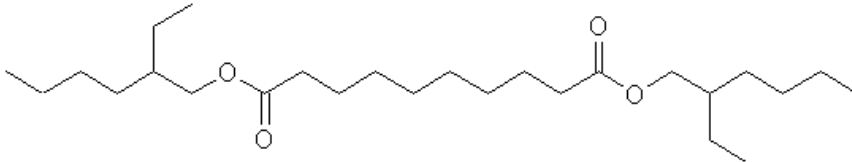


Datenblatt

DI(2-ETHYLHEXYL) SEBACATE: (DEHS)

Chemical structure:



$C_{26}H_{50}O_4/CH_3(CH_2)_3CH(C_2H_5)CH_2OOC(CH_2)_8COOCH_2CH(C_2H_5)(CH_2)_3CH_3$

Molecular mass: 426.7

Important specifications of 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 be stated in the most penetration particle size (MPPS 0.2...0.3 μm). 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 1 μm 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 1 μm
- Well known optical properties

Specifications

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

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

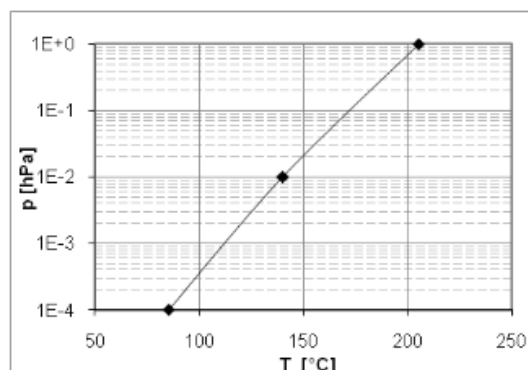


Figure 1: Vapour Pressure Dependency of DEHS

Other designations:

Sebacic acid, bis(2-ethylhexyl)ester

Bis(2-ethylhexyl) sebacate

Decanedioic acid, bis(2-ethylhexyl) ester

Dioctyl sebacate

EINECS-Nr.: 204-558-8

Industrial specifications:

- Total Acid Number (mg KOH/g): 0.3 max.
- Appearance: Oily colourless liquid (Hazen): 100 max.
- Saponification number: 262 – 272 water: 0.1 % max.

Import/Export HS-code: 2917 19 90

Auszüge aus dem Sicherheitsdatenblatt des Herstellers (Stand 29.06.2008)**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, ADN, 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 (GefStoffV).
- National regulations/information: Not a water-endangering product.

DEHS - Available Quantities

DEHS can be ordered in following quantities at Topas GmbH:

- 1 l bottle
- 1 l bottle with safety lock and certificate
- 5 l bottle
- 20 l canister

Auszug aus: International Chemical Safety Cards ICSC 1290

Safety Information:

- Physical State; Appearance: Oily colourless liquid
- Physical dangers: none
- Chemical dangers: Reacts with oxidants.
- Occupational exposure limits: TLV not established.
- Routes of exposure: none
- Inhalation risk: No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20°C.
- Effects of short-term exposure: none
- Effects of long-term or repeated exposure: none

Important specifications:

- Boiling point at 0.7kPa: 256°C
- Melting point: -48°C
- Relative density (water = 1): 0.9
- Solubility in water: none
- Vapour pressure, Pa at 37°C: 0.000024
- Relative vapour density (air = 1): 14.7
- Flash point: 210°C o. c.

Note: Health effects of exposure to the substance have been investigated, but none has been found. Bisoflex DOS, Monoplex DOS, Octoil S, PX 438, Staflex DOS, Uniflex DOS, Plexol 201, Edenol 888, Reolube DOS are trade names.

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