,01</td></tr> <tr><td>H334(1/1B)</td><td></td></tr> <tr><td>h372</td><td>1</td></tr> <tr><td>h373</td><td>0,1</td></tr> <tr><td>h350</td><td></td></tr> <tr><td>h341</td><td></td></tr> <tr><td>h360</td><td></td></tr> <tr><td>h400</td><td></td></tr> <tr><td>h410</td><td></td></tr> </table> <p style="color: red; text-align: right;"><i>Give also H373 with its SCL</i></p>	h301		H331(d/m)		h315	20	H317(1/1B)	0,01	H334(1/1B)		h372	1	h373	0,1	h350		h341		h360		h400		h410	
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h372	1																								
h373	0,1																								
h350																									
h341																									
h360																									
h400																									
h410																									
Enter per H-code any SCL/LD50/M (CLP annex VI, REACH dossier, SDS) in column E (never use % or symbols) - Specific Concentration Limits; for hazard classes with more SCLs, give the SCL for each category (like separate SCLs for H314, H315 and H319). - LD50s/ ATEs (only for H300, H301, H302, H310, H311, H312, H330, H331, H332). For inhalation, use: - 4-hour data (divide 1-hour data by 2, or by 4 if dust/mist) - for Gas: ppmV (ml/m ³), convert mg/l data (ppmV = mg/l * 1000 * 24,45 * 1 / MW) LD50s must fit the hazard category (the tool warns if wrong), if not sure do not enter an LD50. - M-factors (only for H400 & H410); for substances classified both H400 & H410 with only 1 M-factor in CLP annex VI, use that factor for both H400 and H410.																									
Check the first cells in column D & E, and the guide that comes with the tool for more information.																									

SUBSTANCE 2											
Name:	Hydrofluoric acid										
Max % in mixture (do not use % sign):	2										
Indicate any unknown Acute toxicity:											
H-codes (pick hazard codes from the list) in column D Pick health (H3), environmental (H4) & Endocrine disruptor, PBT (EUH380, 381, 430, 431, 440, 441, 450, 451) codes from the classification of the substance. For H317, H334, H300, H310, H330 the category is specified. For inhalation tox (H330, H331 & H332) also the phase related to test data: (v) vapour, (g) gas, (d/m) dust/mist (if not sure and no LC50 is known, choose (v) vapour). Add any physical (H2) hazards and any other EUH statements under worksheet Label info.	<table border="1"> <tr><td>h314</td><td>1</td></tr> <tr><td>h319</td><td>0,1</td></tr> <tr><td>H300(2)</td><td></td></tr> <tr><td>H310(1)</td><td></td></tr> <tr><td>H330(2)(g)</td><td>171</td></tr> </table> <p style="color: red; text-align: right;"><i>give also H315 & H319 with their SCLs</i></p>	h314	1	h319	0,1	H300(2)		H310(1)		H330(2)(g)	171
h314	1										
h319	0,1										
H300(2)											
H310(1)											
H330(2)(g)	171										
Enter per H-code any SCL/LD50/M (CLP annex VI, REACH dossier, SDS) in column E (never use % or symbols) - Specific Concentration Limits; for hazard classes with more SCLs, give the SCL for each category (like separate SCLs for H314, H315 and H319). - LD50s/ ATEs (only for H300, H301, H302, H310, H311, H312, H330, H331, H332). For inhalation, use: - 4-hour data (divide 1-hour data by 2, or by 4 if dust/mist) - for Gas: ppmV (ml/m ³), convert mg/l data (ppmV = mg/l * 1000 * 24,45 * 1 / MW) LD50s must fit the hazard category (the tool warns if wrong), if not sure do not enter an LD50. - M-factors (only for H400 & H410); for substances classified both H400 & H410 with only 1 M-factor in CLP annex VI, use that factor for both H400 and H410.											
Check the first cells in column D & E, and the guide that comes with the tool for more information.											

SUBSTANCE 3					
Name:	Nitric acid				
Max % in mixture (do not use % sign):	15				
Indicate any unknown Acute toxicity:	oral and dermal unknown				
H-codes (pick hazard codes from the list) in column D Pick health (H3), environmental (H4) & Endocrine disruptor, PBT (EUH380, 381, 430, 431, 440, 441, 450, 451) codes from the classification of the substance. For H317, H334, H300, H310, H330 the category is specified. For inhalation tox (H330, H331 & H332) also the phase related to test data: (v) vapour, (g) gas, (d/m) dust/mist (if not sure and no LC50 is known, choose (v) vapour). Add any physical (H2) hazards and any other EUH statements under worksheet Label info.	<table border="1"> <tr><td>h314</td><td></td></tr> <tr><td>H331(v)</td><td>2,65</td></tr> </table>	h314		H331(v)	2,65
h314					
H331(v)	2,65				
Enter per H-code any SCL/LD50/M (CLP annex VI, REACH dossier, SDS) in column E (never use % or symbols) - Specific Concentration Limits; for hazard classes with more SCLs, give the SCL for each category (like separate SCLs for H314, H315 and H319). - LD50s/ ATEs (only for H300, H301, H302, H310, H311, H312, H330, H331, H332). For inhalation, use:					
Check the first cells in column D & E, and the guide that comes with the tool for more information.					



Fine-tuning

Adding physical & EUH hazards, selecting P-statements, supplemental label info

Target group & country settings				
Choose language	en (English)	Label information like the signal word, (EU)H & P statements appear in this language.		
Consumer supply?	No	Only B2B supply is chosen for this mixture.		
Calculated & added Hazard Statements (H-codes)				
Calculated results (H-statements) that will appear on the label (changing is only possible by adjusting input information)				
H290	May be corrosive to metals.			
H317	May cause an allergic skin reaction.			
H350	May cause cancer.			
H373	May cause damage to organs through prolonged or repeated exposure.			
H301+H311	Toxic if swallowed or in contact with skin.	<i>If CMR due to a substance in CLP annex VI as H340, H350 or H360: consumer use & supply are banned (REACH annex XVII entry 29-30) if not fuel, pharma, artist paint. If banned choose Restricted to professional users under LabelInfo: don't supply B2C</i>		
H332	Harmful if inhaled.			
H314	Causes severe skin burns and eye damage.			
Add Physical hazards if required				
Pick H2xx code	(based on test/ lab information or ingredients with such hazards; CLP has no calculation rules for mixture classification for physical hazards)			
h290	May be corrosive to metals.			
Add EUH statements if required				
Pick EUH code	to be based on the presence of certain substances or specific hazards; more info via the link: Click for EUH phrase information			
EUH071	Corrosive to the respiratory tract.			
Select Precautionary statements for the label				
P-code	Precautionary statements (statements selected by you are highlighted in green)	Importance	Remarks & tips	7 selected Select for label
<i>Select max 6 (always <10) statements that are most relevant and appropriate for the type & use of the mixture (see importance)</i>				
P201	Obtain special instructions before use.	HR	<i>Use only if instructions are provided.</i>	
P260	Do not breathe dust/fume/gas/mist/vapours/spray.	HR(if)	<i>Only if inhalation is likely. Delete non-relevant / parts.</i>	yes
P264	Wash ... thoroughly after handling.	HR	<i>Replace ... with info.</i>	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	HR	<i>Delete non-relevant / parts.</i>	yes
P314	Get medical advice/attention if you feel unwell.	HR	<i>Delete non-relevant / parts.</i>	
P321	Specific treatment (see ... on this label).	HR(if)	<i>Use only if info is provided.</i>	
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...	HR	<i>Replace ... with info. Delete non-relevant / parts.</i>	yes
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	HR	<i>Delete [] part if not appropriate.</i>	yes
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	HR		
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	HR		yes
P310	Immediately call a POISON CENTER/doctor/...	HR	<i>Replace ... with info. Delete non-relevant / parts.</i>	yes
P308+P313	IF exposed or concerned: Get medical advice/attention.	HR	<i>Delete non-relevant / parts.</i>	yes
P202	Do not handle until all safety precautions have been read and understood.	R/O	<i>Use only if instructions are provided.</i>	
P234	Keep only in original packaging.	R/O		
Check relevant substances for including on the label				
Keep calculated substances:	Nickel dichloride, Hydrofluoric acid, Nitric acid.			
or add substances manually:				
Select special information for including on the label				
Select for label?	Extra statement that may be applicable	Results and advice for this mixture		
yes	Restricted to professional users.	Mandatory if H340, H350, H360 substance in CLP annex VI as such follow link		
yes	x percent of the mixture consists of component(s) of unknown acute toxicity.	Mandatory, mixture contains: 15% of such components, pick Yes		
	Contains x percent of components with unknown hazards to the aquatic environment.	Mandatory if true (if data lacking for H400-H412): CHECK		
Enter Unique Formula Identifier (UFI) required for Poison Centre Notifications (PCN)				
Is this product a mixture, and is it supplied to third parties (B2B or B2C)? If both yes, pick Yes, otherwise No:		Mixture for supply?	Conclusion	
Generate a UFI for this mixture via below link and enter the UFI here (don't forget to organise the actual PCN):		Yes	For this mixture a UFI & PCN is required (if not exempted)!	
Use the UFI generator: https://ufi.echa.europa.eu/#/create			V6U0-Q0N1-A004-CWSW	
Enter other legally required label information				
For the supply of products other legislation may require additional label information like for Biocidal/ Plant Protection Products, Detergents (cleaning products), Aerosols, REACH authorised substances & some Paints.				
Such supplemental label information if applicable can be entered here (text appears on label as entered):				
Enter company info (in case of supply to 3 rd parties)				
Company name	Tenviro AB	Tenviro AB, Brukskatan 11, 365 32 Lessebo, Sweden, tel. +46(0)722963413		
Company address	Brukskatan 11, 365 32 Lessebo, Sweden			
Telephone number	+46(0) 722963413			



output

Resulting CLP hazard label and Indication of classification consequences

Clean label data & advice	
<p>Advice: Copy-paste the label to Word before printing and adjust to the correct sizes (check below).</p> <p><i>Correct the following issues:</i> <i>- Replace ... with info.</i> <i>- Delete non-relevant / parts.</i> <i>- Delete [] part if not appropriate.</i></p>	<p>Nickel pickling bath mix UFI: V6U0-Q0NJ-A004-CWSW</p>  <p>Danger. Restricted to professional users.</p> <p>May be corrosive to metals. May cause an allergic skin reaction. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Toxic if swallowed or in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. Corrosive to the respiratory tract.</p> <p>Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor/... IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Immediately call a POISON CENTER/doctor/...</p> <p>Contains: Nickel dichloride, Hydrofluoric acid, Nitric acid. 15 percent of the mixture consists of component(s) of unknown acute toxicity.</p> <p>Tenviro AB, Bruksgatan 11, 365 32 Lessebo, Sweden, tel. +46(0)722963413</p>

Label, pictogram and font size information	
<p>Pick packaging size > 500 Litre</p>	<p>Minimum sizes for label, each pictogram & font to respect when editing & printing the label (when possible/ room use larger pictograms) Label size: 148 x 210 mm (A5). Pictogram size as diamond: 46 x 46 mm, as square in Word: 65 x 65 mm. Font-size min 20pt.</p>
<p>The text on the label shall have the following characteristics (according to the text of the draft CLP amendment: not yet final, this is also the case regarding the font-size):</p> <ul style="list-style-type: none">(a) the background of the label shall be white(b) the distance between two lines shall be equal or above 120 % of the font size(c) a single font shall be used that is easily legible and without serifs(d) the letter spacing shall be appropriate for the selected font to be comfortably legible.	
<p>Create a Word document a bit larger than needed and copy-paste above label. At the upper left corner of the pasted info is a + (table), click this and go to Layout (next to Tabel/design) and choose "Convert table to text". Edit/ fit text, font & pictogram sizes if needed (there are always 8 pictograms grouped, ungroup & delete empty pictograms if needed).</p>	
<p>Use the label on all packaging layers (if the transport packaging requires transport labelling or marking, that packaging doesn't need a CLP label unless a single packaging is used).</p> <p>Check the result (label content, lay-out, sizes etc.) always with the Labelling guidance, especially in case of exemptions in specific cases (https://echa.europa.eu/documents/10162/2324906/clp_labelling_en.pdf)</p>	

Indication of consequences of the classification	
<p>Indication of general consequences for users</p> <p>SVHC (CMR and/ or PBT/ ED): Mixture is CMR (H340, H350 or H360): possibly banned for consumer supply, start phasing out CMR components. No PBT/ ED substance is used (however the mixture still may contain a substance included on the SVHC list).</p> <p>SEVESO III, annex I part 1 cat.: Indication possible Seveso categories (based only on H-codes): H301 falls under H2 when there is a lack of conclusive inhalation and dermal toxicity data (SEVESO III Annex I note 7, check this). https://eur-lex.europa.eu/eli/dir/2012/18</p>	
<p>Indication of consequences if the product is supplied to third parties (B2B or B2C)</p> <p>UFI & Poison Centre Notification: For this mixture a UFI & PCN is required (if not exempted)!</p> <p>Safety Data Sheet (only for B2B): SDS required</p>	
<p>Indication of extra consequences in case of supply to the general public (consumers/ B2C), check always with the ECHA labelling guidance (also for any H304 aerosol exemptions)</p> <p>Tactile warnings of danger (TW): Tactile warnings of danger (TW): on label/ packaging required when supplied to general public/ consumers (EN ISO standard 11683)</p> <p>Child-resistant fastenings (CRF): Child-resistant fastenings (CRF): on packaging required when supplied to general public/ consumers (EN ISO standard 8317/ CEN EN 862)</p> <p><i>If CMR due to a substance in CLP annex VI as H340, H350 or H360: consumer use & supply are banned (REACH annex XVII entry 29-30) if not fuel, pharma, artist paint.</i> <i>If banned choose Restricted to professional users under LabelInfo: don't supply B2C</i></p>	

THIS TOOL IS INTELLECTUAL PROPERTY OF TENVIRO AB, ONLY TO BE USED BY CLIENTS OF TENVIRO. FURTHER DISTRIBUTION OR DISSEMINATION IS NOT ALLOWED. THIS TOOL HAS BEEN DEVELOPED WITH GREAT CARE, BUT ERRORS CANNOT BE RULED OUT. THIS TOOL SHOULD NOT BE USED AS AN ALTERNATIVE FOR THE LEGAL TEXT OF THE CLP REGULATION. The tool, guide & training material are a simplification/ summarisation of the main CLP rules. Do not use this tool or information as only resource when putting products on the market. Tenviro accepts no liability for damage resulting from the use of the tool, the guide or training material.

Other EU label languages can be chosen.