

RECOMMENDATIONS

Recommendations to end users

Four main factors guide the selection of a PBS packaging;

Concerning **the barrier specifications**, a selection guide of PBS packaging has been built on the basis of experimental data measured during the project; deliverable D3.2 provides graphs for the selection of a type of PBS packaging on the basis of a given water vapour and oxygen barrier specifications (from thick injected systems to thin films, from uncoated to coated systems, and from unformulated systems to compounded systems)

Concerning **the migration properties**, the following aspects have to be taken in consideration:

- Overall migration is generally higher than the migration of common materials;
- Low temperature uses (4°C storage) generally not lead to unacceptable migration level whatever the packaging type;
- Room temperature and hot uses can lead to unacceptable migration levels; in these cases thin materials should be preferred.

The cost of PBS packaging is mainly linked to the price of PBS matter pellets. As a consequence, PBS thick materials have a serious disadvantage compared to other polymer references. At the contrary PBS films are less disadvantaged by the price of material.

The concept of a shelf life for a packaging is not new; a lot of elaborated material must be used within a defined period. The novel aspects with PBS are that the shelf life can be variable depending on its composition and storage conditions. All useful information should be demanded to packaging providers: Quality control ensuring constant performances, recommendations for storage conditions, predicted packaging shelf life regarding the targeted application.

Overall, considering (i) the intrinsic middle barrier of PBS films (ii) the low migration of PBS at low temperature (iii) the economical / environmental advantages of the films compared to other materials, (iv) the need to fit material shelf life and food shelf life, **the development of PBS for food packaging applications is predicted to start with film packaged foodstuffs, stored in cold conditions, with shelf life less than 2 months.** Such products have been widely tested during the project, generally showing an identical performance of PBS compared to reference packaging.

Apart from these priority markets, PBS will be possibly used for other applications: breathing copolymer films for fresh fruits and vegetables, long term storage of dried products thanks to coated films... Only one basic restriction can be considered as a definitive rule, the too low melting temperature forbids sterilization and pasteurization process.