



Plasticizers Market Data

Compiled by Arbeitsgemeinschaft PVC und Umwelt e.V.

World

Approx. 6 million t of plasticizer with a total value of over € 7 billion are produced and consumed every year.

The market for plasticizers grew from approx. 5 to over 6 million t between 2000 and 2004.

80 – 90 % of the worldwide plasticizer consumption is used for PVC.

Major end user markets:

- Automobile construction and transport (underseal, sealants, HGV covers, etc.)
- Construction industry (e.g. floor coverings, foils, coated fabric, wallpapers)
- Electrical and cable industry
- Sports and leisure articles

Precursor products:

Plasticizer alcohols, with probable worldwide demand will grow from a current approx. 4 million t to over 5 million t in the year 2010, are important.

Western Europe

Around 1 million t of plasticizer were manufactured by approx. 30 companies in 2004.

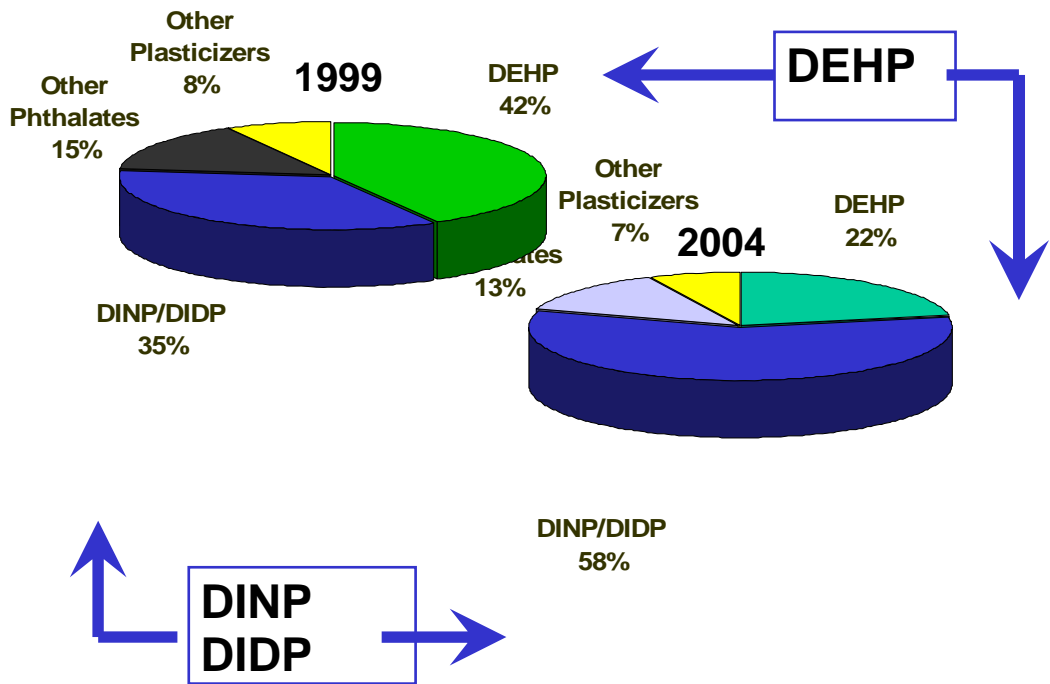
- 90 % phthalates
- 10 % other plasticizers (adipates, citrates, sebacates, phosphates, etc.)

Consumption of plasticizers is currently stagnant.

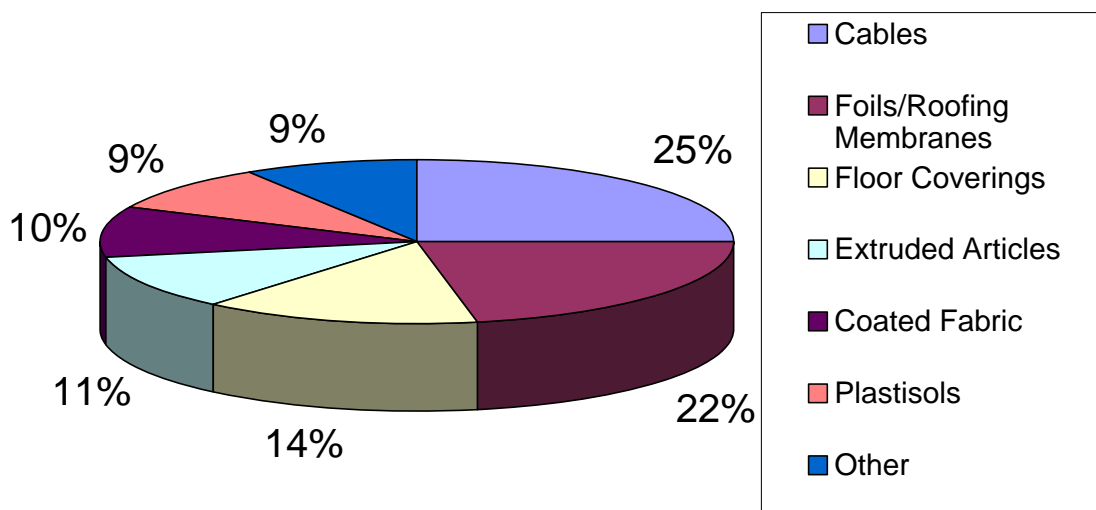
In mid 2005 the prices for standard phthalates (DEHP, DINP and the C10 phthalates DIDP and DPHP) were approx. € 1,000/t, with the prices for DINP and C10 phthalates being around 5 – 10% higher those of DEHP.

The proportion of DEHP in plasticizers has reduced by 20% in absolute terms between 1999 and 2004. At the same time, the proportion of DINP and DIDP rose from 35% to 58% (source: ECPI).

Plasticizer Consumption Europe



Plasticiser Consumption in Western Europe according to Applications



Average plasticizer content in unplasticized PVC articles: 30 – 35%.

The worldwide consumption of PVC for the production of unplasticized PVC was approx. 9 million t in 2004.

Phthalates

Diisononylphthalate (DINP)

CAS No. 28553-12-0 and CAS No. 68515-48-0

The two DINP types differ in the branching degree of the alcohol chain (isomer mixes).

95% of DINP is used for PVC applications, the rest comprises rubber, paints and pigments, adhesives, lacquers, solvents and sealants.

C10 phthalates: Diisodecylphthalate (DIDP) and Di-2-propylheptylphthalate (DPHP)

CAS No. 68515-49-1 and CAS No. 53306-54-0

Main applications: Cables, foils.

Di-2-ethylhexylphthalate (DEHP):

In 2004 just under 2 million t of DEHP were produced worldwide.

The market volume of DEHP in 2004 was around 200,000 t in Europe.

Benzylbutylphthalate (BBP):

BBP market in Germany: 10,000 to 15,000 t

PVC floors:	60 %
Polysulphide sealants:	30 %
Miscellaneous:	10 %

(foam plastics, leather coatings, foils, adhesives, lacquers, etc.)

Dibutylphthalate (DBP):

Approx. 65% of the DBP uses are accounted for by polymers, over 90% of which are PVC

Approx. 30 % of the DBP applications for paints, emulsions, lacquers and adhesives

Adipates

Used as a plasticizer in PVC:
Di-2-ethylhexyladipate (DEHA)
Di-isononyladipate (DINA)

The price for adipates is around 30% higher than that for DINP.

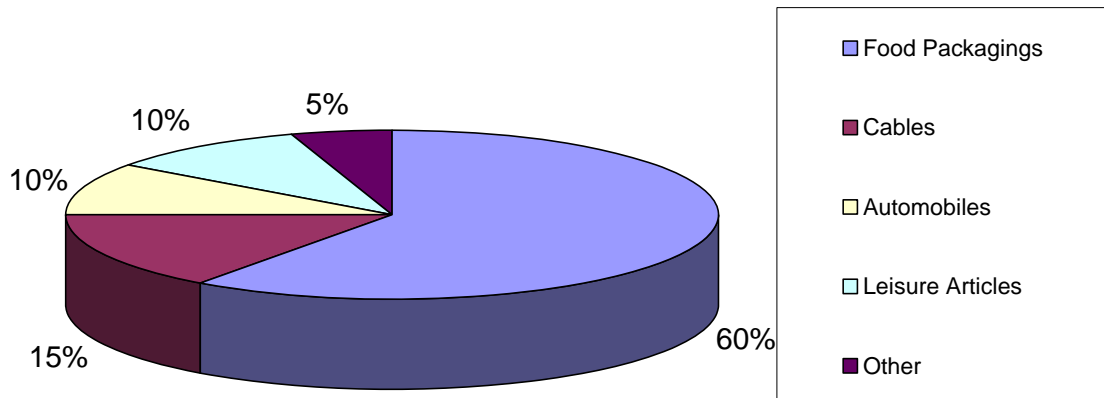
Application:
- Cling films for foods
- Floor coverings

- Vinyl wallpapers

Di(2-ethylhexyl)adipate (DEHA):

Plasticizer for cold-resistant unplasticized PVC, in particular food packaging films.

Applications of DEHA



Citrates

Acetyltributylcitrate (ATBC):

ATBC in particular is used as a plasticizer in PVC products.

Application:

- Toddlers' toys
- Blow-up balls
- Swimming armbands

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