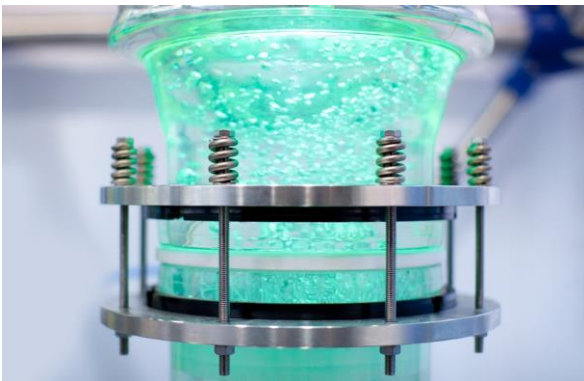


## Notes regarding the use of special UV lamps in photochemical processes

As a market and technology leader for photonic-based solutions, Noblelight from Excelitas develops and markets specialty light sources which are adjusted to specific applications and requirements. Special UV medium-pressure lamps for example are used for photochemical processes where they have to constantly work optimally and reliably under ambient conditions that vary greatly. Special UV-lamps with outputs of up to 60 kW can be used especially for photochemical processes. On the one hand these lamps have specific spectrums and, on the other, they meet the very high demands made in the chemical industry.

The risk of an explosion can clearly be minimized by using these UV lamps. Stable process steps, the use of pure materials and the special manufacturing know-how and experience make the UV lamps high-quality, long-lasting and, above all, reliable products. The most varied usage effects occur during the operation of medium-pressure lamps. These chemical or physical effects lead to the ageing of the lamp. Accordingly, the service life of medium-pressure lamps is limited. The best-known chemical/physical effects are the blackening of the light tube, quartz ageing and electrode consumption. These could affect the UV lamps and also could lead to explosion. Devitrification and electrode consumption accompanied by the formation of a deposit on the inner light tube surface result in an increased lamp temperature which causes excessive internal pressure. As the lamps are operated at high electrical wattages, excessive internal pressure can lead to an explosion. The impact of such an explosion is major: plants can be damaged by the blast and flying lamp parts and mercury vapors cause pollution are harmful to health. The chemical and physical effects in conjunction with the mode of operation occur from the first ignition and have a direct influence on the lamp's service life. To prevent a lamp explosion, the lamp must not be operated for more than 10,000 hours.

For questions related to photochemical processes please contact our cooperation partner Peshl Ultraviolet.



### Our recommendation:

- Replace the lamp at the end of the useful life specified in the technical data sheet but at the latest after 12 months.
- Only use lamps which are suitable for your particular application
- Ask your vendor or contact us. Our UV experts will give you advice.

**Excelitas Technologies**  
UV Process Technology  
hng-uv@excelitas.com  
www.noblelight.com

**www.peschlultraviolet.com**  
**Peshl Ultraviolet GmbH**  
Weberstrasse 19  
D-55130 Mainz  
Telefon +49 6131 143 84518  
Fax +49 6131 143 84590  
a.brieden@peschl-ultraviolet.com

