

How to use the eutectic plates

Freezing process for cold eutectic plates

The eutectic liquid must be completely frozen (solidified) before you can use the eutectic plate. If you can hear or see the liquid moving, it means that there are not enough frigories in the eutectic liquid and the cold capacity will be reduced.

At which temperature must the plate be frozen? The freezing temperature of the eutectic plate must be at least 5°C below the eutectic liquid melting temperature. For example, a « -17°C » plate (which means that its melting point is -17°C) must be frozen at least at -22°C.

In order to speed up the freezing process, the eutectic plates must be separated from one another in the freezer (at least by 3 cm). If they are piled up, the cold cannot circulate between them, which significantly increases the freezing time.

You can control the freezing of your cold accumulators either visually if the cover is transparent or dynamically by shaking the plate. Any movement resulting from a liquid or semi-liquid state indicates that the eutectic solution is not deeply frozen.

The freezing time can vary from 6 to 24 hours depending on the refrigeration unit used. Permanently keeping a second set of eutectic plates in the refrigeration unit ensures the immediate availability of the cold.

Operating conditions for ambient eutectic plates

The OLIVO ambient eutectic plates allow to maintain an inside temperature between +15°C and +25°C in extreme outside (hot or cold) temperatures :

- Maintain chocolate at around +20°C with an outside temperature of +35°C
- Maintain a pharmaceutical product at +20°C when the winter temperature is -10°C

The ambient eutectic plate is used just like a cold eutectic plate. The preparation before use is different.

In winter conditions (outside temperature -10°C) :

- The ambient eutectic plate must be placed in a room at +25°C or more. The solid eutectic solution becomes liquid above +25°C.
- Once in a container, the liquid eutectic plate will compensate the heat losses of the inside products and maintain the temperature above +15°C.

In summer conditions (outside temperature +35°C) :

- The ambient eutectic plate must be cooled down at a temperature below +15°C. Below +15°C, the eutectic solution becomes solid.
- Once in a container, the solid eutectic plate will release its frigories to compensate the heat inputs and maintain the temperature below +25°C.