
INTRODUCTION TO HAZARDOUS SUBSTANCES

A hazardous substance can be anything in solid, liquid or gas form that can be harmful to humans, wildlife or the environment. In hotels these often include things like:

- Pool cleaning chemicals such as chlorine
- Maintenance materials such as glues and paints
- Cleaning materials such as disinfectants
- Laundry chemicals such as detergents
- Batteries
- Fuels such as propane or diesel
- Refrigerants used in appliances and air-conditioning units

The hazards that each substance presents can vary greatly. For example:

- Some pose hazards in general use so require protective clothing to prevent injury from spills or inhaling fumes.
- Some are generally safe when used properly but can become toxic or explosive when mixed with other chemicals, stored at the wrong temperature or by releasing toxic materials as they decompose.
- Others are safe when diluted but can be dangerous in concentrated forms.
- Almost all of them are hazardous to the environment if not disposed of properly, with a particular risk being soil or water pollution harming ecosystems or in extreme cases, leaving water or soil too toxic for human, aquatic or plant life.

At Travelife we ask our hotels to consider the following:

- The **types** of substances that are being used
- What they are **used for**
- Where they are **sourced**
- How they are **stored**
- What measures are in place to **minimise risks**
- What is being done to **reduce use**
- What steps are in place to ensure they are being **disposed of safely**

HOW CAN THE ACCOMMODATION SECTOR MINIMISE THE IMPACTS OF HAZARDOUS SUBSTANCES?

Travelife Certification helps your business improve the impact of the hazardous substances you use by focusing on four main areas:

1. Reducing the amount used
2. Safe storage
3. Safe use
4. Safe disposal

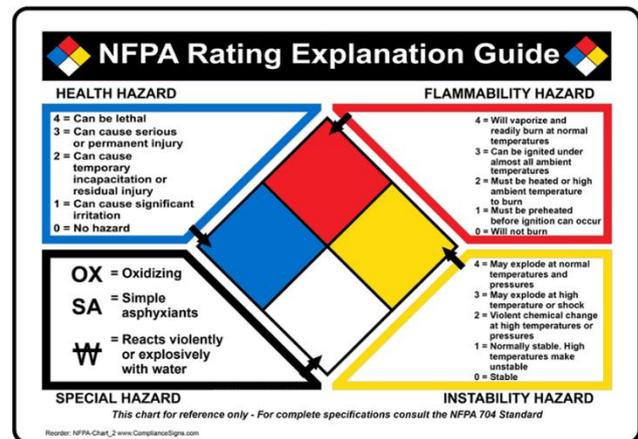
We have provided tools and resources to help you manage this and we encourage you to use them and to share them with your staff.

THE HAZARDOUS SUBSTANCES YOU USE

You will need to identify and record all of the hazardous substances your business uses by carrying out a thorough inspection of all departments and storage areas. In most countries you will find markings on containers that clearly show whether a product contains hazardous materials. If you have containers without any labels then you must treat them as a high-risk hazard until you can verify their contents, at which point you must ensure they are clearly labelled.



Most countries use these symbols



This graphic is more common in the Americas

Here are some of the more common hazardous substances used in hospitality. However, it is your responsibility to review all of your products and check if they are harmful:

Batteries: These could be small batteries used in clocks or mobile phones, or larger batteries from laptops and cars. Whilst the hazardous substances are generally well contained when they are being used, they can be extremely harmful to the environment after disposal and should therefore be treated as hazardous waste. Replacing equipment with modern technology or sustainable alternatives can reduce your overall consumption of batteries.

Chlorine: This can be an extremely harmful chemical that many hotels use in a concentrated form that is added to swimming pools to keep water clean. It can also be found in cleaning products such as bleach, and is widely used to sanitise water. For health and safety reasons, many hotels will not be able to stop using chlorine but you could consider things like salt-dosed pools in your long-term plans. In the meantime, you should pay close attention to the safe storage, use and disposal of this chemical.

Degreasers: These are cleaning products used to remove grease from equipment. They often contain solvents that can be harmful for people and the environment. In some cases, there are less harmful alternatives but if not, you should strictly control their use.

Detergents: Many people underestimate the environmental cost of using detergents that contain harmful chemicals. These end up in waste water and if that is not properly treated in your destination, it can be very harmful to aquatic life and general biodiversity. Even well-developed destinations may not be treating waste water correctly. It is often possible to replace these with safer alternatives so we recommend you check detergent labels carefully, control their use and seek other options where possible.

General cleaning products: There is a variety of harmful chemicals that are found in common cleaning products that often surprise people. For example, ammonia can be found in many glass cleaners, acids or solvents can be in oven cleaners and bleach is common in toilet cleaners. You should review the contents of your cleaning products, record any that contain hazardous substances and look for ways to replace these with less harmful alternatives.

Pest control: The products you use to control things like mosquitos, rodents, ants and cockroaches can contain harmful chemicals.

Refrigerators and air conditioning: These contain ozone depleting substances that are extremely harmful to the environment if not properly maintained and disposed of. Technology is constantly improving in this area, so when you do need to replace this type of equipment you should spend time researching the most ozone-friendly options. In the meantime, you will need to keep records of all the equipment you have that contains ozone-depleting substances, have them serviced regularly by qualified technicians and identify how you can safely dispose of them.

Here are some other common products you might have at your property that you should check:

- Paints
- Fuels
- Glues
- Fluorescent lightbulbs
- Older materials that could contain asbestos, lead or mercury
- Oil, in particular waste oil, which has increased toxicity due to the constant heating process, and hydraulic oil used in elevators
- Empty containers with residue from the original contents
- Solvents, lubricants, brake fluid
- Fertilizers and other garden treatments

Creating a register

You must have a central document that staff can access that contains detailed information on the use, storage and disposal of each substance and/or product containing hazardous substances. There is a template in the Member Zone and your document should contain all of the following:

- Name of chemical/substance.
- Manufacturer/brand name.
- If it is in a concentrated form that needs to be diluted or mixed with something else before use.
- What it is used for.
- How much is used in a single dose. For example, 300mls or 500g or 20oz.
- Estimated amount used in a year. You can take this from your usage records or from your purchase records.
- How it must be stored. For example, in a spill tray, in a locked cupboard, in a well-ventilated area, separate from other chemicals.
- What personal protective equipment is required.
- Any other documentation that is required such as staff training records or special instructions.
- Whether it poses a low, medium or high hazard to people and/or the environment.
- What actions have been taken to lower that risk.
- Any local, national, international or industry laws and regulations regarding the handling and disposal of the substance.
- Your own internal procedure for ensuring that you dispose of the substance legally and safely.

RECORDING HAZARDOUS SUBSTANCE USE

You must record **all** of the types of hazardous substances you use, how much you are storing and how much you are using. This must be updated at least once per month and your records must contain the following information:

- The type of substance or chemical name.
- The name of manufacturer or brand name.
- If you have it in a concentrated form that needs to be diluted or mixed with something else before use.
- The amount you are currently storing.
- The amount you have used since your last report.

You can view a template with examples in the Member Zone.

SETTING TARGETS AND GOALS

Once you have records of the types and amounts of hazardous substances you are using, you should set targets or goals to reduce your consumption and minimise environmental impacts.

Targets are usually numbers and they will need to be measured against a starting point and have a measurable deadline.

Goals can still include numbers, but they are usually about projects or actions. You still need to know your starting point, have a deadline and be specific so it is easy to see if you succeeded. You should also include a mixture of short and long-term plans. Here are some examples of both short and long-term targets and goals:

- Replace 100% of window cleaning products containing ammonia with non-toxic alternatives by the end of 2020.
- Replace all air-conditioning systems with ozone-friendly equipment by 2022.
- Implement a battery disposal programme by the end of 2020.
- Construct a purpose-built chemical storage facility away from waterways by 2025.
- Implement monthly calibration checks of automatic chemical dosing equipment.
- Add training on how to reduce the use of hazardous substances to the existing health and safety training and materials.

Your targets and goals should be:

- ✓ **Specific** and easy for anybody to understand.
- ✓ **Easy to measure** so that you can clearly see if they have been achieved.
- ✓ **Relevant and achievable.** For example, there is no point in setting a goal that you cannot afford to implement or spending time on an area where you cannot have a lot of impact.
- ✓ **Have a deadline.** This will help keep everyone on track.

MAKE IMPROVEMENTS

The four main things that you can do to reduce your environmental impacts from hazardous substances are:

- Reducing the amount used
- Storing substances safely
- Using substances safely
- Disposing of substances safely

There are many things you can do that will ensure progress in all four of these areas. Here are some ideas to get you started:

QUICK FIXES

These are all either low cost, no cost or low effort.

Reducing use

- Conduct a thorough review of why you are using products containing hazardous substances. Unless there is a legal or hygiene reason you should ask yourself if there is a less harmful alternative and if you are sure that staff are using the minimum amount required.
- Frequently check pools for leaks and keep an eye on the water level. If you are losing water then you will probably be using more chemicals to keep the water clean.
- Reducing the number of towels and linens being washed unnecessarily can have a major impact on your chemical use. Here are some ideas to address that:
 - o You could implement a towel and linen reuse programme and regularly check that housekeeping are following it.
 - o Consider only changing towels and sheets every four days during a guest's stay. If you are concerned about guest complaints you can simply inform them that they can request fresh towels or a linen change whenever they wish.

- Consider if you are putting more towels in guest rooms than are needed. If the maximum room occupancy is two, then put only that number of towels out and either let guests know that they can request more or put extra towels in a different place such as a wardrobe, so it is easy for housekeeping to see they are unused and therefore do not need replacing.
 - Are guests using more towels than necessary in the spa, gym or the pool? If these areas are staffed it might be possible to issue individual towels or to remind guests via signage about the environmental impacts.
- Reduce the unnecessary use of detergents by training your staff to use equipment in the most efficient way possible. Consider things like the optimal load in a washing machine or dishwasher.
 - Ensure the bleed valve pipe on an automatic dosing machine for swimming pool chemicals is returning waste chemicals to the container for reuse and not simply draining out chemicals on to the ground or into a drain.
 - There should be signage outside rooms and cupboards that informs people that chemicals are stored there.
 - Spend some time researching less toxic alternatives to your cleaning products. For example, white-distilled vinegar makes an effective, cheap and environmentally friendly cleaner for glass and mirrors.

Safe storage and use

- Carry out regular checks of any equipment that contains refrigerants. Make sure you do this in accordance with local, national and international regulations along with the most recent advice of the manufacturer that applies to your specific models. Equipment containing ozone-depleting substances should have regular servicing by a qualified technician.
- Ensure that chemicals that react to each other are stored apart.
- Make sure that chemicals are stored in a way that they can be accessed and handled safely by your staff. For example, don't stack them too high or place them on high shelves.
- Implement an incident reporting system for any chemical spills.
- Regularly check the spill trays you use for chemicals for wear and tear, then replace as necessary.
- Dedicate some time to checking that products that claim they are environmentally friendly or biodegradable definitely are. For example, some eco-brands follow sustainable processes in their factories yet the chemicals their products contain are still harmful. Remember that chlorine is a potentially dangerous chemical, even when it is produced by an eco-label. If you have been misled by this, you will need to update your storage, use and disposal procedures accordingly.
- Check that you have proper personal protective equipment available that is appropriate for the chemicals you are using. For example, a dust mask will not offer protection against gases. Protective goggles should be airtight (no vents) if intended to be used in an area with a risk of chlorine gas escape. Integral (combined) filter and mask protection is better as the whole face is protected.
- Don't store masks and goggles within the area that could become contaminated with chlorine, apart from the fact that this makes them difficult to reach in the event of a gas leak, they could also become contaminated before wear making them useless.
- Buy spill kits for all rooms where chemicals are stored and make sure there are clear instructions with them in all the languages your staff understand.
- This also belongs under 'safe disposal' but you should regularly review all laws and regulations that relate to the substances you use. Make sure you are complying and make changes if necessary.

Safe disposal

- Batteries are extremely harmful to the environment if not disposed of properly and often guests will throw them into general waste so that our Members do not realise the extent of the problem, or have an opportunity to fix it. Find out if there is a sustainable disposal method for them in your destination and if possible, encourage guests and staff to hand in used batteries so you can ensure they are disposed of correctly.
- Fluorescent bulbs (both compact and tubes) need to be disposed of carefully so replace them with LED alternatives.
- Treat empty chemical containers with the same care as you would with full containers by storing them safely before disposal and keeping chemicals that react with each other apart.
- Verify that any waste collection suppliers are disposing of hazardous waste in a sustainable manner. If not, you might be able to change to a different supplier or pressure your existing one to improve their performance.

MODERATE COST AND EFFORT

- Consider using a liquid pool cover that not only reduces the loss of heat and water, but can also reduce the depletion of pool cleaning chemicals.
- Invest in automatic chemical dosing systems to control the doses and regularly check that it is calibrated according to the minimum dose required for each product/chemical.
- Make sure that all of the chemicals you store are in spillage trays that can contain the spill of a full container of chemicals and that are made of a material that will not be corroded by the spill.
- Check that you have proper personal protective equipment available that is appropriate for the chemicals you are using. For example, a dust mask will not offer protection against gases.
- Make sure that all hazardous chemicals are stored behind two doors that can be locked. For example, a locked cupboard in a locked room.
- Be sure that there is proper and safe ventilation in chemical storage rooms. For example, when chlorine spills it drops to the ground so ground level extraction is required. Also, be sure that the ventilation does not lead to an area where people can be harmed.
- Install eye bath stations or kits in areas where harmful chemicals such as chlorine are stored and used.

HIGHER INVESTMENT WITH LONG-TERM REWARDS

- When replacing equipment be sure to research for the latest technology that reduces or eliminates chemical use. This applies to large equipment like air-conditioning units and restaurant fridges through to small items like floor cleaners.
- Using salt ionization to keep pool water clean is an excellent solution for smaller pools. If at all possible you should plan to make this switch and use it for any new pools being built.
- Consider moving any chemical, fuel or waste storage structures so they are well away from natural resources in the event of a leak or spill. Even a small amount of a toxic chemical leaked into the ocean or a stream can have a serious and lasting impact on water quality, plants and wildlife, potentially harming humans too. Build any new structures to be robust, to have adequate ventilation, to keep out wildlife and to safely contain leaks and spills according to the latest standards.

ASSESSING AND REPORTING PROGRESS

Travelife expects Certified Members to have a continuous improvement cycle. That means that you will need to complete the following steps at least once every year:

- Reassess your operations each year to look for ways to reduce the use of hazardous substances and improve safe storage, handling and disposal procedures.
- Use your consumption records to compare your performance to previous years.
- Review how well you are doing with reaching your targets and achieving your goals.
- Recommend improvements to make over the next year.
- Set new short-term goals and targets.
- Include your findings in an annual report that is reviewed and discussed by senior management.
- Include any appropriate parts of your findings in your annual public sustainability report. This normally includes progress against current goals and targets along with any new goals and targets.

The hazardous substance assessment

This should assess all areas of the business that use products that contain hazardous substances. They are likely to include:

Lighting | Heating and cooling | Laundry | Kitchen | Housekeeping | Swimming pools and spas | Maintenance

As you assess each area you should ask the following questions:

- ✓ **Have you reduced consumption since your last report?**
You will need to compare your records and show what (if any) savings you have made. You should try to identify what worked well and what did not, and use this to make recommendations for the steps you should take in the next year.
- ✓ **What contribution is the area of consumption making to your overall chemical use?**
Try to be as accurate as possible in terms of calculating the litres or kilograms used for each area. Sometimes you will have to use estimates. The purpose of this is to show you what areas you should focus on to achieve reductions.
- ✓ **What is currently being done to reduce chemical use?**
You should list the things you are currently doing to control use in each area and try to assess how well they are working. For example, finding safe alternatives to laundry detergents or adding spill kits to storage rooms.
- ✓ **Are there ways to further reduce use?**
For example, are there better waste disposal suppliers you could use? Are there alternative products that are safer? Have staff been properly trained?
- ✓ **What short and long-term improvements could you make?**
This will help you plan for making further reductions in your use of hazardous substances. You should group these into short-term and long-term initiatives, along with ones that are low cost and ones requiring a bigger investment. For example, a short-term/low-cost improvement could be replacing switching to non-toxic pesticide. A long-term/higher-investment improvement could be replacing old refrigerators.

More Information & Resources

Travelife Quick Guides: Environmental Policy
Travelife Quick Guides: Internal Sustainability Report
Travelife Quick Guides: Public Sustainability Report
Travelife Hazardous Substance Register Template
Travelife Hazardous Substance Usage Report Template