## California Environmental Protection Agency

# **O** Air Resources Board

FORD MOTOR COMPANY

Executive Order: A-010-2008

New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles

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Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC), Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: The following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

					TEST GROU	P IN	FORMATI	ON						
MODE		EST GI	ROUP	VEHIC	LE CLASS(ES)		F	FUEL C	ATEC	SORY	FUEL TYPE			
2017	HF	MXV01	.0VD4		PC		DEDI		SING	GLE FUEL	GASOLINE			
ī	USEFUL	LIFE	(miles)	VEI	HICLE EMISSIC	N C	ATEGOR	Y	IN'	TERIM / INT	ERMEDIA	TE IN-USE STD		
	/ORVR		EVAP		FTP		SFTP			FTP	SFTP			
12	120000		150000	TRAN BIN11	COUNTED		LEV 2 SFTP STANDARD		*			*		
SPE	CIAL FE	ATUR		AUST EMISSI	ON CONTROL			OBD ST	TATU	S	ENGINE	DISPLACEMENT (L)		
1	T	WC, W	R-HO2S,	HO2S, CAC,	TC, DFI		FULL ALL MODELS							
*				*			PART	TAL *		1.0				
*				*			PARTIAL FINE	- · · · · · · · · · · · · · · · · · · ·						
			EV	APORATIVE 8	REFUELING (	EVA	P/ORVR)	FAMILY	INF	ORMATION				
EVA	P / ORV	R FAN	MILY	EVAPORATIV	E STD CATEGO	ORY		AP EMIS			SPECIA	L FEATURES		
H	IFMXR0	10GBA	4	1	LEV 2	EV 2 PC		PC		*				
					EMISSION CRI	EDIT	INFORM	ATION						
	A	LLOW	ANCE FO	R TEST GROU	JP	N	IMOG CRI	EDIT FO	DR	NMOG CRI	EDIT FOR	OPTIONAL EXH		
BASE	ELINE P	ZEV	АТ	PZEV	TZEV	NO	N-PZEV Z	ERO-E	VAP	DOR STD FOR WE TRUCKS				
	*			*	*		N	1		N	N N			
				NMO	G AND FLEET	AVE	RAGE INF	ORMAT	TION					
NMOG RAF	CH4 RAF	NMO	FTP G/NMHC ATIO	HCHO/NMHC RATIO	NMOG+NOX PC+LDT (0-	3750		LDT (	3751	( FLEET ST LVW-8500 MDPV (g/mi)	MDV	NOX FLEET STD (10001-14000 VWR) (g/mi)		
*	*		1.04	*	0.	086			0.	101		*		

See the Attachment for Vehicle Models, Evaporative Family, Engine Displacement, Emission Control Systems, Phase-In Standards, OBD Compliance, Emission Standards and Certification Levels, and Abbreviations.

#### BE IT FURTHER RESOLVED:

The exhaust and evaporative emission standards and the certification emission levels for the listed vehicles are as listed on the Attachment. Compliance with the 50° Fahrenheit testing requirement may have been met based on the manufacturer's submitted compliance plan in lieu of testing. Any debit in the manufacturer's NMOG+NOx and greenhouse gas Fleet Average (PC or LDT or MDPV) or "Vehicle Equivalent Credit" (MDV) compliance plan shall be equalized as required.

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# BE IT FURTHER RESOLVED:

For the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

#### BE IT FURTHER RESOLVED:

The listed vehicle models are federally certified, and are certified under the provisions of 13 CCR Section 1961.2(a)(12) and the incorporated test procedures.

Vehicles certified under this Executive Order shall conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this day of October 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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# **ATTACHMENT**

EXHAU	ST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS
E.	XHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP, HWFET, 50°F, 20°F)
	CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbo

FUEL TYPE

CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbon monoxide; NOx: oxides of nitrogen; HCHO: formaldehyde; PM: particulate matter; RAF: reactivity adjustment factor; 2DHS/3DHS [g HC/test]: 2/3 days diurnal+hot-soak; RL [g HC/mi]: running loss; ORVR [g HC/gallon dispensed]: on-board refueling vapor recovery; g: gram; mg: milligram; mi: mile; K: 1000 miles; F: degrees Fahrenheit; FTP: federal test procedure; SFTP: supplemental FTP

		NMOG+NOx (g/mi)		CO (g/mi)		NOx (g/mi)		HCHO (mg/mi)		PM (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	*	*	*	*	*	*	*	*	*	*	*
FTP@UL	GASOLINE - TIER 2 UNLEADED	0.0599	0.110	0.79	2.1	*	*	*	4	*	0.010
50°F @4K	*	*	*	*	*	*	*	*	*		

	FUEL TYPE	NMOG+N	lOx (g/mi)	CO	(g/mi)	
	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	*	*	*			
HWFET @ UL	GASOLINE - TIER 2 UNLEADED	0.0230	0.110			
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE			0.98	10.0	

## SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

		1		US06		SC03	3	COMPOSITE		
	FUEL TYPE		NMHC+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMHC+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
@ 4K	GASOLINE - TIER 2 UNLEADED	CERT	0.084	0.89		0.041	1.93			
0		STD	0.14	8.0		0.20	2.7		ALCON .	100.22
		CERT	*	*	*	*	*	0.0715	*	*
@ UL	GASOLINE - TIER 2 UNLEADED	STD	*	*	*	*	*	0.103	*	*
		BIN					第245E	0.110		

# WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY	FUEL TYPE		WHOLE						
		3DHS	S (g/test) (	@ UL	2DI	HS (g/test) @	RL (g/mi) @ UL		
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
HFMXR0110GBA	E10-EPA	0.258	0.50	*	*	0.65	*	0.001	0.05

## ORVR / FUEL ONLY / CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

				FUEL ONLY EVAP & CANISTER BLEED								
EVAPORATIVE FAMILY	ORVR (g/g	gallon) @	UL	FUEL TYPE	3DHS RIG TEST (g/test) @ UL		2DHS RIG TEST (g/test) @ UL		BLEED CANISTER TEST (g/test) @ 4K			
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD		
HFMXR0110GBA	E10-EPA	0.011	0.20	*	*	*	*	*	*	*		

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\*: not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: LDT<6000#GVWR.3751-5750#LVW; LDT3: LDT 6001-8500#GVWR.3751-5750#ALVW; LDT4: LDT 6001-8500#GVWR.5751-8500#ALVW; MDV: medium-duty vehicle; MDV4: MDV 8501-10000#GVWR; MDV5: MDV 10001-14000#GVWR; MDPV: mediumduty passenger vehicle; HDV; heavy-duty vehicle; ECS; emission control system; CERT; certification; STD; standard; FEL; family emission limit; GVWR: gross vehicle weight rating; LVW: loaded vehicle weight; ALVW: adjusted LVW; LEV: low emission vehicle; ULEV: ultra LEV; SULEV: super ULEV; ZEV: zero-emission vehicle; PZEV: partial ZEV; AT PZEV: advanced technology PZEV; TZEV: transitional ZEV; TWC/OC: 3-way/oxidizing catalyst; ADSTWC: adsorbing TWC; HAC: HC adsorbing catalyst; WU: warm-up catalyst; NAC: NOx adsorption catalyst; SCR-U or SCRC/SCR-N or SCRC-NH3: selective catalytic reduction-urea/ammonia; NH3OC: ammonia oxidation catalyst; CTOX/PTOX: continuous/periodic trap oxidizer; DPF: diesel particulate filter (active); GPF: PM filter for spark-ignited engine; HO2S/O2S; heated/oxygen sensor; WR-HO2S or AFS; wide range/linear/heated air-fuel ratio sensor; NOXS: NOx sensor; PMS: PM sensor; RDQS: reductant quality sensor; NH3S: ammonia sensor; EGR: exhaust gas recirculation; EGRC: EGR cooler; AIR/AIRE: secondary air injection (belt driven)/(electric driven); PAIR: pulsed AIR; SFI/MFI: sequential/multiport fuel injection; DFI/IFI: direct/indirect fuel injection; TC/SC: turbo/super charger; CAC: charge air cooler; F/P/\$: full/partial/partial with fines on-board diagnostic; DOR: direct ozone reducing; HCT: hydrocarbon trap; BCAN: bleed carbon canister; prefix 2: parallel; (2) suffix: series; CNG/LNG: compressed/liquefied natural gas; LPG: liquefied petroleum gas; E85: "85%" ethanol ("15%" gasoline) fuel; E10: "10%" ethanol ("90%"gasoline) fuel; A: automatic (with lockup); M: manual transmission; SA: semi-automatic transmission; CV continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission

#### 2017 MODEL YEAR: VEHICLE MODELS INFORMATION **ENGINE EVAPORATIVE EXH** MODEL **VEH CLASS** TRANS TYPE OBD **PZEV TYPE** MAKE **FAMILY ECS** (L) HFMXR0110GBA FORD 1.0 1 FOCUS FWD PC M6,SA6 F