How to UV Ozone Cleaning

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The UV-ozone-cleaning procedure is a highly effective method to remove a variety of contaminants from surfaces. It is a simple-to-use dry process which is inexpensive to set up and operate. It can produce clean surfaces at room temperature, either in a room atmosphere or in a controlled atmosphere.
The Mechanism of UV/Ozone cleaning

- The low-pressure mercury discharge tubes generate two wavelengths of interest, 184.9 and 253.7 nm.
The 184.9nm UV line decomposes oxygen molecules and synthesizes ozone O₃.

The 253.7nm UV line decomposes ozone and produces high energy O* (activated oxygen).
The Mechanism of UV/Ozone cleaning
Contaminants: photo resists, resins, human skin oils, cleaning solvent residues, silicone oils

Precleaning: first, to remove contaminants such as dust and salts which can not be changed to volatile products by the oxidizing action of UV/ozone; second, to remove thick films the bulk of which could be transformed into a UV resistant film by the crosslinking action of the UV light.

Substrates: glass, quartz, mica, metals, ceramics, semiconductors

Effects other than cleaning: oxidation, bleaching, and etching