

# Efka<sup>®</sup> PL 5382

(old: Dehsol<sup>®</sup> D82)



The Chemical Company

**general** epoxy plasticizer for the paint industry

**chemical nature** soybean oil, epoxidized

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## Properties

**physical form** light yellow liquid

**shelf life** Subject to appropriate storage under the usual storage and temperature conditions, our products are durable for at least 2 years.

**typical properties  
(no supply specification)**

oxirane content	~ 6.7%
acid value	~ 0.15 mg KOH/g
iodine value	~ 1.25 g I / 100 g
iodine color index	~ 1.25
refractive index	~ 1.472

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## Application

Efka® PL 5382 epoxy plasticizer is both a high-quality stabilizer and valuable plasticizer. It protects paints and plastics against the influence of heat, light and weather, and thereby improves whiteness and resistance to ageing. It is compatible with PVC, many other plastics, synthetic resins, plasticizers and gives transparent films. It can be hardened with acids, anhydrides, and amines. Moreover, it remains stable even at higher temperatures.

in addition, the Efka® PL 5382 plasticizer also has a wetting and emulsifying effect, which is a property that is advantageous in the manufacture of pigment pastes. Epoxy plasticizers also have a favourable influence on the viscosity stability of plastisols, especially the alkyl epoxy stearates which have a viscosity-decreasing effect.

the difficulties with respect to levelling, gloss retention and yellowing, which often occur with epoxy paints, can largely be reduced by the simultaneous utilisation of Efka® PL 5382 epoxy plasticizer. The compatibility is dependent on the binder and must therefore be checked in each individual case.

Efka® PL 5382 consisting of epoxidized soybean oil, is a high-quality epoxy plasticizer with an epoxide oxygen content of more than 6.3%. It not only excels by its high oxiran content and the low residual iodine value, but also by its neutral smell and taste.

therefore, preferred fields of application are those where the coatings come into contact with food.

### Compatibility:

while fatty oils and alkyl esters of fatty acids only have a very low compatibility with many plastics and synthetic resins, this compatibility can be surprisingly increased by epoxidation. However, if epoxide groups are extended in fulfilment of the stabilizing effect, it may decrease again. More detailed data on compatibility is listed on the last page of this leaflet.

## Application

### Solubility:

Efka® PL 5382 epoxy plasticizer is soluble in all aromatic and aliphatic hydrocarbons, such as benzene, toluene, xylene, tetralin, dekalin, naphtha, petroleum, in all ketones, such as acetone, methylisobutyl ketone etc., in chlorinated hydrocarbons, esters, such as ethyl acetate, butyl acetate, as well the esters of phthalic acid, adipic acid, phosphoric acid, fatty acid, etc. that are known as plasticizers. The efficiency, i.e. the advantageous influence on the whiteness of surface coatings produced with the Efka® PL 5382 epoxy plasticizer, was tested by means of the following test formulations:

### Vinyl paint (R-LH 27-12):

15 parts by weight	vinylite vagh (union carbide)
6 parts by weight	plasticizer mixture
27 parts by weight	ethyl acetate
20 parts by weight	methyl isobutyl ketone
12 parts by weight	cyclohexanone
20 parts by weight	xylene
24 parts by weight	titanium dioxide (rutile)

### Plasticizer mixture :

DOP and Efka® PL 5382 the paints were sprayed upon sheet steel and aged after drying for 45 minutes at 165 °C. As such tests demonstrate the whiteness of vinyl paints can be favourably improved by the utilisation of Efka® PL 5382 .

## recommended concentrations

for the fabrication of vinyl resins the addition of 10 -15% to the total plasticizer content will generally be sufficient. Only in special cases should it be necessary to increase this amount as far as 30%.

### Safety

When handling these products, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

### Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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