TOPAS®

Di-Ethyl-Hexyl-Sebacat
DEHS

Di-Ethyl-Hexyl-Sebacat (DEHS) is a no soluble, colourless and odourless liquid which is suitable for producing steady aerosols. The main proportion of droplets generated by aerosol generators series ATM can to be stated in the most penetration particle size (MPPS 0.2...0.3µm). DEHS is a proven aerosol liquid for challenging clean rooms and laminar flow boxes. The long life time of droplets enables also to use the aerosol for stream visualisation. DEHS evaporates completely after long times. A droplet with a 0.3 µm diameter has a life time of 4 hours.

Applications

- Generation of polydisperse aerosols with particle sizes below 1µm for filter tests and challenging clean room equipment
- Production of seeding particles for stream visualisation
- Generation of monodisperse aerosols for aerosol research applications by using the condensation principle

Special Advantages

- Long aerosol life times (also at high temperatures)
- Spherical particle
- Minimal filter contamination because of small particle sizes mainly below 1µm
- Well known optical properties

Specifications

Name	Di-Ethyl-Hexyl-Sebacat
CAS-No.	122-62-3
Formula	$C_{26}H_{50}O_4$
Molare mass	426.69g/mol
Density	912kg/m^3
Dynamic viscosity	22 ... 24 mPa s
Melting point	225K (-48°C)
Boiling point	232 - 249°C
Vapour pressure (293K)	<1Pa
Flash point	>473K (>200°C)
Surface tension	3.2 10^{-2}N/m

Refractive index	Wavelength, nm
1.450	650
1.452	600
1.4535	550
1.4545	500
1.4585	450

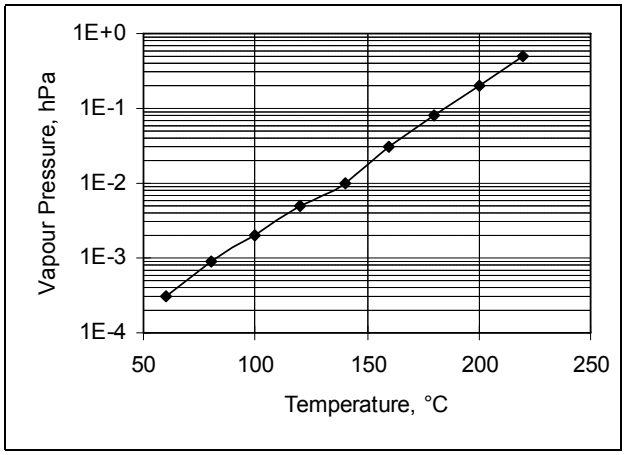

Figure 1: Vapour Pressure Dependency of DEHS

Excerpt from the Producer's Material Safety Data Sheet (29 June 2008)

Hazards identification

- Hazard designation: void
- Information pertaining to particular dangers for man and environment: void

First-aid measures

- After inhalation: supply fresh air
- After skin contact: instantly wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water, seek medical advice if necessary.
- After swallowing: Rinse out mouth and then drink plenty of water. In case of persistent symptoms consult doctor.

Fire-fighting measures

- extinguishing media: foam, fire-extinguishing powder, carbon dioxide, water spray jet
- For safety reasons unsuitable extinguishing agents: Water with a full water-jet.

Accidental release measures

- Do not inhale vapours/aerosols.
- Environmental-protection measures:
  Do not allow to enter drainage system, surface or ground water.
- Measures for cleaning/collecting: Absorb with liquid-binding material (e.g. sand, universal binders, sawdust).

Handling and storage

- Keep containers tightly sealed.
  Keep away from heat and direct sunlight.
  Store in cool, dry place in tightly closed containers.
- National regulations/information:
  Storage class VCI: 10

Transport information

- Not dangerous according to RID/ADR, GGVS/GGVE, ADNR, IMDG, ICAO-TI/IATA-DGR.

Stability and reactivity

- Conditions to be avoided:
  No decomposition if used according to specifications
- Dangerous reactions:
  No dangerous reactions known
- Dangerous products of decomposition: None

Toxicological information

- When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- Acute oral toxicity: LD50 > 2000mg/kg (rat)

Ecological information

- easily biodegradable.
- Acute fish toxicity:
  LC50 >10 - <=100 mg product/l
  Acute bacteria toxicity: EC0 > 100mg product/l

Disposal considerations

- After prior treatment product has to be disposed of in an incinerator for hazardous waste under adherence to the regulations pertaining to the disposal of particularly hazardous waste.

Regulatory information

- Designation according to EC guidelines:
  The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStiffV).
- National regulations/information: Not a water-endangering product.

DEHS - Available Quantities

DEHS can be ordered in following quantities at Topas GmbH:

- 0.5l bottle
- 1l bottle
- 5l bottle
- 20l canister

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