

VACUETTE® line products are delivered in non-bleached outer cartons. Wherever possible, unnecessary packaging material is dispensed with. The cartons consist of 100% recycled material.

Greiner Bio-One delivers all of its used cartons and plastic sheets to Altstoff-Recycling-Austria AG (ARA), a company providing collection and recycling services for packaging wastes. There, the materials are recycled in order to save primary raw materials and energy. Greiner Bio-One, a license partner of ARA, recycled packaging materials in 2009, thereby contributing toward climate protection through energy savings of 119 tons of CO₂.

In order to offer customers a convenient packaging solution, our **VACUETTE®** specimen collection tubes are provided in plastic racks of 50 pieces each. These racks are manufactured from polystyrene sheets. 90% of this polystyrene is recycled material.

In addition, the release paper the labels for **VACUETTE®** tubes are adhered to is recycled. This paper is picked up after the production process and delivered to recycling plants.

For its deliveries, Greiner Bio-One relies on EURO pallets which can be utilized as reusable containers. Again, thanks to the europool swap organization, it is possible to avoid the accumulation of huge amounts of materials that would have to be disposed of.



As is the case with most plastic materials, tubes made of PET (polyethylene terephthalate) also permit the recovery of either materials or energy. Based on generally ecological considerations, the recovery of materials is preferable, provided they can be used in the place of new plastic materials. Unfortunately, this is not possible in the case of special medical wastes. Medical wastes contaminated with blood must be disposed of in suitable incineration plants. There, the tubes are broken down into their natural constituents, that is, carbon, hydrogen, and oxygen. Thermal recycling allows the energy generated in this process to be put to good use. The calorific value of one kilogram of plastic material is approximately equivalent of that of one liter of heating fuel. Provided that the incineration takes place in modern facilities, no significant pollution of the air is to be expected.



By using products manufactured by Greiner Bio-One in a resource-conserving process, you have chosen an environmentally friendly high quality solution that makes a valuable contribution to protecting our environment.

For further information, please visit our website www.gbo.com or contact us:

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Rev.01, 03.2011 e

Greiner Bio-One GmbH

Environment protection
and careful resource planning

Greiner Bio-One Environment protection and careful resource planning are an important concern for us.

The Green Spirit

With increased public awareness of the ecological aspects and also of the increase in greenhouse gases and the world-wide climate change, business enterprises are facing a rise in social, economical and environmental responsibilities. As an enterprise concentrating on the production of plastic medical technology, Greiner Bio-One accepted the challenge and has already implemented a wide-reaching ecology project titled “The Green Spirit”.



The **VACUETTE**® Blood Collection System is produced from an ecological point of view using the most up-to-date technology. Special attention is paid to the use of power-saving manufacturing and sterilisation techniques.

Raw Materials

This begins with the delivery of the raw materials. The delivery of plastic granulated PET is via truck silo transport. The PET granules are then stored in silos located at the production facility. This method avoids the use of additional packaging materials for the raw materials. In addition, Greiner Bio-One pays particular attention to the location of raw material suppliers. In doing so, travelling distances of raw materials are minimised.



Production

Greiner Bio-One, a technology leader in manufacturing high-quality plastic products, relies on cutting-edge production facilities. These installations are powered with clean, renewable forms of energy. Fossil fuels such as gas or fuel oil are not being used. Energy is supplied in the form of electric power only.

Contrary to using hydraulic machines, electrical machines as used by Greiner Bio-One permit energy savings by 50% on average. This constitutes an important step forward with regard to the company's life cycle assessment.



A special recycling solution helps the machinery save on materials. The sprue parts, for example, that accumulate in every injection molding process are recycled. The remaining production wastes are delivered to a compounding contractor that recycles the material into plastic granulate.

A state-of-the-art heat recovery system utilizes the waste heat generated by the production machines to heat the entire building complex and help save additional energy.

Sterilisation

The sterilisation of **VACUETTE**® products is undertaken in accordance to the latest technological standards. The products are sterilised with electron beam while remaining in their fully packaged state. All micro-organisms are completely destroyed. Electron beam sterilisation (E-Beam) is extremely reliable and is a validated and certified procedure. Product quality is not compromised and no residue remains following sterilisation. In contrast to other sterilisation methods no radioactive waste, toxic gases or chemical by-products are produced from E-Beam. E-Beam sterilisation is a modern technique which protects the environment.



Due to sterilisation facilities being directly connected to the production area, product transportation is avoided and therefore unnecessary CO2 offset is prevented.