

GDF Air Pollutant Emission Factors

Gasoline Dispensing Facility: Air Pollutant Emission Factors

This air pollutant emission factor data sheet is being provided by the Ohio EPA, Division of Air Pollution Control. The emission factors listed below are found in USEPA publication AP-42, Table 5.2-7, Evaporative Emissions from Gasoline Service Station Operations:

EMISSION SOURCE AT GASOLINE DISPENSING FACILITY	EMISSION RATE (lbs OC/1000 gal throughput)see footnote a
Underground Tank Filling	
Splash Filling	11.5
Submerged Filling	7.3
Submerged Filling and Stage I vapor control	0.3
Vehicle Tank Refueling	
Displacement losses (no control)	11.0
Displacement losses with Stage II vapor control	1.1
Other	
Vehicle refueling spillage	0.7
Underground tank breathing and emptying	1.0

Examples

CASE #1: Gasoline tank(s) equipped with submerged filling; and no control for vehicle tank refueling:

OC emission factor: $(7.3+11.0+0.7+1.0) = 20.0$ lbs OC/1000 gallons

CASE #2: Gasoline tank(s) equipped with submerged filling and Stage I vapor control; and no control for vehicle tank refueling:

OC emission factor: $(0.3+11.0+0.7+1.0) = 13.0$ lbs OC/1000 gallons

CASE #3: Gasoline tank(s) equipped with submerged filling and Stage I vapor control; and Stage II vapor control for vehicle tank refueling:

OC emission factor: $(0.3+1.1+0.7+1.0) = 3.1$ lbs OC/1000 gallons

Footnotes

a. Emission rates (factors) are expressed in pounds (lbs) of organic compounds per 1,000 gallons of gasoline throughput. Emission factors are for volatile organic compound (VOC) emissions as well as total organic compound (OC) emissions, because the methane and ethane content of gasoline

emissions is negligible.

Note: Due to the low vapor pressure of diesel and kerosene, the OC emissions from tank filling and dispensing of these products have not been calculated. It is presumed that the OC emissions from the handling of diesel and kerosene will be less than 0.5 ton per year.