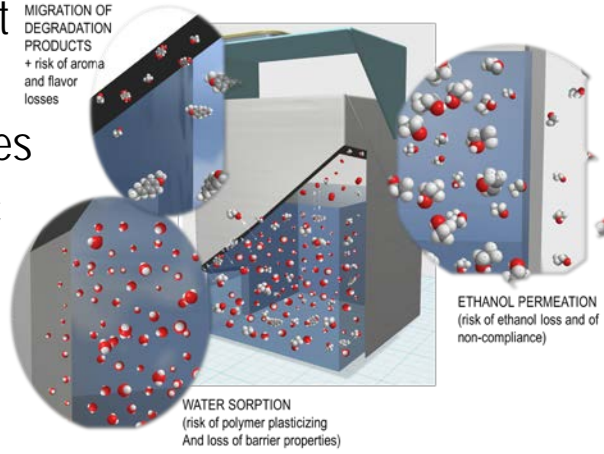
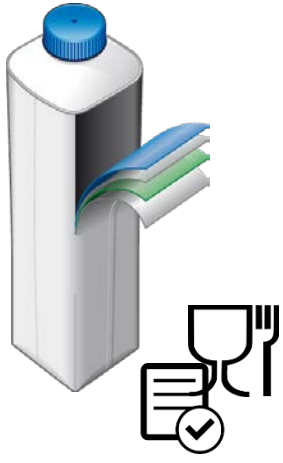


# Risk assessment of multilayer materials

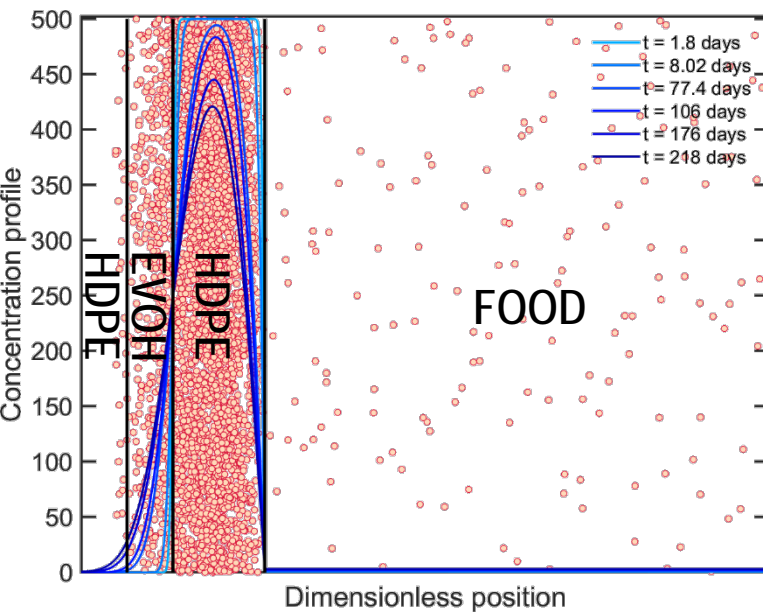
## Issues

- Compliance assessment
- Concentration of migrant in food
- Effect of barrier properties
- Effect of thermodynamic properties
- Concentration profil evaluation

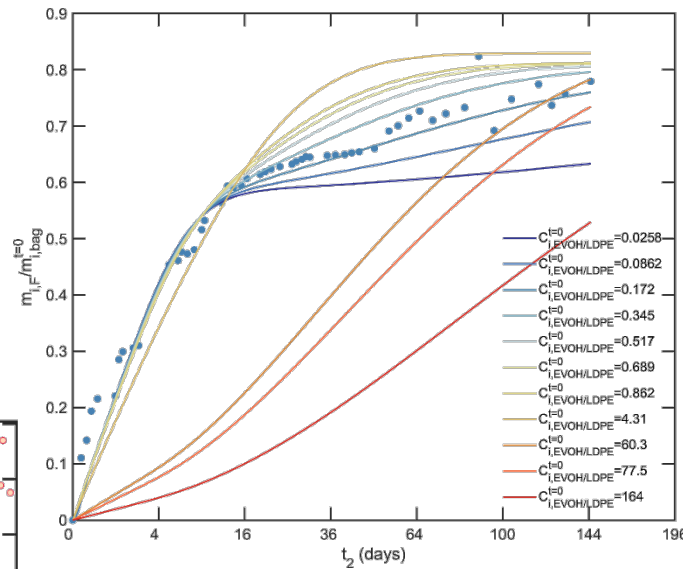


## Our contributions

- ✓ Multiscale modeling of migration
- ✓ Molecular modeling
- ✓ Identification of transport and thermodynamic properties
- ✓ Migration measurements



Concentration profiles of Irganox 1076 in a trilayer packaging of 400  $\mu\text{m}$  of thickness in contact with milk at 25°C



Effect of initial distribution of migrant in multilayer packaging on migration kinetic of Irganox 1010 into ethanol

## Application areas

- Food (over-) packaging
- (Over-) packaging for biotechnological devices, pharmaceutical and cosmetic products