

#### HYUNDAI MOTOR COMPANY

Executive Order: A-254-0388

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

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Pursuant to the authority vested in California 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: That 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 GRO	OUP IN	FORM	MATION				
MODE	_ 1 _ 1	EST GROUP	ROUP VEHICLE CLASS(ES)					FUEL CATEGORY			FUEL TYPE	
2019	2019 KHYXV02.0CE3 PC DEDICATED SINGLE FUEL VEHICLE GASOLINE						GASOLINE					
	USEFUL	LIFE (miles)		VE	HICLE EMISS	SSION CATEGORY INTERIM / INT			ITERM	ERMEDIATE IN-USE STD		
EXH	EXH/ORVR EVAP FTP						SFT	Р	FTP		SFTP	
15	50000	150000		LEV3	SULEV30	LEV	3 CO	MPOSITE	*		PM	
SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS					L		OBD S	TATUS	EN	GINE DISPLACEMENT (L)		
1	5	FI, WR-HO2S,	HO2	s, wu-T	WC, TWC			FULL	*			
*	* *						PARTIAL ALL MODELS		11	2.0		
* *							TAL WITH	*				
		EV	APOF	RATIVE &	REFUELING	(EVAI	PIORV	(R) FAMILY	INFORMATIO	N		
EVA	P / ORV	R FAMILY	EVAF	PORATIVE	E STD CATE	GORY			SSION STD E CLASS	SF	PECIAL FEATURES	
I	KHYXR01	30CEG		LEV 3	OPTION2			P	·c		HCT	
				1	EMISSION CI	REDIT	INFO	RMATION				
	EDIT FO	X FLEET AVE. OR EXTENDED RRANTY			REDIT FOR N ZERO-EVAP	ON-PZ	EV	NMOG CI	REDIT FOR DO		OPTIONAL EXH. STD FOR WORK TRUCKS	
		N			N				N		Ň	
				NMOG	AND FLEET	AVEF	RAGE	INFORMA	TION			
NMOG RAF	CH4 RAF	FTP NMOG/NMHC RATIO	1	O/NMHC ATIO	NMOG+NO PC+LDT ((			LDT (	+NOX FLEET S (3751 LVW-850 R) + MDPV (g/m	0	NMOG+NOX FLEET STD MDV (10,001-14,000 GVWR) (g/mi)	
*	*	1.10		*	0	.072			0.083		*	

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.



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#### 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 fleet average compliance requirement for NMOG+NOx or Vehicle Equivalent Credit (13 CCR Sections 1961.2(b)(1), 1961.2(b)(3), or 1961.2(c)(3), and the incorporated test procedures, as applicable), or Greenhouse Gas Emissions (13 CCR Section 1961.3, or 17 CCR Section 95663, and the incorporated test procedures, as applicable), for PC, LDT, MDPV or MDV shall be equalized as required.

#### 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 and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

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 \_\_\_\_

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division



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### ATTACHMENT

EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS			

EVUNO	EMISSION STANDARDS AND CERTIFICATION LEVELS (FTF, HWY E1, 30 T, 20 T)
	CH4: methane: NMOG: non-CH4 organic gas: HC: hydrocarbon: NMHC: non-CH4 HC: CO: carbo

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

#### **FUEL TYPE**

		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- LEV3 E10	0.018	0.030	0.3	1.0	*	*	•	4	0.001	0.003
50°F @4K	GASOLINE- LEV3 E10	0.015	0.060	0.3	1.0	*	*	•	8		

	FUEL TYPE	NMOG+N	lOx (g/mi)	CO (	g/mi)
	FUEL TYPE	CERT	STD	CERT	STD
HWFET @ 50K	*		*		
HWFET @ UL	GASOLINE-LEV3 E10	0.008	0.030		
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE		F .	1.4	10.0

## SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

4437				US06		SC03	3	COM	POSITE	
	FUEL TYPE		NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMOG+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
@ 4K	*	CERT		•		*	*			
@ 41.		STD	* .	*		*	*			
		CERT	*	*	2	*	*	0.016	1.5	*
@ UL	GASOLINE- LEV3 E10	STD	•	*	6		*	0.090	4.2	*
		BIN						0.030		

#### WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

			WHOLE						
EVAPORATIVE FAMILY	FUEL TYPE	3DH	S (g/test) (	@ UL	2D	HS (g/test) @	RL (g/mi) @ UL		
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
KHYKR0130CEG	GASOLINE- LEV3 E10	0.256	0.300	*	0.194	0.300	*	0.03	0.05

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

				FUEL ONLY EVAP & CANISTER BLEED								
EVAPORATIVE FAMILY	ORVR (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		
KHYXR0130CEG	GASOLINE- TIER3 E10	0.01	0.20	GASOLINE- LEV3 E10	*	*	*	*	0.006	0.020		



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EFFECTIV	E LEAK DIAMETER STANDA	ARD AND CERTIFICATION L	LEVEL (INCHES)
EVAPORATIVE FAMILY	LEAK FAMILY	CERT	STD
KHYXR0130CEG	KHYXR0130CEG-AD1	0.00	0.02

\*: not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2;</p> LDT<6000#GWR,3751-5750#LVW; LDT3: LDT 6001-8500#GWR,3751-5750#ALVW; LDT4: LDT 6001-8500#GWR,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; 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; FFH: fuel fired heater; 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; AER: all-electric range; EAER: equivalent AER; PHEV: plug-in hybrid electric vehicle

# 2019 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	ECS	OBD
HYUNDAI	ELANTRA	PC	2.0	SA6	KHYXR0130CEG	1	P
HYUNDAI	ELANTRA SE	PC	2.0	SA6	KHYXR0130CEG	1	P