



PORT PLASTICS

PLASTIC'S ROLE IN REDUCING SALMONELLA

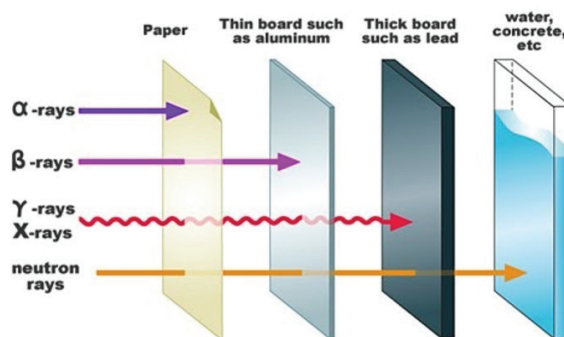


Food Irradiation (the application of ionizing radiation to food) is a technology that improves the safety and extends the shelf life of foods by reducing or eliminating micro-organisms and insects.

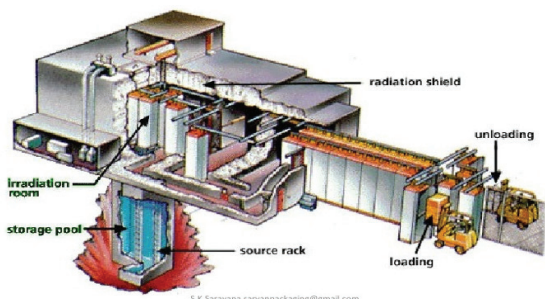
There are three sources of radiation approved for use on foods

Gamma rays, X-rays, and Electron beam. Francisco Diez-Gonzalez, Food Safety Director at the University of Georgia Center, said "Irradiation has proven it can reduce the count of salmonella and listeria by more than 99.99 percent. It's capable of killing viruses. Irradiation also helps to reduce microorganisms that could have an influence in spoilage."

Radiation types and penetration



Food Irradiation Process



What does Irradiation do to plastics, rubber, and urethane? Some polymer materials can degrade due to overexposure to radiation sources including protons (alpha), electrons (beta), and photons (gamma, X-rays). This degradation can lead to efficiency lost, down time, and increased power consumption.

Physical properties of polymers can be impacted with repeat exposure to radiation. These impacts are not always visible or understood. For example, a critical component such as a gear may experience a decrease in shear strength or tribological properties. Surface degradation, discoloring, or material shedding are common visual signs that a component is being affected by radiation. The risk of component failure increases with multiple exposure to radiation cycles. Choosing the right material upfront limits conveyor down time.

| | ABS / PBT | HDPE | Polypropylene | UHMW | PC/PU/PSU | PA6 | Fluoropolymers | POM | PPS | PEEK |
|-------------|-----------|------|---------------|-----------|-----------|------|----------------|------|-----------|----------|
| Irradiation | Fair | Fair | Poor | Excellent | Good | Fair | Poor | Fair | Excellent | Superior |

Chart by DS

WE HAVE A LONG HISTORY IN PROPOSING THE MOST SUITABLE RADIATION RESISTANT POLYMER FOR ANY ENVIRONMENT. CONTACT YOUR NEAREST PORT PLASTICS SALES OFFICE FOR ALL OF YOUR MATERIAL NEEDS.