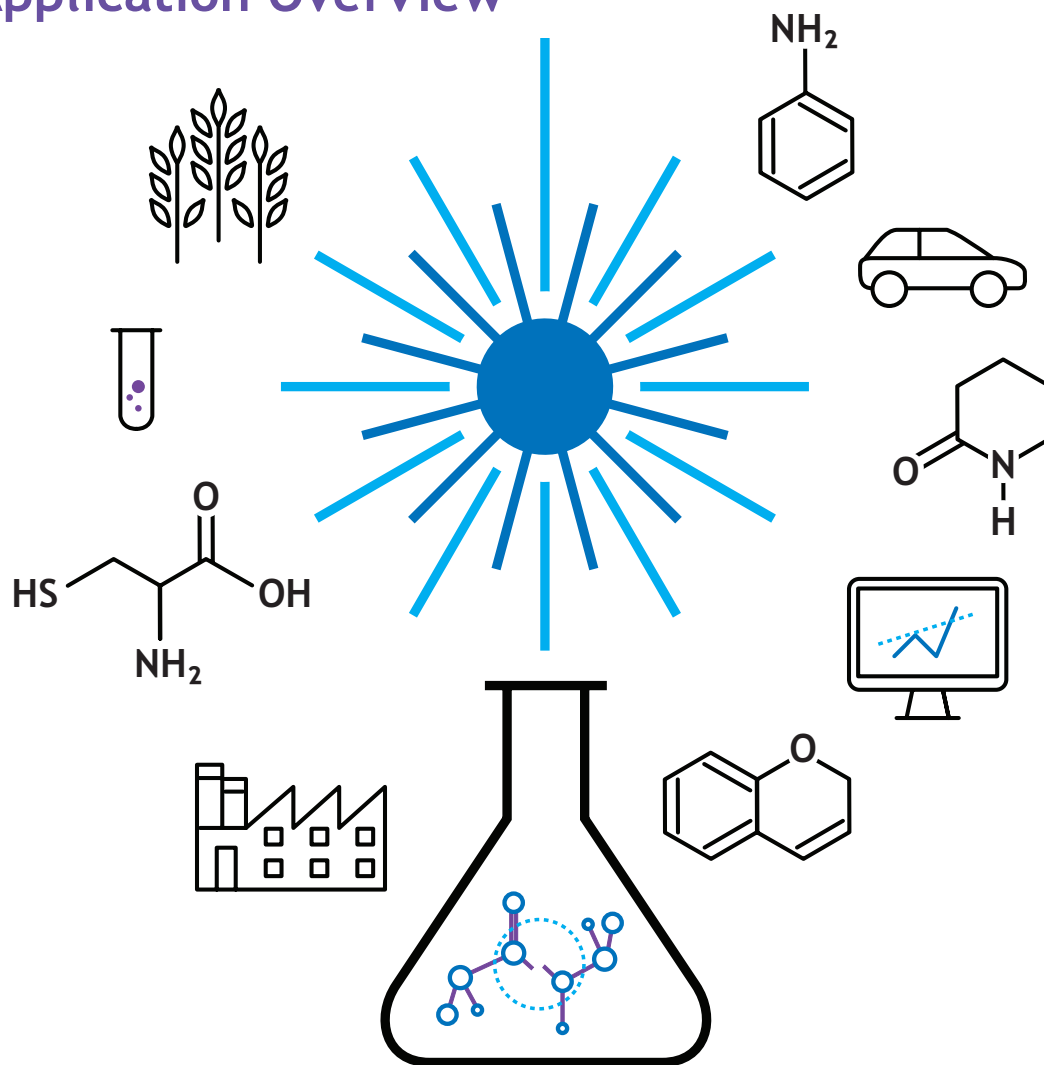


UV LED Light Sources for Photochemistry

Application Overview



In times when competition is fierce, operational excellence is of utmost importance across fields. Industrial chemistry is challenged by procurement of raw materials, foreign markets, and the shortening of the value chain.

Ensuring strong foundations for chemical engineering and efficient production of desired outcomes is essential for companies serving fields like industrial chemicals, coatings, automotive, agrochemical, or pharmaceutical.





Finding Solutions with LED

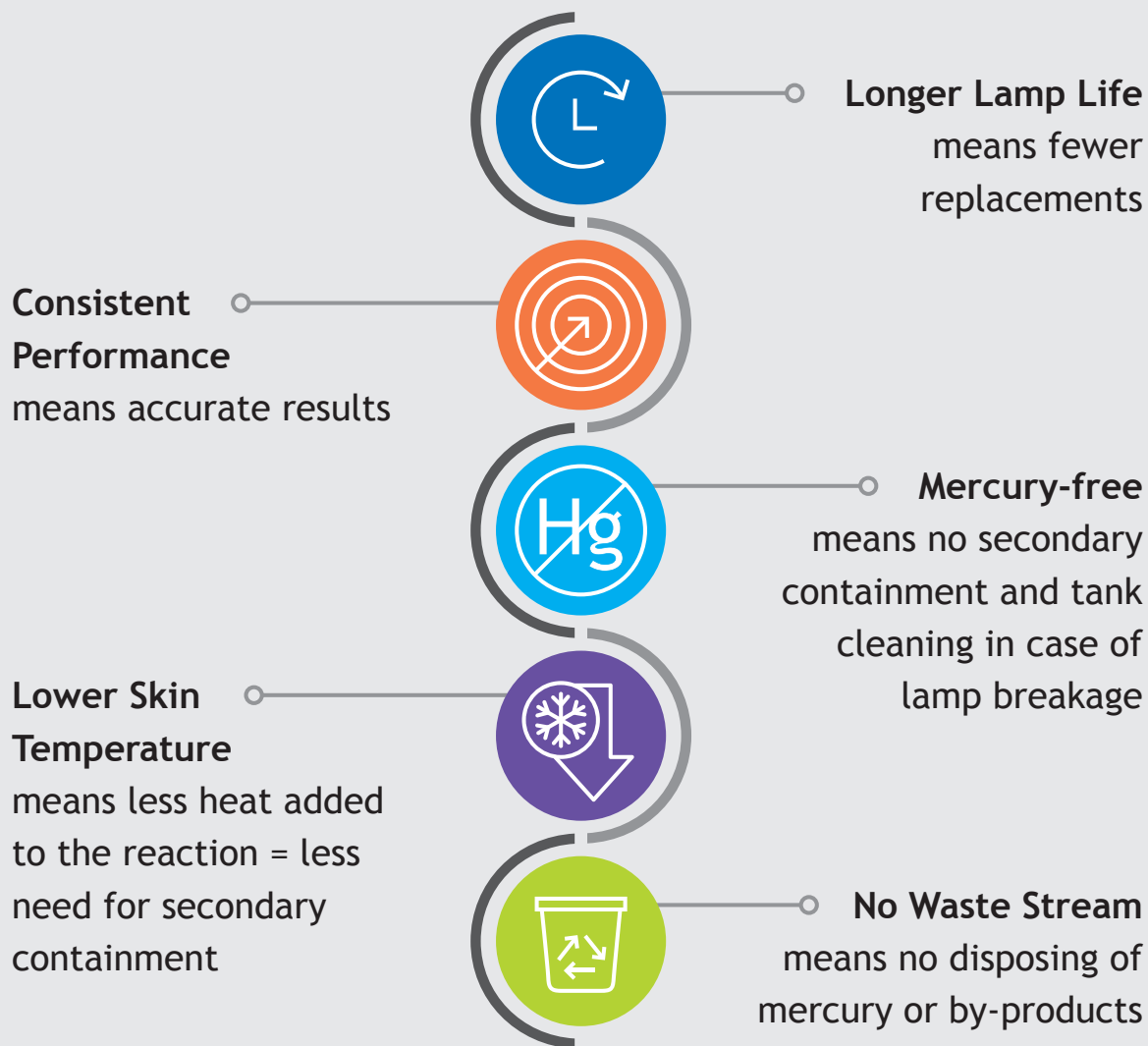
Energy derived from light sources has long been advantageous in production chemistry through photochemical reactions. Powerful precursors like Carbon Tetrachloride, Telfon Lubricants, or even anti-cancer drugs are obtained through these events and, while they all face different field specific challenges, [the overall photochemical process is hindered by one common factor: light energy sourcing.](#)

The below applications, both at large and small scale, have traditionally been done with mercury lamps, as they were the only technology available. Today, emerging technology in the UV LED and solid-state fields far surpass mercury disadvantages, and position themselves as one of [the most attractive photochemical energy sources in the market.](#)

**Industrial Chemistry, Coatings,
Automotive, Agrochemical,
Pharmaceutical, and more.**

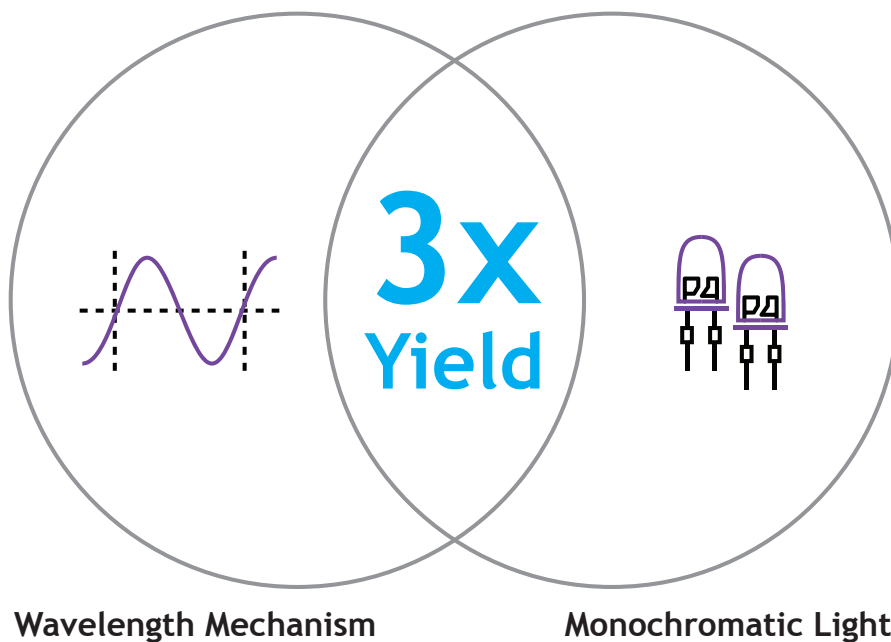
Leading Industry Change

Benefits of UV LED



The Power of Wavelength Determination and Light Source

Two aspects are key to improve reaction yields: understanding the underlying mechanism for wavelength type and intensity; and ensuring the light source is appropriately directing such wavelength. UV LEDs are ready to bring a new generation of technology to this industry. Since 2019, Phoseon Technology has worked with chemical manufacturers to effectively enhance their photochemical processes through LED and have recently released the KeyReact™ line.



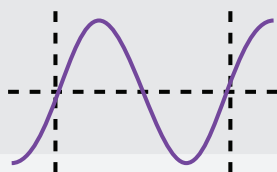
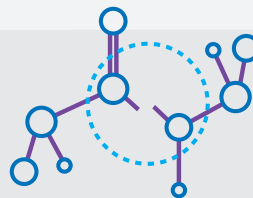
Higher Profits + Lower Costs



3-10x Yield

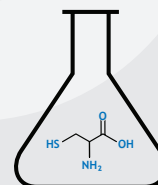


1 Product



1 Wavelength

1 Reaction



Increasing Efficiency with LED

As opposed to other sources, LEDs emit light close to the monochromatic range. With only ONE wavelength, no secondary reactions will take place, leading to ONE single product. This mechanism allows for 3-10x yields, decreasing the cost associated with excessive raw materials or handling of undesired byproducts. Through this process, company profits exponentially increase.

*While yield increases are not guaranteed and highly dependent on the specific reaction and existing reactor system; most applications will benefit yield-wise from the use of LEDs.



Providing Solid State UV LED Solutions Worldwide



#1

Research

- Pioneering and improving LED technology since 2002
- Yearly increasing power and benefits

#1

Development

- Proven 3-10x increased yield via Phoseon's expert support
- Unmatched reliability surpassing 20,000 hours

#1

Production

- Ensuring customer satisfaction globally for 18 yrs
- 99.9% on-time delivery