Hydrocarbons are defined as the organic constituents of vehicle exhaust as measured by a hexane-sensitized nondispersive, infrared analyzer or by an equivalent method.[1]

Carbon monoxide shall be measured by a nondispersive infrared analyzer or by an equivalent method.

Oxides of nitrogen shall be measured by the phenoldisulfonic acid method or by an equivalent method.

The standards refer to a composite sample representing the driving cycle described as follows:

TABLE I[1]

Condition	Rate of speed change miles per hour per second	Percent of total time	Percent of total sample volume
Idle		15.0	4.2
Cruise (miles per hour):			
20		6.9	5.0
30		5.7	6.1
40		2.7	4.2
50		.7	1.5
Acceleration (miles per hour):			
0 to 60	3.0	1.1	5.9
0 to 25	2.2	10.6	18.5
15 to 30	1.2	25.0	45.5
Deceleration (miles per hour):			
50 to 20	1.2	10.2	2.9
30 to 15	1.4	11.8	3.3
30 to 0	2.5	10.3	2.9
Total		100.0	100.0

[1] If other test cycles are used, they must represent urban driving and the emissions must be relatable to the composite sample from the driving modes described in table I.

Crankcase Emissions

The standard for motor vehicle crankcase emissions is: Hydrocarbons—0.1 percent by weight of the supplied fuel. The standard refers to a composite sample representing the modes of engine operation described as follows:

Mode of operation	*Percent of total time*
Idle	19
30 mph—16 inch mercury manifold vacuum	37
30 mph—10 inch mercury manifold vacuum	11
30 mph—2 inch mercury manifold vacuum	8
Deceleration	25

Fuel Tank Emissions

The standard for fuel tank emissions is: Hydrocarbons—6 grams per day.[2]

Carburetor Hot Soak Emissions

The standard for carbuertor hot soak emissions is: Hydrocarbons—2 grams per soak.[3]

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[1] Some hydrocarbons, for example methane, ethane, propane, n-butane and acetylene, are not considered sufficiently reactive to produce photochemical smog effects. The Department is working on methods which measure the reactive organic compounds in exhaust and will restate the hydrocarbon standard in terms of reactive hydrocarbons when methods and data satisfactory to the Department are developed.

[2] The standard refers to emissions in a 24-hour day when the minimum temperature is 60°F. and the maximum is 90°F., and when the fuel tank is between one-fourth and one-half full, averaging three-eighths full. The standard was developed from data obtained when fuels averaging a Reid Vapor Pressure of approximately 9 were used, and when hydrocarbon emissions were collected in condensing traps at dry ice temperature. Equivalent methods and other conditions may be used if approved by the Department of Public Health.

[3] The standard refers to emissions from the carburetor of an automotive engine operated to an equilibrium coolant temperature of 180° F. minimum and when the ambient air temperature is from 85 to 95° F. minimum. The soak duration is one hour. The standard was developed from data obtained when fuels averaging a Reid Vapor Pressure of approximately 9 were used in the test vehicles, and when hydrocarbon emissions were collected in condensing traps at dry ice temperature. Equivalent methods and other conditions may be used if approved by the Department of Public Health.