

A. Ecological Aspect

1. Summary and Conclusions from BUA Report 20 (December 1987)

Occurrence and Distribution among the Compartments

Tris(2-chloroethyl)phosphate concerns a product used as a softener and viscosity regulator with flame-retardant properties in polymeric materials, especially polyurethanes. The production quantity in the Federal Republic of Germany currently amounts to 4000 – 5000 t/yr.

The emission into the environment during industrial production occurs almost exclusively through wastewater. Due to its physical properties, a partial transfer from water into the atmosphere is unlikely. In the Federal Republic of Germany, the emission through wastewater during production can be estimated at 17 – 21 t/yr, corresponding to 0.4 % of the production quantity. No emission via wastewater occurs upon use.

The emission through exhaust gas from production and use is very low. With regard to the volatility of tris(2-chloroethyl)phosphate from polymeric materials treated with it, a slow unquantifiable release of the substance into the atmosphere can be expected. The proportion released from these materials after landfill disposal which might enter the environment through leachate is likewise unquantifiable.

Concentrations of 0.1 – 1.3 µg/l have been found in the Rhine and its tributaries. There are no data available about the occurrence in other water bodies in the Federal Republic of Germany.

There are no data available on the presence of tris(2-chloroethyl)phosphate in the atmosphere. Tris(2-chloroethyl)phosphate in concentrations of 13 – 28 µg/kg have been detected in sediment of rivers and seacoasts in Japan. During passage through soil, tris(2-chloroethyl)phosphate tends towards forming zones and