


Understand the situation at hand

ADDRESSING CHEMICALS AND PROCESSES OF CONCERN

Addressing chemicals and processes of concern

- Identifying chemicals of concern
- ZDHC requirements
- Definition of chemicals of concern
- Information sources on chemicals on concern
- Using internet based tools
- Exercise




Review you chemical inventory

Product name	Chemical name	…	SDS on file	Hazard class	R-phrases/ H-statements	11 ZDHC Priority Chemical Class	On factory/ ZDHC MRSL	On brand‘s RLS	Shelf life	……
Hydrochloric acid (37%)	Hydrochloric acid	…	Yes	Class 8	H290 H314 H335	N/A	No	No	May.xx	
Glauber‘s salt	Sodium sulfate	…	Yes	Non-hazard-ous	H317	N/A	No	No	Jun.xx	
		…								

Change or add columns depending which lists your company is referring to e.g. REACH Substance of very High Concern or High Concern, ZDHC MRSL and RSL, bluesign, Oekotex 100,…..

ZDHC CMS references

1. Commitment to CMS
2. Assessment, Planning and Prioritisation
   - 2.1 Systematically identify and document chemicals used and stored
   - 2.2 Regulatory Assessment
   - 2.3 Procurement/Supplier Practices
   - 2.4 Chemical Risk Assessment
   - 2.5 Chemicals and Processes of Concern
   - 2.6 Performance Goals and Action Plans

ZDHC CMS references

2.4 Chemical Risk Assessment

2.4.1 Hazard and risk assessment (inventory, procedure)

2.4.2 Environmental (procedure, waste plan)

2.4.3 Health and safety (procedure, JHA/JSA/THA

2.5 Chemicals and Processes of Concern

2.5.1 Identify gaps and losses in current processes (e.g. hotspots)

2.5.2 RSL and MRSL process (e.g. process for verifying compliance, update and maintenance, integration of suppliers)

ZDHC CMS references

2.5.2 RSL and MRSL Process – special focus

- 2.5.2.1 Verification of Compliance
- 2.5.2.2 RSL and MRSL Update and Maintenance
- 2.5.2.3 Integration with Contracts of Suppliers
- 2.5.2.4 Business Process Compliance with Contracts
- 2.5.2.5 Going Beyond Regulatory

ZDHC CMS references

2.5.2 RSL and MRSL Process – special focus

- 2.5.2.1 Verification of Compliance
  - Does the facility have signed and dated declarations from dye and chemical suppliers confirming that formulations supplied to the facility are compliant with the relevant retailers'or facility's own RSLs and/or MRSLs? (CRP 1.1.5)
  - Does the facility require its suppliers to follow a MRSL/RSL? (CRC 1.1.1)
- 2.5.2.2 RSL and MRSL Update and Maintenance
- 2.5.2.3 Integration with Contracts of Suppliers
- 2.5.2.4 Business Process Compliance with Contracts
- 2.5.2.5 Going Beyond Regulatory

ZDHC CMS references

2.5.2 RSL and MRSL Process – special focus

- 2.5.2.1 Verification of Compliance
- 2.5.2.2 RSL and MRSL Update and Maintenance
  - Does the facility actively monitor RSL/REACH supplier certificates and track against their inventory? (CRG 1.1.1)
- 2.5.2.3 Integration with Contracts of Suppliers
- 2.5.2.4 Business Process Compliance with Contracts
- 2.5.2.5 Going Beyond Regulatory




ZDHC Manufacturer Restricted Substances List (MRSL) - Example

Reference:

www.roadmaptozero.com/programme/manufacturing-restricted-substances-list-mrsl-conformity-guidance/

- Group A substances banned from intentional use in facilities that process raw materials and manufacture finished products.
- Group B substances restricted to concentration limits in chemical formulations commercially available from chemical suppliers

ZDHC CMS audit question example

- Does the facility have a hazardous chemical reduction plan beyond the 11 priority chemical groups with clearly set targets? (CRG 1.3.1)
- Does the facility use a process to examine, categorise and rank chemicals/formulations to be purchased against impact(s) such as human or environmental risk? (CRG 1.3.5)
- Is the facility using suppliers' ZDHC MRSL compliant formulations to purchase chemicals? (CRG 1.1.2)
- Does the facility have programmes in place to phase out the intentional use of the 11 priority chemical groups, as defined by the ZDHC Group, with clear target dates? (CRC 1.1.2)

Chemicals of High Concern (CoHC) - REACH

A chemical that meets any of the following criteria:

1. Carcinogenic, mutagenic or toxic to reproduction (CMR 1A or 1B);
2. Persistent, bio-accumulative and toxic substance (PBT per criteria according to Section 1 Annex XIII, REACH)
3. Endocrine disruptors or neurotoxins
4. Chemical whose breakdown products result in a CoHC that meets any of the preceding criteria.
   - It is recommended that a chemical be considered a CoHC if found on Chemsec's SIN LIST: http://sinlist.chemsec.org/ (using other criteria to define a CoHC is up to the user)
     - The SIN (Substitute it Now!) List is a globally used database of chemicals likely to be banned or restricted in a near future. The chemicals on the SIN List have been identified by ChemSec as Substances of Very High Concern based on the criteria established by the EU chemicals regulation REACH.

Source: UNIDO IAMC Toolkit, 2015

Chemical of Concern (CoC) - REACH

A chemical that is of moderate concern for ecotoxicity or human toxicity, but is not a Chemical of High Concern (CoHC). has the GHS signal word “DANGER”

1. is classified as an allergenic (respiratory or skin sensitization, Category 1, 1A and 1B; containing H334 or H317)
2. is classified as environmentally hazardous, long-term effects (Hazardous to the aquatic environment, chronic category 1 and 4: H410 or H413),
3. is found on California’s Candidate List (https://calsafer.dtsc.ca.gov/chemical/search.aspx

Source: UNIDO IAMC Toolkit, 2015

Where to find further information

1. MRSL and RSL
   - Online on www.roadmaptozero.com
   - Your buyer
2. CoHC and CoC
   - REACH database (www.echa.org)
   - Chemsec's SIN LIST: http://sinlist.chemsec.org/
   - California's Candidate List https://calsafer.dtsc.ca.gov/chemical/search.aspx



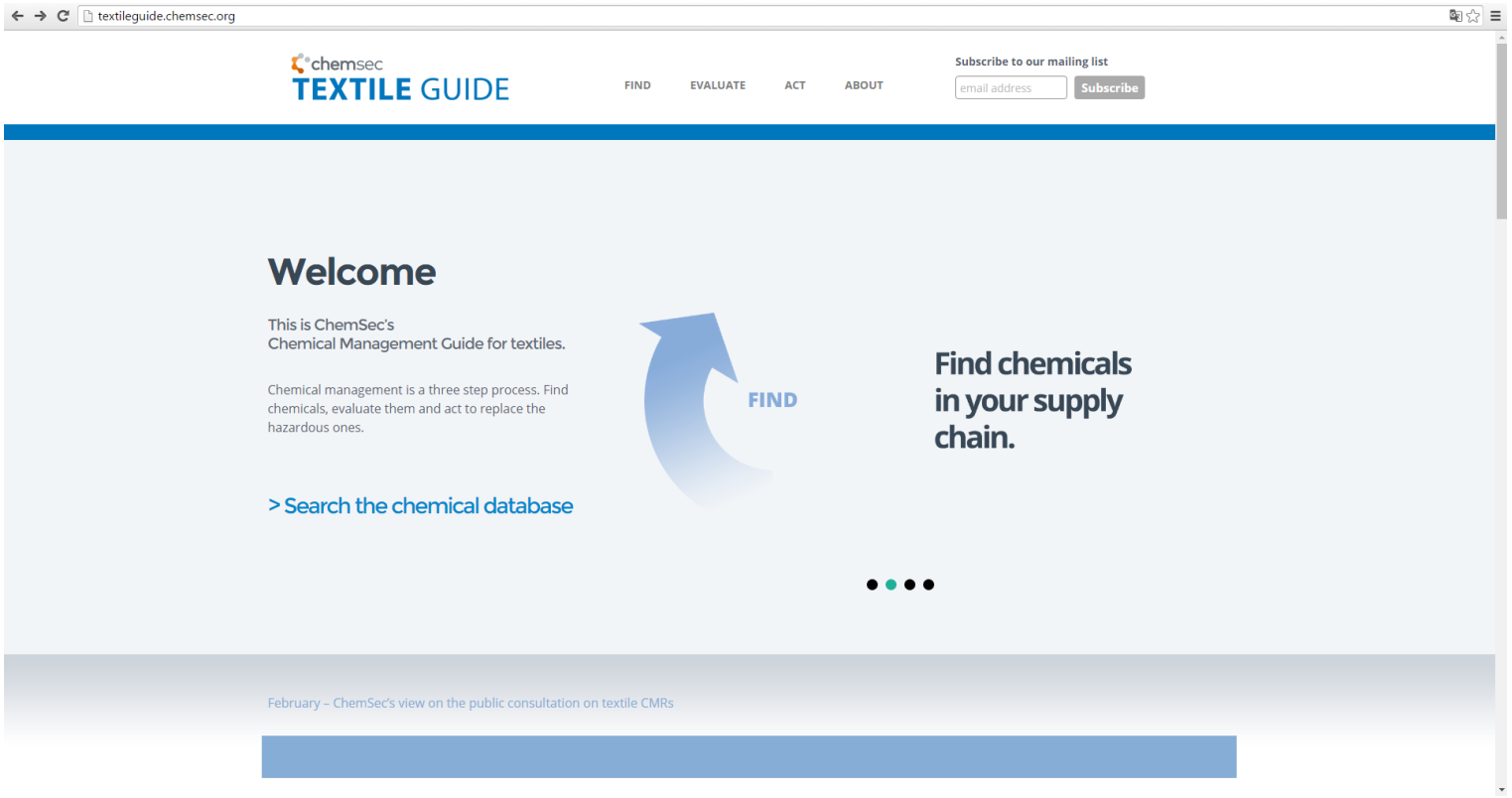

Example ChemSec

Adding value to chemical inventory – evaluate and prioritise your chemicals using ChemSec's Chemical Management Guide for textiles




Example - ChemSec

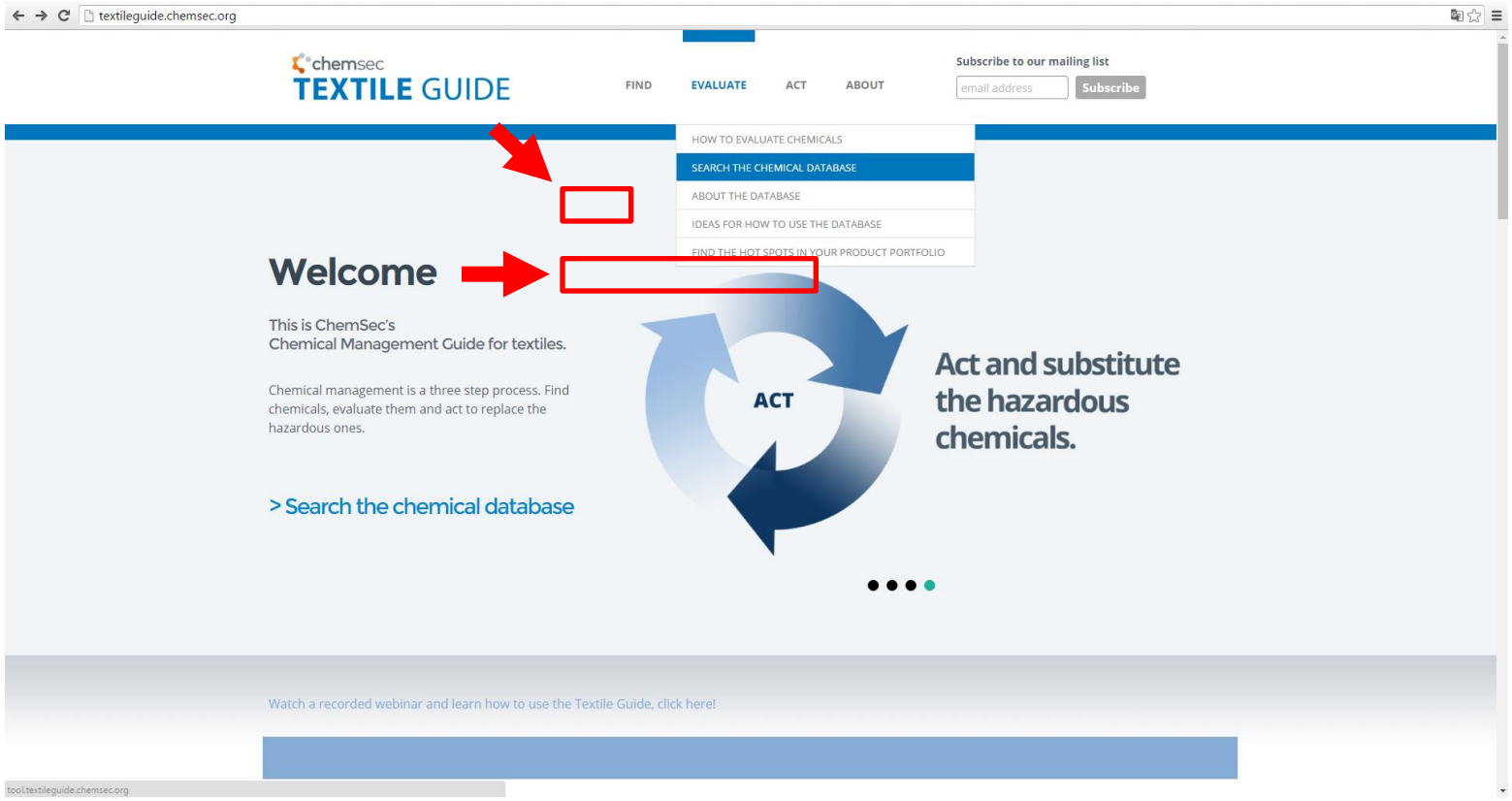
Visit http://textileguide.chemsec.org/






Example - ChemSec

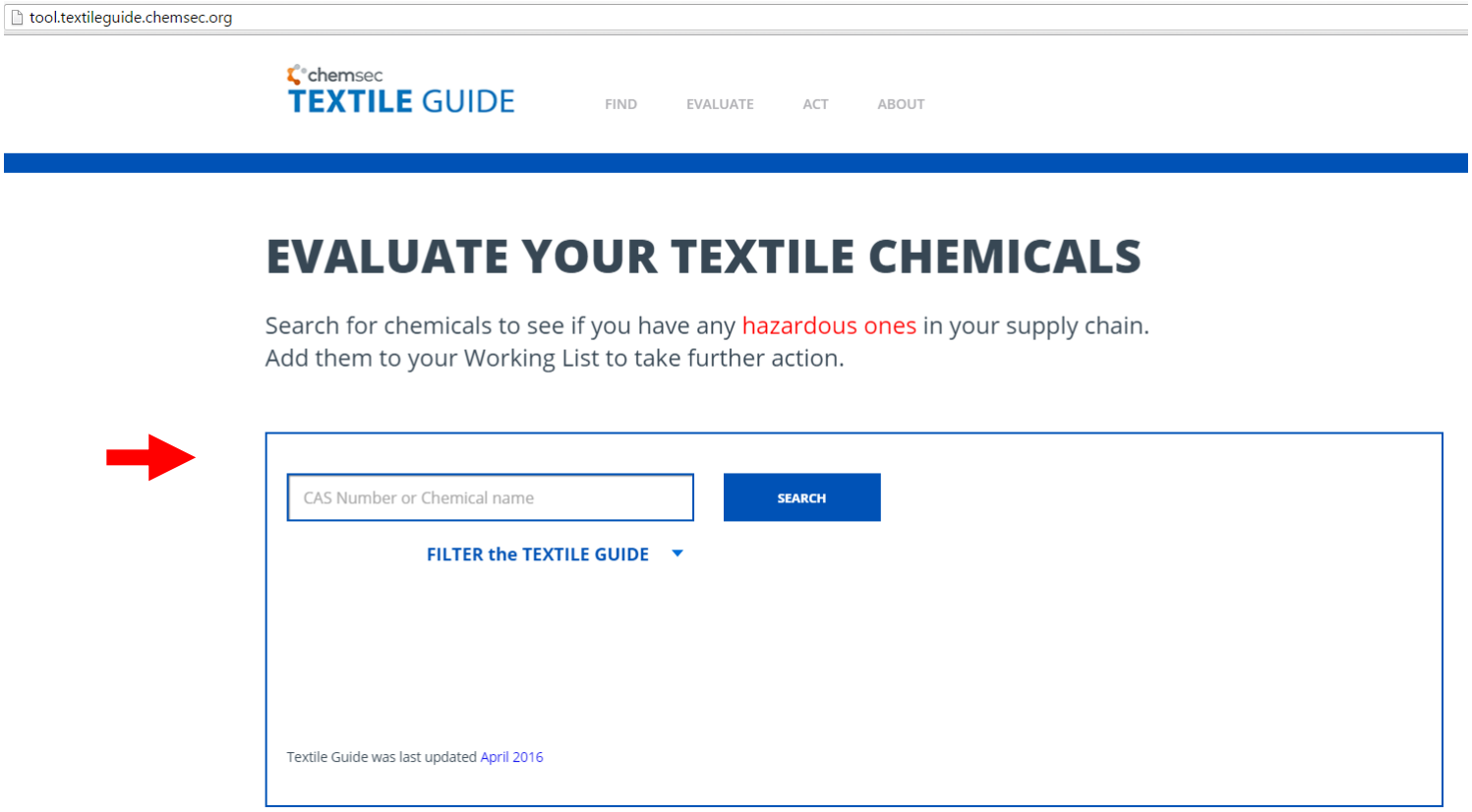
On the menu “Evaluate”, select “Search the chemical database”.






Example - ChemSec

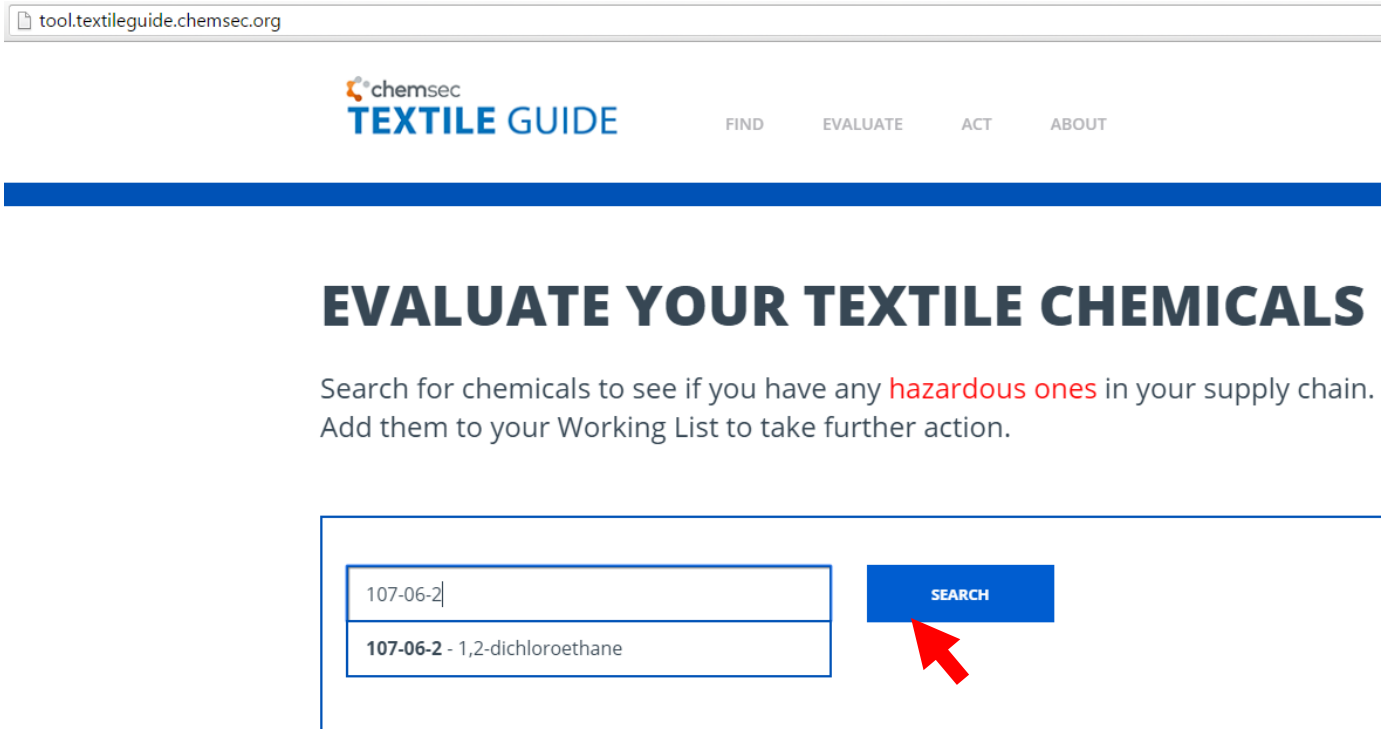
Search the substance by name of CAS number






Example - ChemSec

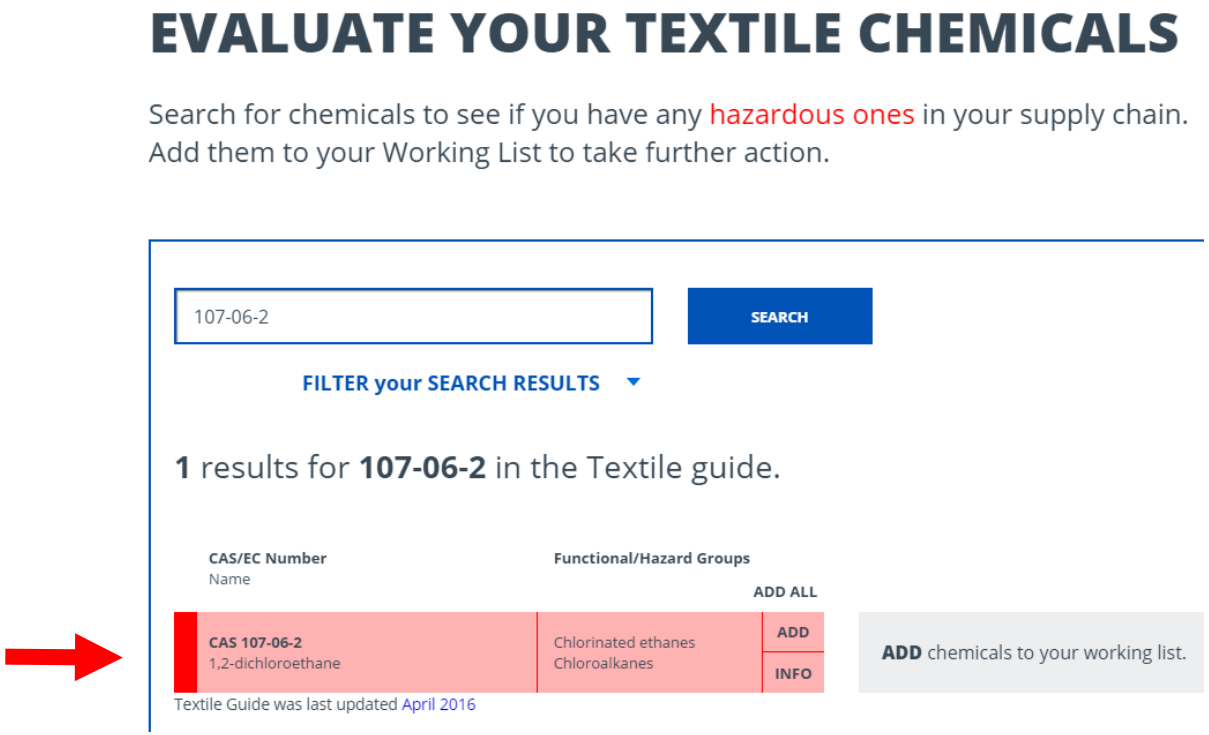
Example using a CAS number. The substance name was suggested by the system automatically. The search could also be done by name only.






Example - ChemSec

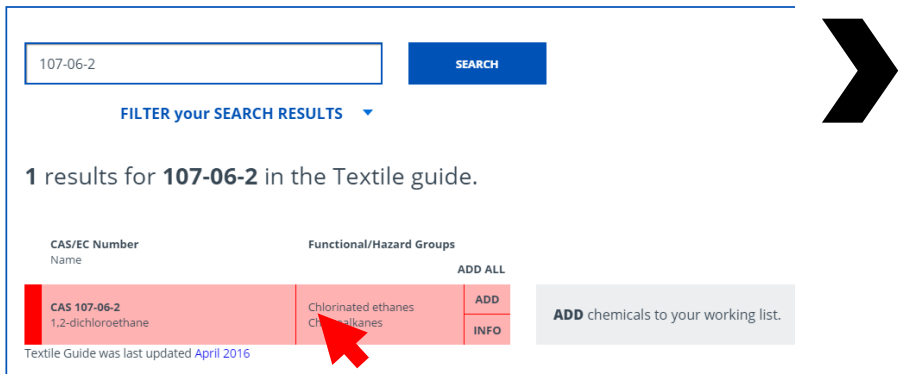
After pressing the button “search”, the results return the substance name, CAS number and the group it belongs to.

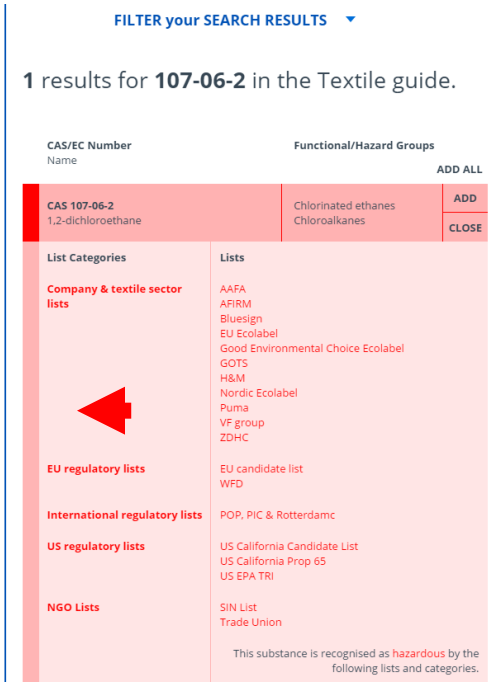





Example - ChemSec

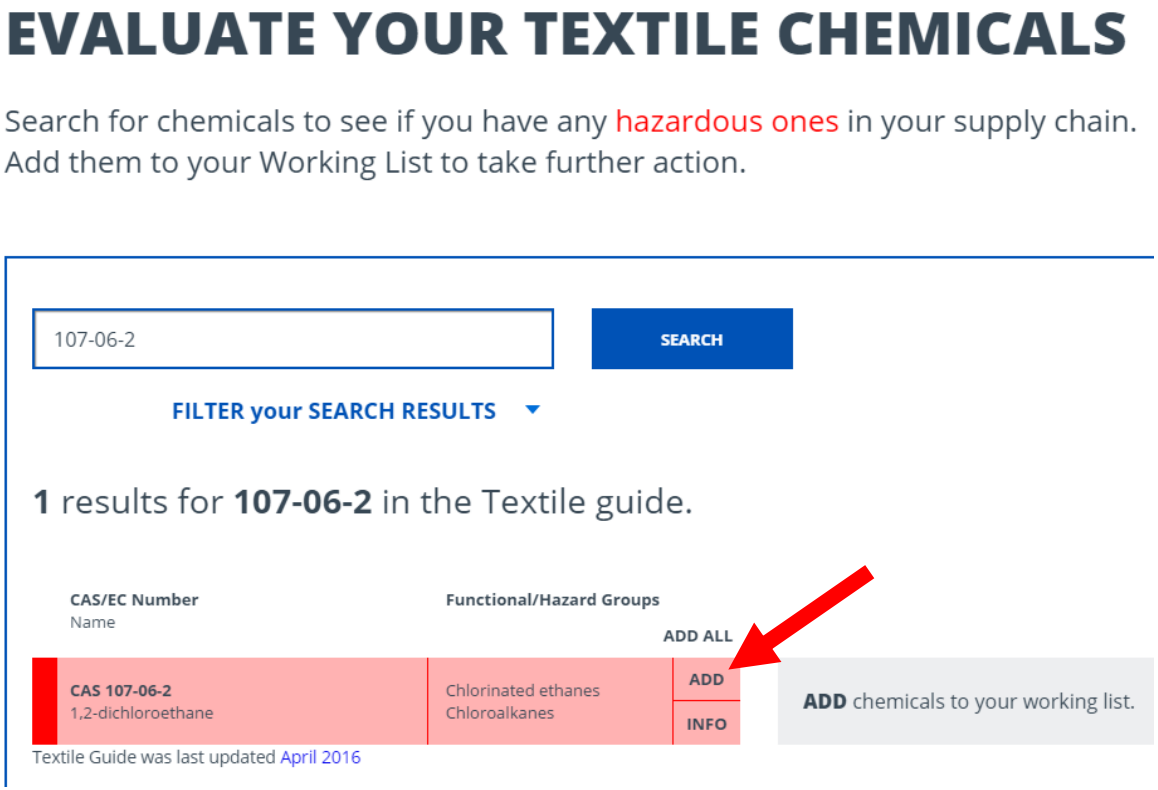
By clicking on the button “Info”, the lists that classify the substance as hazardous are disclosed (eg. ZDHC).





Example - ChemSec

Add all substances to your working list to take further action.






Example - ChemSec

Save your working list

1333-82-0 SEARCH

FILTER your SEARCH RESULTS

1 results for **1333-82-0** in the Textile guide.

SAVE PRINT EXPORT

CAS/EC Number Name	Functional/Hazard Groups	ADD ALL
CAS 1333-82-0 chromium trioxide	Chromium compounds	ADD INFO

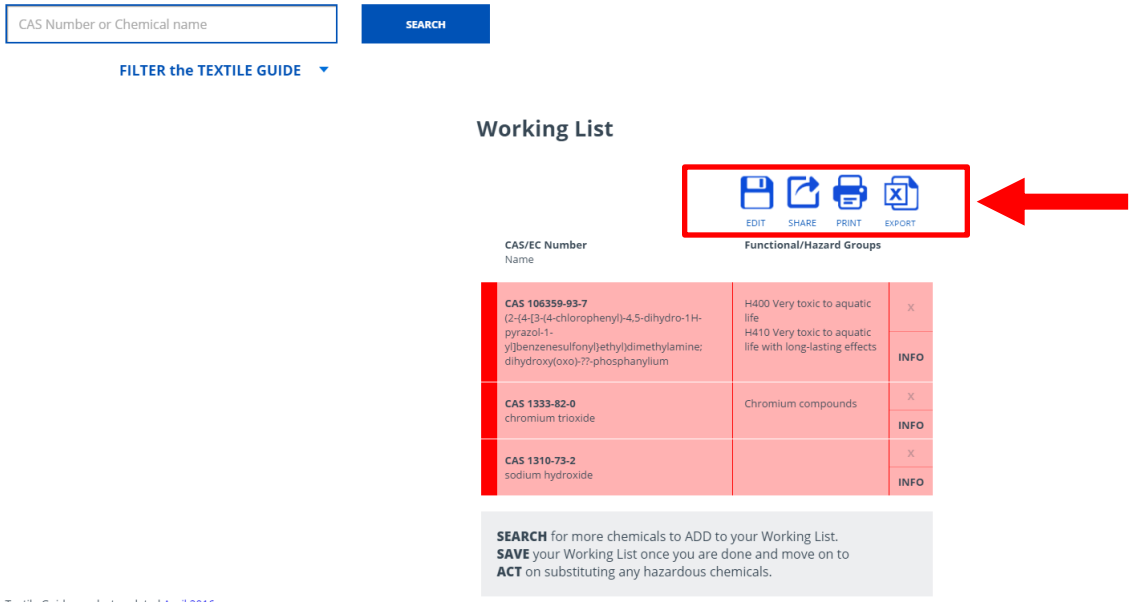
CAS/EC Number Name	Functional/Hazard Groups	CLEAR ALL
CAS 106359-93-7 (2-{4-[3-(4-chlorophenyl)-4,5-dihydro-1H-pyrazol-1-yl]benzenesulfonyl}ethyl)dimethylamine; dihydroxy(oxo)-??-phosphanylium	H400 Very toxic to aquatic life H410 Very toxic to aquatic life with long-lasting effects	X INFO
CAS 1310-73-2 sodium hydroxide		X INFO
CAS 1333-82-0 chromium trioxide	Chromium compounds	X INFO

SEARCH for more chemicals to ADD to your Working List.
SAVE your Working List once you are done and move on to **ACT** on substituting any hazardous chemicals.




Example - ChemSec

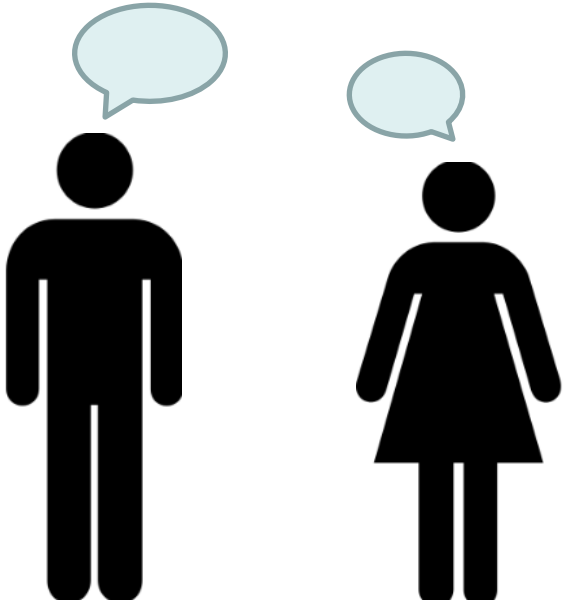
Share, print or export your working list for further action.



Next steps to take

If chemicals you use appear on one of the lists or are highly hazardous,

check for substitutes!



Talk to your supplier!




Next steps to take

Ask your suppliers for positive lists.

Positive lists contain substitutes for restricted chemicals which you can use.

Where to Find More Information

- United Nations Commission for Europe (UNECE) about GHS:
  - General: http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html
  - GHS pictograms: http://www.unece.org/trans/danger/publi/ghs/pictograms.html
- United Nations Institute for Training and Research (UNITAR) guidance documents on the GHS: http://www2.unitar.org/cwm/publications/ghs.aspx
- OECD's eChemPortal provides public access to existing national GHS classifications: http://www.oecd.org/ehs/echemportal/
- Swedish Chemicals Agency (KEMI) quiz to test your knowledge on GHS pictograms: http://www.kemi.se/Global/Flash/CLP-Quiz/EN/Quiz.html

Exercise

Identify Chemicals of Concern (CoCs) and Chemicals of High Concern (CoHCs) at the company




Exercise

Summarize the CoHC/CoCs in a table containing the following information:

- Identifier: CAS no., chemical name
- GHS signal word: “Danger” or “Warning”
- Hazard class and hazard statement (e.g. Carc. Cat 1A; H350 = may cause cancer)
- Purpose of use (ingredient/processing chemical/auxiliary)
- Functionality (what properties the chemical has and why it is used)
- Amount
- Locations (used or stored)

Source: UNIDO IAMC Toolkit, 2015




Exercise

Group work: Identify Chemicals of Concern (CoCs) and Chemicals of High Concern (CoHCs) at the Company (~35min)

- Form groups of 4-5 people
- Nominate a group representative to report back to the plenary the solutions
- Using the provided materials fill in the provided chemical inventory with hazard statements with the following information – 20 minutes:
  - Pictogram
  - Signal Word
  - Hazard category
  - Precautionary statements
  - Specify if it is a Chemical of High Concern or CoC (underline the criteria which makes it a CoHC or CoC)
  - Recommend preventive or protective measures
- Report back to the plenary the solutions – 3 minutes per group




Exercise

ID	Chemical name	CAS #	Functionality	Hazard Statement Codes	Hazard Statements	Hazard Class	Category	Signal Word	Pictograms	CoHC, CoC or no designation?	Recommended action	Precautionary Codes + Statements
1	Formaldehyde	50-00-0	preservative in shampoo	H301 H311 H314 H317 H331 H341 H350								
2	Methanol	67-56-1	solvent	H225 H331 H311 H301 H370								
3	Ethylene glycol	107-21-1	solvent	H302 H373								




Let‘s try it again the chemicals in your company!