

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: RTF-T-401
City: xxx
State: xxx
Company: xxx
Type of Tank: Vertical Fixed Roof Tank
Description: Methanol Tank

Tank Dimensions

Shell Height (ft): 35.00
Diameter (ft): 12.00
Liquid Height (ft) : 28.00
Avg. Liquid Height (ft): 24.00
Volume (gallons): 23,688.83
Turnovers: 330.00
Net Throughput(gal/yr): 7,817,313.57

Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Methyl alcohol	All	75.04	68.08	81.99	72.61	2.2799	1.8518	2.7896	32.0400			32.04	Option 2: A=7.897, B=1474.08, C=229.13

Detail Calculations

Annual Emission Calculations

Standing Losses (lb): 249.2918
Vapor Space Volume (cu ft): 1,337.1595
Vapor Density (lb/cu ft): 0.0127
Vapor Space Expansion Factor: 0.0974
Vented Vapor Saturation Factor: 0.4118

Tank Vapor Space Volume:
Vapor Space Volume (cu ft): 1,337.1595
Tank Diameter (ft): 12.0000
Vapor Space Outage (ft): 11.8231
Tank Shell Height (ft): 35.0000
Average Liquid Height (ft): 24.0000
Roof Outage (ft): 0.8231

Vapor Density
Vapor Density (lb/cu ft): 0.0127
Vapor Molecular Weight (lb/lb-mole): 32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 2.2799
Daily Avg. Liquid Surface Temp. (deg. R): 534.7094
Daily Average Ambient Temp. (deg. F): 72.5875
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)): 10.731
Liquid Bulk Temperature (deg. R): 532.2775
Tank Paint Solar Absorptance (Shell): 0.1700
Tank Paint Solar Absorptance (Roof): 0.1700
Daily Total Solar Insulation Factor (Btu/sqft day): 1,817.3490

Working Losses (lb): 3,502.0880
Vapor Molecular Weight (lb/lb-mole): 32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia): 2.2799
Annual Net Throughput (gal/yr.): 7,817,313.5700
Annual Turnovers: 330.0000
Turnover Factor: 0.2576
Maximum Liquid Volume (gal): 23,688.8294
Maximum Liquid Height (ft): 28.0000
Tank Diameter (ft): 12.0000
Working Loss Product Factor: 1.0000

Total Losses (lb): 3,751.3798

Emissions Report for: Annual

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	3,502.09	249.29	3,751.38