

Mesamoll®

Mesamoll® is a general purpose plasticiser with resistance. It is compatible with many types of good gelling behaviour and saponification polymers including PVC and polyurethanes.

Chemical composition	alkylsulphonic phenyl ester (ASE)
CAS Reg. No.	91082-17-6 (ASE)
Physical form	slightly yellowish, clear liquid
Health and safety information	Relevant safety data and references as well as possibly necessary warning labels can be found in the safety data sheet no. 033204.
Indication according to GefStoffV	Mesamoll is not subject to labelling according to the German Regulations on the Transport of Dangerous Goods, the German Regulation on Dangerous Substances (GefStoffV) or corresponding EU directives.

Specified Properties

Property	Nominal Value	Unit	Test Method
Refractive index n_D 20	1.499 ± 0.003		DIN EN ISO 6320 (in acc. to)
Hazen colour value	max. 350		DIN ISO 6271
Density at 20 °C	1.055 ± 0.015	g/cm ³	DIN 51 757
Viscosity at 20 °C	125 ± 15	mPa s	DIN 53 015
Water content	0.05 max.	%	DIN 51 777



Additional Information

Property	Typical Value	Unit	Test Method
Saponification number	only partial saponification possible	mg KOH/g	DIN 53 401
Pour point	approx. -32	°C	ISO 3016
Flash point (open cup)	approx. 225	°C	ISO 2592
Dissolution temperature	approx. 116	°C	DIN 53 408 (method based on)

Storage

Mesamoll should be kept in its tightly sealed original container in a dry place. If stored properly, the product is stable for 2 years.

During storage, Mesamoll should not come into contact with iron for prolonged periods since this may cause discoloration.

The materials recommended for transport and storage containers are: aluminium; stainless steel (V4A or V2A); iron at temperatures above 120°C containers with an oil-resistant coating such as DD Coating (Desmodur, Desmophen); tanks in uncoated polyester or, preferably, with an impervious DD coating.

As sealants material should be used which are resistant to Mesamoll as Viton[®], Teflon[®] or Centellen[®]

To ensure that Mesamoll can be easily pumped from outdoor tanks even at low temperatures, tanks should be well insulated and/or the plasticiser heated slightly if necessary. Warm water has proved to be a suitable heating medium. Heating coils should be made of aluminium or, if necessary, of stainless steel (V4A).

Solubility

Soluble in all common solvents but insoluble in water.

Packaging

Road tankers
1000 kg PE-containers
220 kg metal drums

These raw material properties are typical properties and, unless specifically indicated otherwise, are not to be considered as delivery specification.

Instructions and recommendations for use

Density, viscosity and vapour pressure are important variables determining storage,

the design of the storage tanks and the dimensions of pipelines and delivery pumps etc.

The graphs in Figures 1 to 3 show these data for Mesamoll.



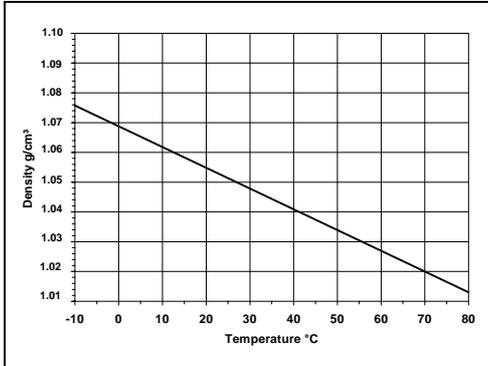


Fig. 1: Density of Mesamoll as a function of temperature (DIN 51 757)

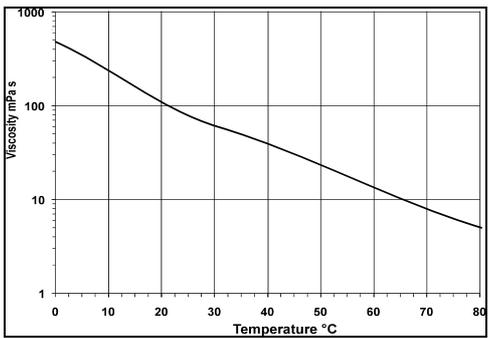


Fig. 2: Viscosity of Mesamoll as a function of temperature (DIN 53 015)

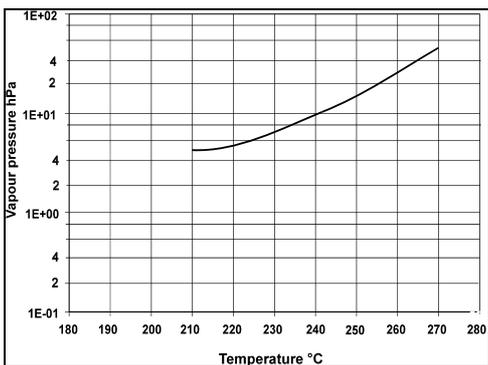


Fig. 3: Vapour pressure of Mesamoll in line with: OECD, Paris, 1981, Test Guideline 104, Decision of the Council C (81) 30 Final

General properties

Mesamoll is characterised by

- outstanding gelling capacity with a large number of polymers including PVC and polyurethanes, resulting in lower processing temperatures and shorter processing times
- high saponification resistance, especially compared to DEHP (see Fig. 4), due to Mesamoll's chemical structure; this is especially beneficial for articles which come into contact with water and alkalis.
- good compatibility with a large number of polymers such as polyurethane (PU), polyvinyl chloride (PVC), natural rubber (NR), styrene-butadiene rubber (SBR), blends of styrene-butadiene rubber and butadiene rubber (SBR/BR), isobutylene-isoprene rubber (IIR), acrylonitrile-butadiene rubber (NBR) and chloroprene rubber (CR)
- outstanding resistance to weathering and light
- good dielectric properties which give plasticised PVC outstanding weldability at high frequencies leading to shorter cycle times than with other plasticisers.

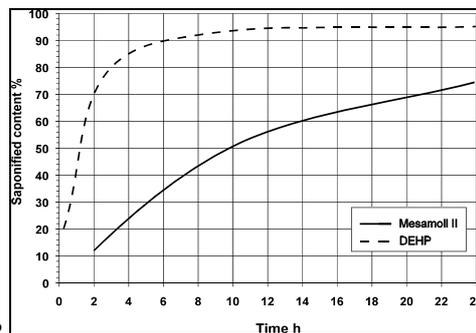


Fig. 4: Saponification rate of Mesamoll compared to commercial DEHP (DIN 53 404)



Applications

Mesamoll is used as a plasticiser for a wide range of articles based on polyurethane (PU), polyvinyl chloride (PVC), natural rubber (NR), styrene-butadiene rubber (SBR), blends of styrene-butadiene rubber and butadiene rubber (SBR/BR), isobutylene-isoprene rubber (IIR), acrylonitrile-butadiene rubber (NBR) and chloroprene rubber (CR).

Typical applications are:

- Polyurethane-based sealing and adhesive systems (One-component and Two-component systems)
Mouldable, easy-to-process sealants for filling or covering joints in structures and parts of buildings.
- Cleaning
Rinsing and service fluids for polyurethane foaming machinery
- Calendering
Film for the automotive industry, film for tunnel linings and other construction applications, swimming pool covers, shower curtains, office film, welding film, film for electrical insulation, adhesive tape.
- Rotational Moulding
Vinyl articles made by rotational casting
- Dip Moulding
PVC one way gloves and other articles which are produced by dip moulding
- Extrusion
Profiles for the automotive industry, jointing strip, tubing, weathering and alkali-resistant structural profiles, blown film.
- Injection Moulding
Work boots, technical articles
- Coatings (including spreading)
Coatings for air-supported structures and tents, occupational and protective clothing, rain-wear, bath mats, expanded film.

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Mesamoll

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