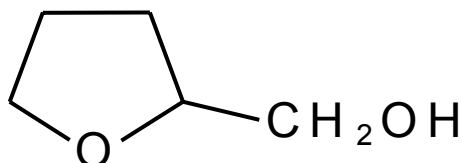


Technical Data Sheet No. 120a



Tetrahydrofurfuryl Alcohol (THFA®)

Low Cost, Biodegradable Solvent/Adjuvant for the Agricultural Industry – Produced from Natural Resources

EPA approved solvent exempt from the requirements of a tolerance for both pre- and post-harvest applications under 40 CFR 180.910 (formerly 40 CFR 180.1001(c))

Uses

- Solvent/adjuvant for insecticides, pesticides, fungicides, herbicides, and biocides
- Protection and treatment of plants exposed to chilling temperature

Important Agricultural-Use Properties

- Water-miscible liquid having very low odor
- Low vapor pressure/low evaporation rate
- High solvency for active ingredients
- Pounds per gallon (20°C): 8.79
- High flash point (183°F/84°C)
- Readily biodegradable with low toxicity
- Low viscosity even at reduced temperatures
- Excellent penetration ability
- Low phytotoxicity
- Low freezing point (<-80°C)

Registration

- CAS Registry Number: 97-99-4
- Not classified as hazardous waste
- Listed on TSCA, DSL, ENCS, ECL, PICCS, and others
- 40 CFR 180.910 (formerly 40 CFR 180.1001(c))
- Not on hazardous air pollutant (HAP) list
- EINECS Number: 202-625-6
- FEMA GRAS listing
- Direct and indirect food contact listing
- Not on SARA list
- Cleared for Ag-use under California Rule 66

Toxicological Information

- Not listed as a carcinogen by NTP, IARC or by California Proposition 65

Tetrahydrofurfuryl Alcohol (THFA®)

Physical Properties of THFA®

Molecular Weight	102.13g/mol	Kauri-Butanol Value	>150
Appearance	Colorless Liquid	Specific Heat, liquid at 20°C, cal/g°C.....	0.424
Boiling Point at 760 mm, °C	178	Heat of Vaporization, cal/g	120.6
Vapor Pressure at 20°C, mmHg.....	0.11	Heat of Combustion, kcal/mol (at constant pressure)	709.5
Freezing Point, °C.....	Below -80°C	Flash point (open cup) °C	84
Specific Gravity at 20/20°C	1.054	°F.....	183
Pounds per Gallon at 20°C	8.79	Auto-Ignition Temperature, °C.....	282
Refractive Index n_D^{20}	1.452	Flammability Limits in Air Lower vol %.....	1.5
Surface Tension at 25°C, dynes/cm.....	37	Upper vol %.....	9.7
Viscosity at 20°C, cps Absolute	6.24	Dielectric Constant at 23°C	13.6
Solubility Parameter (Hansen Solubility Theory)		Relative Evaporation Rate (<i>n</i> -butyl acetate=1.00)	0.03
Nonpolar	9.8		
Polar	5.0		
Hydrogen Bonding	7.8		
Rate of Biodegradation			
Sludge Test, mg COD/g hr.....	40.0		

Contact Information

United States:

3324 Chelsea Avenue • Memphis, TN 38108

Phone: 877-895-PENN • Fax: 901-320-4002

www.pennakem.com • Email: PennUSA@pennakem.com

Europe:

Merwedeweg 4 • Port # 5630 • NL-3198 LH Europoort • The Netherlands

Phone: 0031 181 261 110 • Fax: 0031 181 261 140

Email: PennEuro@pennakem.com • Check www.pennakem.com for European Agent Contacts