Polyethylene, Material in Contact with Milk

Corina ZUGRAVU, Gabriela CILINCA

Institute of Public Health Institute of Public Health, Dr.Leonte street 1-3, sect. 6, Bucharest, e-mail: dr_corinazugravu@yahoo.com

Keywords: polyethylene, package, milk, global migration

SUMMARY

Polyethylene is a component of the polyolefin class, being produced by the polymerization of etilen and of different $\alpha$ – olein co-monomers like: 1-propen (propylene), 1-buten, 1-hexen and 1-octen. Polyethylene can be: high density polyethylene (HDPE), low density polyethylene (LDPE) and linear low density polyethylene (LLDPE). The names of different types of polyethylene suggest the differences regarding their physical properties, especially density. The present study followed the safety of milk packages made of polyethylene.

The study was carried out between 2006 and 2008 in 15 counties of Romania. The supervising of the materials in contact with foodstuffs implied: identification of the type of package, identification of the conditions of contact between food and package, the analyze of the extraction conditions and the verification of the global migration of components. The value of global migration of polyethylene components, before and after the contact with milk, using as simulant distilled water, during 10 days of contact and at 2 temperature conditions (room temperature and 5° Celsius) was not over the legislator limits (1).

In conclusion, polyethylene (PE) in contact with milk is a stable material; the value of global migration of components in selected simulants respects the requirements of the legislation. (10 mg/dm² or 60 mg/kg food).

REFERENCES

1. Romanian Government: Decision 564/2007 regarding modification and completing the decision nr. 1.197/2002 of the government regarding the approval of norms about materials and objects in contact with food. Monitorul Oficial nr. 451 din 04/07/2007