

Hazardous substances inventory – How to guide

What hazardous substances do you have to keep an inventory of?

Health and Safety at Work (Hazardous Substances) Regulations 2017 [HSW(HS)2017] requires that an inventory be kept of all approved hazardous substances with one or more of the following hazard classifications: 1, 3.1A, 3.2A, 4.1.2A, 4.1.2B, 4.13A, 4.2A, 4.3A, 5.1.1A, 5.2A, 5.2B, 6.1A and 6.1B. As well as all unapproved hazardous substances. That is any substance which does not meet the definition of an approved hazardous substance (see below) e.g. a new substance produced in your laboratory.

NB: An approved hazardous substance—

- (a) means a hazardous substance for which an approval to import or manufacture for release, or to import into containment or to manufacture in containment, has been issued by the EPA under the HSNO Act; and*
- (b) includes a hazardous substance approved under section 48 of the HSNO Act for release or use in an emergency*

Generally, you will find it much easier and less time consuming to keep an inventory of all substances. Rather than trying to determine if any particular substance is exempt from this requirement.

What information do the regulations require you to have in this inventory?

This inventory must include:

1. The product or chemical name
2. UN number (if available)
3. The maximum quantity of each hazardous substance likely to be in your laboratory
4. The specific location of those hazardous substances e.g. TTR102/Flammables cabinet 1
5. Any specific storage and segregation requirements relating to those hazardous substances
6. The current Safety Data Sheet (SDS) or a condensed version of the key information from the SDS
7. Any hazardous waste. The inventory of hazardous waste must include:
 - (a) An identifier that describes the nature of the waste as closely as possible e.g. chlorinated solvent waste, flammable waste, or chromium VI waste.
 - (b) The maximum quantity of the waste likely to be in your laboratory
 - (c) The location of the waste.
 - (d) Any specific storage or segregation requirements for the waste.

Where do I get this information from?

All this information can be found on the SDS for each hazardous substance. The supplier of a hazardous substance to a workplace must provide a HSNO compliant SDS with their products. Chemwatch is an alternate source of SDS information for most substances. Chemwatch can be accessed from the [SBS resources page](#)

How to create an inventory using Chemwatch?

SBS has now mandated that all hazardous substance inventories must be recorded using Chemwatch. The use of Chemwatch is the easiest way to be compliant with laboratory inventories. It also enables the identification of hazardous substance locations and can generate the inventories for entire buildings, This is important knowledge for emergency services.

Once you have entered all your chemicals and updated the maximum quantity that you will hold in your laboratory you will be ready to generate your inventory.

Use the report function in Chemwatch to generate your inventory

1. Select the manifest you wish to produce an inventory for. Selecting a manifest will also select any sub-directories that may be present.
2. Click on report icon (top right corner) and select ALL and then OK.
3. Choose the advanced tab and then select the report called "SBS-Inventory" and Click on Download
The SBS-Inventory report will provide you with the following information for each hazardous substance in your manifest.
 - a. Material name (product or chemical name)
 - b. UN number (if available).
 - c. CAS number
 - d. NZ HSNO classification
 - e. The maximum volume or weight (The amount and units will be in separate columns but can be quickly combined into a single column in excel using Flash Fill, =CONCATENATE or "&" commands.)
 - f. The location (Folders/stores name) **NB: the more detailed your manifest sub directory tree is the more meaningful and accurate this location will be.**
 - g. Safe storage requirement
 - h. Storage incompatibility. **NB: the storage requirement and incompatibilities will likely need to be edited to make them more succinct.**
 - i. STORAGE INCOMPATIBILITIES HSNO - Incompatibilities based on HSW(HS)2017 regulations
4. Dependent on which operating system you are using, this will either open an excel spreadsheet or require you to download an excel file containing the spreadsheet.
5. Open in Excel and edit as required. An example of a fully edited inventory is listed within the Chemwatch user guides page on the [SBS resources page](#).
6. Print and keep a copy with the safety data sheets in your red safety/compliance folder.

Notes: (Health and Safety at Work (Hazardous Substances) Regulations 2017)

1. **Reg 3.1.4** The inventory must be readily accessible to any emergency service worker attending the workplace, **both during an emergency and after the workplace has been evacuated**. As such you may need to give consideration on how you might best supply this information to an emergency service worker under all foreseeable circumstances e.g. for emergency purposes, records should be maintained at least to the level of primary classification (e.g., explosive, flammable liquids, etc) to enable appropriate fire services response.
2. **Reg 3.1.1b** An inventory must be kept up-to-date but it's not a daily calculation of quantities held. Instead, it represents the maximum quantity of each hazardous substance likely to be in the laboratory. You will need to update your inventory whenever the substances change, or the maximum amount of substances likely to be in your laboratory changes. The accuracy of the inventory should be audited at least annually.

Annual update of inventories

Do a stocktake of hazardous substances in your lab

1. Create [report of your inventory](#).
2. You will need the Chemical name, location, maximum quantity, NZ HSNO classification and the STORAGE INCOMPATIBILITIES HSNO fields
3. Print this out and use as a checklist to physically perform a stocktake of your lab
For each location
 - a. For each substance total the size of each container e.g. 3x 2.5L Winchesters of ethanol = 7.5L (regardless of how much ethanol is actually in each bottle).
 - b. Note any substance(s) that are NOT present in your lab but are present on your checklist.
 - c. Record the name and quantity of any new substance(s) that are present in your lab but NOT present on your checklist.
 - d. Check state of labels. Are they legible and in good condition e.g. not falling off.
 - e. Check if substance is stored in the correct place to maintain required segregation, e.g. Flammable substance stored in corrosive cabinet instead of the flammables cabinet. Use the “NZ HSNO classification” and “STORAGE INCOMPATIBILITIES HSNO” fields to determine this.
4. Update Chemwatch with any required edits, additions or deletions.
5. Create full [report of your updated inventory](#).
6. Date report and store hardcopy in your Laboratory safety/compliance folder. This report must be kept until this process is repeated in 12 months time. **[HSW(HS)2017] Reg 18.6.2.** This record must be kept for at least 12 months after the substance is consumed or removed from the laboratory.

Notes:

1. For any substance(s) that are NOT present in your lab but are present on your checklist.
 - a. If this is a temporary state i.e. in the near future this substance will be purchased and used again, then the original Chemwatch entry can remain.
 - b. If this is permanent state i.e. this substance will NOT be used again. Then the original Chemwatch entry can be deleted.
2. For substances that are present in your lab but are NOT present on your checklist.
 - a. This suggests that the process for new substances entering the lab has failed. A reminder or additional training for lab users may be required.
 - b. Also check if a hard copy of the MSDS needs to be printed and made available to lab users.
 - c. If substance is highly hazardous, check if SMOU’s and project risk assessments are available.
3. If segregation requirements have not been maintained.
 - a. A reminder or additional training for lab users may be required.
 - b. Check if label/pictograms showing the classes of substances that can be stored in a particular location (cabinet, cupboard, shelf, fridge, etc.) need to be updated/added.