

Ice-Pax

Do you have temperature sensitive products?

If so, you should consider using Ice-Pax from Sud-Chemie Performance Packaging. Ice-Pax are a non-toxic gel pack designed to help maintain cool temperatures for longer inside insulated packages under adverse ambient conditions.

Food Science Australia tested the heat capacity and the rate of thawing of Ice-Pax.

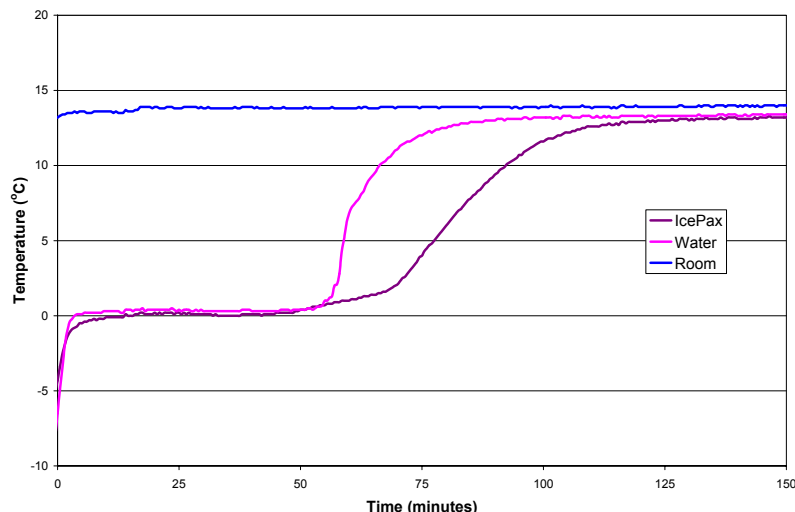


Figure 1: Measured rates of warming for Ice-Pax gel and distilled water (400 g samples in steel pans).

METHODOLOGY

To determine the heat capacity, frozen samples in steel pans were placed inside an insulated expanded polystyrene carton of known insulation quality. Temperatures on the inside and outside surfaces of the carton as well as external air temperatures and gel temperatures were measured using type-T thermocouples and a datalogger (Grant 1600 series). The carton was placed in a 20°C controlled temperature room and temperatures recorded every 30 seconds during warming. To determine the rates of thawing, 400 g frozen samples were directly exposed to 15°C ambient temperature and gel and air temperatures monitored using Type-T thermocouples throughout warming.

RESULTS

Results showed that Ice-Pax have a heat capacity very similar to that of water (data not shown). Thawing results showed that the Ice-Pax gel thawed more slowly than water (Figure 1), which is likely to be a result of the high viscosity of the gel which effectively minimises convective currents within the liquid phase, which usually aid heat transfer during thawing.

CONCLUSIONS

- Ice-Pax carry the same high capacity for maintaining cool temperatures as ice.
- Ice-Pax gel was shown to thaw more slowly when exposed to high ambient temperatures than ice

About Sud-Chemie Australia Pty Ltd:

Sud-Chemie are known as specialist packaging manufacturers in moisture control and COLD/COOL CHAIN LOGISTICS with products such as THERMO COVER; THERMO CAP; ICE PAX; Temperature Indicating Cards. While globally based, Sud-Chemie Australia service the local market & regional markets from their manufacturing site in Penrith (NSW)

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