

Bis(3Triethoxysilylpropyl)disulfide (TESPD)

Usage Policy

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Chemical Formula : $C_{18}H_{42}O_6Si_2S_2$

General Statement:

- ❖ Bis[3-(triethoxysilyl)propyl] disulfide is primarily used as chemical intermediate as coupling or cross linking agent.
- ❖ Bis[3-(triethoxysilyl)propyl] disulfide should not enter surface water and soil.
- ❖ Based on the physical-chemical and toxicological/ecotoxicological properties Bis[3-(triethoxysilyl)propyl] disulfide is not classified or labelled.

Chemical Identity

- Chemical name (IUPAC) Bis[3-(triethoxysilyl)propyl] disulfide
- Molecular formula $C_{18}H_{42}O_6S_2Si_2$
- Molecular weight 448
- Structure $(OC_2H_5)_3Si-(C_2H_3)-S_2-(C_2H_3)-Si(OC_2H_5)_3$

Uses & Applications

Bis[3-(triethoxysilyl)propyl] disulfide (having a trialkoxy functionality) is used as a coupling agent to chemically modify the silica surface.

Physical & Chemical Properties

Property	Value
Physical state	liquid
Color	yellow
Odor	characteristics
Density	1.0 g/cm ³ at 20°C
Melting / Boiling point	< -20°C/ 269°C at 101.3 kPa
Explosives Property	No explosive properties
Auto-ignition Temperature	230°C
Vapor Pressure	9 Pa at 20 °C
Water Solubility	< 1 mg/l at 20°C, decomposition by hydrolysis
Flash Point	129°C at 101.3 kPa
Viscosity	8 mPa s (dynamic)

Health Effects

Effect Assessment	Result
Acute toxicity (oral, dermal and inhalation)	Not harmful, not toxic
Eye / Skin irritation	Not irritating.
Sensitization	Not sensitizing
Toxicity after repeated exposure	Not harmful, not toxic
Genotoxicity / mutagenicity	Not mutagenic / genotoxic
Carcinogenicity	There is no evidence of carcinogenicity
Toxicity for reproduction	There is no evidence of reproduction toxicity

Personal Precautions

Avoid contact with eyes and skin. Avoid contact with liquids and vapors.

Personal Protective equipment to be used for handling

Wear protective gloves(butyl, neoprene, nitrile gloves); safety glasses with side shields; chemical protective clothing.

9. Handling & Storage

Do not swallow, do not get in eyes, on skin and on clothing. Avoid breathing vapor, aerosol and mist. Use with adequate ventilation. Keep away from heat and flame. Keep container closed.

10. Authorized users list

Dr. Madhuri Vinchurkar- 9769754464

Sandeep Surya- 9619759355

11. References: <http://www.capatue.com>

12. Disposal

Disposal of gloves, pipettes etc material used during the usage of chemical: Used wafers/ substrate/ waste can be disposed in two zip-look bags.

Thank You