EXCEL
FORMULATIONS

ETHYLENE OXIDE MIXTURES FOR STERILIZATION

ABOUT US

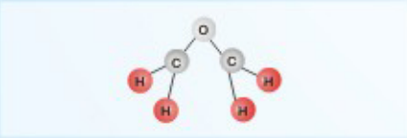
EXCEL FORMULATIONS established a state-of-the-art EtO formulation and bottling facility at Village Khoda, Dist. Ahmedabad, Gujarat and supplies, various combinations of EtO with inert gas such as Carbon dioxide in different sized cylinders The company shall ensure customer satisfaction by understanding customer needs and providing world-class services with continual improvements in the desired areas.

EXCEL FORMULATIONS shall continue to aggressively seek Quality and develop technologies that benefit Customers and Society The business works closely with customers, using research and development to introduce new products to suit the end consumer's needs. The plant that manufactures ethylene oxide mixtures and liquid carbon dioxide is manned by skilled team with a strong quality orientation. This ensures strict adherence to safety, health and environment standards at the plant. This in turn ensures that the products manufactured are reliable and are of the highest quality, all in keeping with our commitment towards excellent customer service. Our experienced technical staff, supported by a network of field personnel, ensures prompt and efficient service to our customers.

STERILIZATION

Sterilization is the act or process of inactivating or destroying completely, all forms of microbial life, including viruses. Thus, in the case of medical devices, packaging material etc., the products, after treatment are rendered sterile and, in the case of bulk material (pharma raw material, herbs, agro produce like spices, etc.), the total bacterial load is substantially lowered and pathogens destroyed. Until the latter part of the 20th century, sterilization of Healthcare products was the responsibility of the user who used dry heat, steam or chemical solutions to sterilize medical devices, however, these methods were not always efficient and often led to infection. Auto-claving (steam) and dry heat, both being unsuitable for heat labile and moisture sensitive materials like plastics, rubber, electronic equipment and pharma / cosmetic grade raw material has led to the development of other methods of sterilisation at low temperature like the EtO process.

ETHYLENE OXIDE (ETO) STERILIZATION



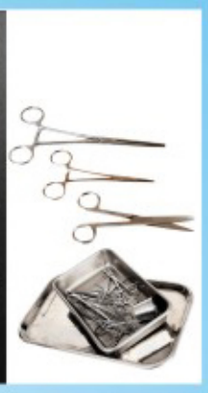
Ethylene Oxide (EO) is a tiny molecule in which two carbon and four hydrogen atoms are joined to one oxygen atom in a strained ring. Because of the chemical's very low boiling point (10.4° C), it becomes highly active at room temperature. It vaporizes and permeates rapidly through packaging substances like plastic, rubber etc.

EtO is the choice for processing pre-sealed and packed products that cannot be sterilized by other methods. EtO, a potent, anti-microbial agent can kill all known viruses, bacteria and fungi, annihilating even the most sterilization-resistant types of microorganisms - bacterial spores. Effective on microbes, EtO treats most products gently, even with repeated use. EO eliminates micro-organisms rendering the product sterile and lowers the total bacterial count to acceptable levels in pharma/cosmetic grade raw material and dehydrated food products for both domestic and export requirements. EtO mixtures are used by health care facilities worldwide for sensitive instruments, which cannot be adequately sterilized by either steam or liquid disinfectants. EXCEL FORMULATIONS offers an uninterrupted supply of ethylene oxide (pure), and various mixtures formulated at its own state-of-the-art gas formulation facility. The EtO mixtures are available in differing mix ratios of ethylene oxide and carbon dioxide as per customer requirements. For these mixtures, carbon dioxide is used as a propellant rather than freon or any other chlorofluorocarbons which are detrimental to the earth's ozone layer. Which is why their usage is also being phased out worldwide.

APPLICATIONS OF EtO STERILIZATION

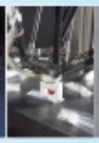
IN THE HEALTH-PRODUCT AND MEDICAL FIELDS

- Fibre-optic endoscopes, surgical telescopes, and other optical medical equipment
- Ophthalmic instruments, Dental instruments, Plastic instruments (e.g. Speculae, syringes)
- Oxygen tents, anesthesia masks and circuits, Artificial kidney machines, heart-lung machines, cardiac pacemakers
- Rubber and plastic tubing (e.g. catheters), surgical gloves, sheets & tubing
- Cotton balls and pads, swabs & bandages,
- Electrical equipment (e.g. drills, pumps, motors),
- Respirators and inhalation therapy supplies
- Surgical staplers/staples, sutures, sharps.



PHARMACEUTICAL PACKING MATERIAL

- Plastic bags
- Plastic cups bottles
- Rubber articles
- Cartons Gelatin capsules.



TREATMENT OF WHOLE AND GROUND SPICES, PACKAGED CEREALS, VEGETABLE GUMS, STARCHES, DRIED NUTS, FOODS, SEEDS AND OTHER SIMILAR MATERIALS

Black Pepper, Cinnamon, Nutmeg, Almonds, Cashews, Walnuts, Turmeric, Japanese tea, Psyllium Husk, Senna, Ayurvedic powder, Alkaloids.

COSMETIC RAW MATERIAL

Talcs, Puffs, Cosmetic brushes, Face powders, Toothbrushes, Colouring powders, Starch, Aerosol valves

PRESERVATION OF VALUABLE ARCHIVAL BOOKS AND DOCUMENTS

Ethylene Oxide	Diluent gas	Flammability
10 %	90 % carbon dioxide	Non-flammable
20 %	80 % carbon dioxide	Non-flammable
90 %	10 % carbon dioxide	Flammable

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