

## Manual

### UV Lamp Service and Safety Kit

Kit for lamp service and for the uptake of spilled mercury



Art. No. 025 01246 0000

This chemical-free UV Lamp Service and Safety Kit is intended for use in the case that small quantities of mercury have been released from UV lamps, e.g. due to lamp breakage.



**Please read these instructions thoroughly and observe the individual steps.**

#### **Spillage after breakage of glass:**

It is basic chemistry knowledge that mercury generates toxic vapours. However, in a laboratory where the air must be exchanged between 6 and 8 times per hour, the amount of toxic fumes that is normally released in the case of a lamp breakage does not create a real threat. Therefore, in such a case, there is no need to follow the instruction given in safety data sheets, saying that the corresponding area may only be entered with respiratory equipment. What is dangerous is staying in a room that is contaminated with mercury, especially if this room is poorly ventilated. Therefore, spilled mercury must be removed immediately and **completely**. If mercury has been spilled on the floor, you must in any case sweep out any dirt that may have accumulated under the cabinets for months!

#### **If mercury has been released from a UV lamp, please follow the steps below:**

1. Mark or secure the site of the accident! In particular, nobody must walk on the floor surfaces that are contaminated with mercury.
2. Put on safety goggles and latex protective gloves.
3. As mercury spilled on the floor tends to spread over a larger area, it is recommended to start with sweeping it up. Use a conventional hand brush and sweep the floor **over a large area and thoroughly**, primarily under any cabinets or shelves.
4. Then decide whether it is possible to separate the mercury from the normal dirt. This can be carried out in the way described below by using our mercury slider. Sometimes it is possible to separate the mercury mechanically, as it is very mobile and tends to roll out when the rubbish heap is given a push. As only a very small amount of mercury is released when a UV lamp breaks, the UV Lamp Service and Safety Kit includes appropriate tools that allow you to separate the mercury from the dirt heap with the help of a small dustpan and a wooden spatula. The mercury does not usually adhere to the brush fibres after use. If the mercury cannot be completely separated from the rubbish, the whole waste must be disposed of.
5. The disposal of the mercury is effected using the labelled collecting container included in the UV Lamp Service and Safety Kit. After closing the collecting container, put it in the enclosed plastic bag that is also labelled.
6. Take off the protective gloves by turning them inside out. In this way, the inside of the glove is protected from contamination and the second hand remains clean.
7. Do not forget to wash your hands afterwards.
8. The waste must be disposed of in compliance with national regulations.  
If necessary, contact your local authority in charge of these matters.
9. Ensure that the Service and Safety Kit is replaced immediately.

**Note**

According to a common notion that stubbornly persists, it is said to be best to pour or throw something onto spilled mercury, e.g. sulphur, powdered zinc, or iodised active carbon. The quantities used for this purpose often reach a grotesque scale, particularly when several square metres of floor are covered. All these methods create totally unnecessary amounts of waste, and above all, almost all of them are ineffective! And in the case of iodised active carbon, you get nothing more than more dirt. Apart from this, iodised active carbon cannot do more than absorb mercury vapours.

And even if you read it black on white that covering mercury is the optimal way:  
Refrain from doing so. Don't do it.

**The method using a mercury slider**

Taking up mercury using a mercury slider has proven outstandingly successful. First of all, the coated slider should be slightly etched with a small quantity of hydrochloric acid. In most cases, this is only necessary before the first use. Hydrochloric acid can also be replaced by common household acids such as acetic acid or citric acid. And if none of those should be at hand, the UV Lamp Service and Safety Kit includes a sponge that enables mechanically polishing the surface.

After a successful polishing process, the previously dull grey metal has a silvery shimmering surface. If the bare metal slider gets in contact with the mercury, the latter jumps over onto the slider with high affinity, forming an amalgam, and can thus be collected. The collected drops are shaken off into the enclosed and labelled disposal container. The mercury slider wears away only gradually due to the amalgamation. It could be reused many times before the end of its service life. However, we recommend disposal of the contaminated slider together with the other material.



It may be advantageous to collect mercury from a flat surface by using the well-known mercury tongs. As an alternative, a pipette is included in the UV Lamp Service and Safety Kit. However, it is quite hard to catch larger mercury drops with the pipette, as they tend to avoid the pipette and roll away. Therefore, it is necessary to pull hard just in the moment when the drop should enter the pipette.

Broken UV lamps must be examined to find out whether they still contain mercury. If so, they must be collected and disposed of separately. Do not try to evacuate the remaining mercury.



While doing the above steps, be careful not to get injured by pieces of broken glass.



Damaged or broken quartz glass can lead to cuts. You must use gloves to protect your hands.

## Applications

All UV lamps contain a small amount of mercury. If a lamp breaks, mercury spillages must be contained and cleared safely. To do this all users of UV lamps should have the UV lamp service and safety kit close to their curing station or workplace.

The UV lamp service and safety kit contains all the necessary instruments for changing lamps and is an excellent 'First Aid Kit' for lamp breakages. It deals with the small quantities of mercury with ease. A detailed and simple to understand manual is included.

The kit is packed in a highly visible robust plastic case.



Delivery	
Art. No.	025 01246 0000
1. Safety goggle	High-strength, UV protection safety goggle (EN166 Grade 1F)
2. Lintfree gloves	Important for handling and cleaning UV lamps. Gives protection to the quartz glass against fingerprints. Fingerprints can burn during lamp operation and can have a significant effect on reducing lamp lifetime.
3. Material to dispose spilled mercury (Hg)	Protective equipment for clearing up and disposal of spilled mercury if a lamp breaks. The UV lamp service and safety kit which works without chemicals contains: Safety goggle, gloves, cleaning tissues, fleece sponge, equipment to handle mercury, containers for disposal and manual.
4. Alcohol soaked cleaning-up tissues	The tissues are soaked in 70% isopropanol for cleaning the quartz glass of uv lamps directly after installation or for maintenance. They can also be used for cleaning the reflectors and glass filters.