ENVIRONMENTAL AND PRODUCT DATA SHEET

Product
CPET tray

Raw Material
Crystalline Polyethylene terephthalate (CPET)

Packaging
Inner: Polyethylene (PE)
Outer: Corrugated board box

Field Of Application
The CPET-trays are intended for deliveries of individual portions of ready-cooked meals from large-scale households. Multiple use is not applicable as these products are intended as disposable products for single use.

The articles can be used safely with all types of food under following conditions:

	Application	**Specific conditions**	
✓		**Temperature (°C)**	**Period food contact**
✓	Storage in freezer	-40 – 0	Very long (>> 10 days)
✓	Storage in fridge	0-10	Long (> 10 days) The food itself probably sets the limitation
✓	Storage at room temperature	Max 40	Long (> 10 days) The food itself probably sets the limitation
	Keeping warm applications*	-	-
✓	Hotfill & serve temp	< 220	Immediate use
✓	Microwave oven	< 220	Short (< 2 h)
✓	Cooking application	< 220	Short (< 2 h)

*CPET is not optimal for warm keeping conditions due to the material getting very soft around its glass transition temperature at appr. 70 °C This has to do with the usage aspect and not product safety. This does not mean the tray will melt, but it will get soft and weak.

Heat resistance
The CPET trays are functional in hot air oven and microwave applications up to 220°C. When using the tray on an oven grid it will result in some minor visual deformations of the bottom of the product.

Due to natural weakness at high temperatures, the heated products must be handled carefully the first minutes after being taken out of an oven or microwave. As temperature decreased the stiffness will be retained.

Heating will cause shrinkage of the material.

202495_PI_en_20991231

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Strength impact
The brittleness of CPET increases at lower temperatures.

The product is designed to withstand normal handling in frozen condition, but special care is required when handling the products in cold conditions.

Sealability
The trays have an APET seal layer for better sealability.

Good sealing can be obtained with different kind of seal films. Due to the variety of seal films and applications the sealability should be tested by the end user for best acceptance.

Handling instructions
The CPET- material used to make these articles is a very specific material with typical characteristics. For best use of the trays, follow the handling instructions below.

Maximum temperature for the use of CPET is 220°C. Higher temperatures can cause melting of the product and eventually damage the oven. Steam ovens can have a different effect on the material.

All plastic material becomes soft when heated. The CPET trays starts to become soft at temperatures > 70°C. To avoid strong deformation, it is recommended:

- to place the CPET article on a flat surface or on a rack with small distances (*e.g.* 3 cm) between the bars
- to allow the product to cool before handling, so the tray regains its strength
- not to stack products during and immediately after the heating
- to avoid contact with other articles during heating
- to avoid any kind of pressure/forces on the product during heating
- not to overload the product with fluid food ingredients.

Minimum temperature for the use of CPET is -40°C. As the product becomes brittle at low temperatures, the following recommendations should be followed to avoid damage of the products:

- being frozen, the items have to be handled very careful
- stack the finished products upright in the case and do not over stack the products
- avoid that the products can move and shift in the packaging during transport.

Sealing of Tray/Cover
When sealing the trays through welding, a small amount decomposition product is formed. As always when working with heating and melting materials, an adequate ventilation is very important. In most cases a kitchen fan will be sufficient to evacuate the emissions that may arise.

EC Directive 94/62/EC on Packaging and Packaging Waste
The packaging complies with all essential requirements as defined by 94/62/EC.
For example minimum adequate amount of packaging, limitation of heavy metal content, recyclable through at least one of the following: reuse, material recovery, energy recovery or composting.

Environmental Aspects
Product
The product consists of 100 % virgin PET based on fossil sources.

Packaging
Polyethylene is made by refining of mineral oil or natural gas. The polymer consists simply of carbon and hydrogen. The corrugated board box is to a large extent made of recycled fibres.

The corrugated board box is made from wood, which is a renewable resource.

Product Safety
The product fulfils the following:
- EU Regulation 1935/2004/EC, Material and products intended for contact with foodstuff.
- EU Regulation 2023/2006/EC, Good Manufacturing Practice.
- EU Regulation 10/2011/EC with amendments, Material and products of plastic produced for contact with food.
- The total migration is below the limit 10 mg/dm² when tested for 4h at reflux with 3 % acetic acid + 10 % Ethanol and 2 h at 175°C with olive oil. For details, see Declaration of Compliance.
- Duni manufacturing units are certified according to the international quality system ISO 9001. They have also implemented or will implement the environmental management system ISO 14001.

End of Life
Energy Recovery
Incineration of mixed waste for energy recovery is a good end-use of products. Paper and plastic may burn well with low emissions.

Incineration facilities for energy recovery are dependent on local infrastructure. Incineration for energy recovery is a good alternative when material recovery is not available by recycling.

CPET products can be incinerated for energy recovery.

Recycling
Collection, sorting and material recovery are all part of the recycling process. Recycling is dependent on local waste handling infrastructure.

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CPET can be recycled with the same collection and recycling stream as PET. Ease and recyclability of a product depends on the type of material, composition and sometimes colour. Check with local waste handling to get the correct information.

Validity

This is issued 2023-05-17. It is revised when there is a change in the manufacturing process, in the product or in legislation.