

# Sterilization Methods

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Gasket and seals are used in almost every industrial group whether it be a bottle cap seal or a giant, complicated, gasket in an industrial application. Most applications do not require any special concerns about operation in a sterile environment. Bottle cap seals and seals in the medical fields first come to mind. Medical devices must meet all the standards established by the CDC and other Government bodies. In the food producing industries, the equipment must be regularly disassembled and sanitized. Each industry and application have their own specific methods and requirement.

Sterilization can be achieved through various means, including heat, chemicals, irradiation, high pressure, and filtration. Listed below are many specific methods of sterilization.

- Steam Sterilization
- Flash Sterilization
- Low-Temperature Sterilization Technologies
- Ethylene Oxide "Gas" Sterilization
- Hydrogen Peroxide Gas Plasma
- Peracetic Acid Sterilization
- Microbicidal Activity of Low-Temperature Sterilization Technologies
- Bioburden of Surgical Devices
- Flaming
- Incineration
- Formaldehyde
- Ozone
- Filtration
- Ionizing Radiation
- Microwave
- Dry-Heat Sterilizers
- Performic Acid
- Glass-bead Sterilizer

How do you select the appropriate sterilization method when there are so many choices available? Your decision will depend on many different parameters, including:

- The material that needs to be sterilized. Is the material heat sensitive? Is it sensitive to moisture, gas, or radiation?
- The nature of the microorganisms that need to be destroyed or removed.
- Additional considerations are time, safety, and budget.

As a gasket supplier, you may be called upon to use one or more of these sterilization methods. In that case, you will want to study that method more closely.

More likely, your product may be subject to any of these methods and it will be necessary to analyze the effect that the sterilization process may have on the performance of the product.

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