

Safety regarding the installation and use of UV light.

Rules regarding the handling and use of UV are regulated by ISO 15858:2016 and the “Regulations on protection against exposure to artificial optical radiation in connection with Work.”

This indicates the dose that is permitted to be exposed to in connection with one’s work. This applies to all UV sources, from UVC lamps to UVB LED for curing to UVA lamps known from insect traps. This applies regardless of the type of light source, i.e. whether it is low pressure lamps, medium pressure lamps or LED. However, the permissible dose differs depending on the frequency range of the light.

UVC light: UVC light is defined as light from 100 to 280nm.

UVC light can destroy RNA and DNA when exposed to a certain dose. This also means that you must be exposed to a certain dose before you can say that UVC is dangerous. The permitted daily dose over 8 hours is 30 J/m² on visible skin or eyes. This also mean that if you protect yourself from UVC light, you can stay in it without restrictions.

A UVC light source, like all other lamps, has a given power in W, out of this power, anything between 2 and 40% of this power can come as UVC light.

Dose is given as J/m² (or mJ/c m²) which corresponds to a given effect W over a given time S, seconds.

Based on the permitted daily dose of 30 J/ m² over 8 hours, it is also stated that if the effect is higher, the time one may be exposed to a given effect will be shorter.

Safety regarding installation and setup of UVC light sources:

If you do not have qualified measuring equipment available or knowledge of a UVC light source’s UVC effect at a given distance, the light source should generally always be turned off when working with and around it.

The light source should be secured against ignition so that accidental ignition cannot occur during work.

If there is a need to work with the light source on, all skin on the body, hands, neck and head must be covered with light-impervious material.

Face/eyes must be covered/protected by a UVC impervious visor or similar. De aware that there may be reflection of light, which is why the visor must cover past the suit/hood.

Working on and around permanent UV light installations:

When working with and around UV light sources, the regulation above must be observed. To ensure this in everyday life, the UV level must be measured in the specific situation with approved equipment for the relevant frequency range (UVA/UVB/UVC) and the equipment must be calibrated to the relevant level of light.

Measurement of residual light must be done in relation to expected working conditions or as a minimum according to: EN 14255-1.

This document is not exhaustive and should only be considered as a guide. It is the user/operator/owner’s responsibility to ensure knowledge of applicable legislation and regulations at all times.