

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification
 User Identification: NIER Ingegneria - Serbatoio Tor di Valle
 City: Roma
 State: Italia
 Company: AceaElectrabel Produzione
 Type of Tank: Vertical Fixed Roof Tank
 Description: Centrale Tor di Valle - Serbatoio Gasolio

Tank Dimensions
 Shell Height (ft): 39,70
 Diameter (ft): 67,60
 Liquid Height (ft): 4,90
 Avg. Liquid Height (ft): 3,10
 Volume (gallons): 131.556,57
 Turnovers: 0,00
 Net Throughput(gal/yr): 0,00
 Is Tank Heated (y/n): 0,00

Paint Characteristics
 Shell Color/Shade: N
 Shell Condition: Gray/Light Good
 Roof Color/Shade: Gray/Light Good
 Roof Condition: Good

Roof Characteristics
 Type: Cone
 Height (ft): 3,00
 Slope (ft/ft) (Cone Roof): 0,09
Breather Vent Settings
 Vacuum Settings (psig): -0,03
 Pressure Settings (psig): 0,03

Meteorological Data used in Emissions Calculations: Rome, italia (Avg Atmospheric Pressure = 14 psia)

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Liquid Contents of Storage Tank

NIER Ingegneria - Serbatoio Tor di Valle - Vertical Fixed Roof Tank
Roma, Italia

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.					
Gasolio autoirazione montemarfini	All	64,34	58,32 70,36	61,74	0,0495	0,0412	0,0585	233,0000		233,00	Option 1: VP60 = .0431 VP70 = .0578

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Detail Calculations (AP-42)

NIER Ingegneria - Serbatoio Tor di Valle - Vertical Fixed Roof Tank Roma, Italia

Annual Emission Calculations	
Standing Losses (lb):	3,951.9054
Vapor Space Volume (cu ft):	134,949.4496
Vapor Density (lb/cu ft):	0.0021
Vapor Space Expansion Factor:	0.0430
Vented Vapor Saturation Factor:	0.9102
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	134,949.4496
Tank Diameter (ft):	67.6000
Vapor Space Outage (ft):	37.6000
Tank Shell Height (ft):	39.7000
Average Liquid Height (ft):	3.1000
Roof Outage (ft):	1.0000
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.0000
Roof Height (ft):	3.0000
Roof Slope (ft/ft):	0.0900
Shell Radius (ft):	33.8000
Vapor Density	
Vapor Density (lb/cu ft):	0.0021
Vapor Molecular Weight (lb/lb-mole):	233.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0495
Daily Avg. Liquid Surface Temp. (deg. R):	524.0090
Daily Average Ambient Temp. (deg. F):	59.5000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	521.4100
Tank Paint Solar Absorbance (Shell):	0.5400
Tank Paint Solar Absorbance (Roof):	0.5400
Daily Total Solar Insulation Factor (Btu/sqft day):	840.2700
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0430
Daily Vapor Temperature Range (deg. R):	24.0809
Daily Vapor Pressure Range (psia):	0.0173
Breather Vent Press. Settling Range (psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0495
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0412
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0585
Daily Avg. Liquid Surface Temp. (deg R):	524.0090
Daily Min. Liquid Surface Temp. (deg R):	517.9888
Daily Max. Liquid Surface Temp. (deg R):	530.0292
Daily Ambient Temp. Range (deg. R):	15.8000

Vented Vapor Saturation Factor: 0.9102
 Vented Vapor Saturation Factor:
 Vapor Pressure at Daily Average Liquid:
 Surface Temperature (psia): 0.0495
 Vapor Space Outage (ft): 37.6000

 Working Losses (lb): 0.0000
 Vapor Molecular Weight (lb/lb-mole): 233.0000
 Vapor Pressure at Daily Average Liquid:
 Surface Temperature (psia): 0.0495
 Annual Net Throughput (gal/yr.): 0.0000
 Annual Turnovers: 0.0000
 Turnover Factor: 1.0000
 Maximum Liquid Volume (gal): 131,556.5723
 Maximum Liquid Height (ft): 4.9000
 Tank Diameter (ft): 67.6000
 Working Loss Product Factor: 1.0000

 Total Losses (lb): 3,951,9054

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Individual Tank Emission Totals

Emissions Report for: Annual

NIER Ingegneria - Serbatoio Tor di Valle - Vertical Fixed Roof Tank
Roma, Italia

Components	Losses (lbs)		Total Emissions
	Working Loss	Breathing Loss	
Gasolio	0,00	3,951,91	3,951,91