

**Changes to legislation:** There are currently no known outstanding effects for the Regulation (EU) No 168/2013 of the European Parliament and of the Council, ANNEX VI. (See end of Document for details)

## ANNEX VI

Pollutant emission limit values, OBD thresholds and sound-level limit values for type-approval and conformity of production  
(A) Tailpipe emission limits after cold start

(A1)

EURO 4

Vehicle category	Vehicle category name	Propulsion class	Euro level	Mass of carbon monoxide (CO)	Mass of total hydrocarbons (THC)	Mass of oxides of nitrogen (NO <sub>x</sub> )	Mass of particulate matter (PM)	Test cycle
				<b>L<sub>1</sub></b> (mg/km)	<b>L<sub>2</sub></b> (mg/km)	<b>L<sub>3</sub></b> (mg/km)	<b>L<sub>4</sub></b> (mg/km)	
L1e-A	Powered cycle	PI/CI/ Hybrid	Euro 4	560	100	70		ECE R47
L1e-B	Two-wheel moped	PI/CI/ Hybrid	Euro 4	1 000	630	170	—	ECE R47
L2e	Three-wheel moped	PI/CI/ Hybrid	Euro 4	1 900	730	170	—	ECE R47
L3e L4e (7) L5e-A L7e-A	—	PI/CI/ Hybrid, motorcycles with 30 km/h and without side- cap	Euro 4	1 140	380	70	—	WMTC, stage 2
—	—	PI/CI/ Hybrid, Tricycle/ Heavy on- road quad	Euro 4	1 140	170	90	—	WMTC, stage 2
—	—	CI/CI/ Hybrid	Euro 4	1 000	100	300	80 (8)	WMTC, stage 2
L5e-B	Commercial tricycle	PI/PI Hybrid	Euro 4	2 000	550	250	—	ECE R40
		CI/CI Hybrid	Euro 4	1 000	100	550	80 (8)	ECE R40
L6e-A L6e-B	Light on-road quad	PI/PI Hybrid	Euro 4	1 900	730	170		ECE R47
	Light quadrimobile	CI/CI Hybrid	Euro 4	1 000	100	550	80 (8)	ECE R47

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L7e-B L7e-C	Heavy all terrain quad Heavy quadrimobile	PI/PI Hybrid	Euro 4	2 000	550	250	—	ECE R40
		CI/CI Hybrid	Euro 4	1 000	100	550	80 <sup>(8)</sup>	ECE R40

(A2)

EURO 5

Vehicle category	Vehicle category name	Propulsion class	Euro Level <sup>(4)</sup>	Mass of carbon monoxide (CO)	Mass of total hydrocarbons (THC)	Mass of Non-oxides (HC)	Mass of oxides (NO <sub>x</sub> )	Mass of particulate matter (PM)	Test cycle
				L <sub>1</sub> (mg/km)	L <sub>2A</sub> (mg/km)	L <sub>2B</sub> (mg/km)	L <sub>3</sub> (mg/km)	L <sub>4</sub> (mg/km)	
L1e-A	Powered cycle	PI/CI/ Hybrid	Euro 5	500	100	68	60	4,5 <sup>(9)</sup>	Revised WMTC <sup>(10)</sup>
L1e-B-L7e	All other L-category vehicles	PI/ PI Hybrid	Euro 5	1 000	100	68	60	4,5 <sup>(9)</sup>	Revised WMTC
		CI/CI Hybrid		500	100	68	90	4,5	Revised WMTC

(B) On-board diagnostics emission thresholds

(B1)

EURO 4, OBD STAGE I

Vehicle category	Vehicle category name	Propulsion class	Euro level	Mass of carbon monoxide (CO)	Mass of total hydrocarbons (THC)	Mass of oxides nitrogen (NO <sub>x</sub> )	Test cycle
				OT <sub>1</sub> (mg/km)	OT <sub>2</sub> (mg/km)	OT <sub>3</sub> (mg/km)	

[<sup>F1</sup>]

L3e <sup>(5)</sup> L4e <sup>(7)</sup> L5e-A L7e-A	—	PI/PI Hybrid	Euro 4	2 170	1 400	350	WMTC, stage 2
		CI/PI Hybrid		2 170	630	450	

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—	side <sub>max</sub> ≥ cat 30 km/h	2 170	630	900	WMTC, stage 2
	Tricycle CI/CI Heavy on- road quad				

### Textual Amendments

- F1** Deleted by Regulation (EU) 2019/129 of the European Parliament and of the Council of 16 January 2019 amending Regulation (EU) No 168/2013 as regards the application of the Euro 5 step to the type-approval of two- or three-wheel vehicles and quadricycles.

(B2)

### EURO 5, OBD STAGE I AND OBD STAGE II <sup>(4)</sup>

Vehicle category	Vehicle category name	Propulsion class	Euro level	Mass of carbon monoxide (CO)	Mass of Non-hydrocarbons (NMHC)	Mass of oxides of nitrogen (NO <sub>x</sub> )	Mass of particulate matter (PM)	Test cycle
				OT <sub>1</sub> (mg/km)	OT <sub>2</sub> (mg/km)	OT <sub>3</sub> (mg/km)	OT <sub>4</sub> (mg/km)	
[ <sup>F2</sup> L3e, L4e, L5e, L7e]	[ <sup>F2</sup> All L category vehicles except category L1e, L2e and L6e]	PI/PI Hybrid	Euro 5	1 900	250	300	50	Revised WMTC
		CI/CI Hybrid	Euro 5	1 900	320	540	50	Revised WMTC

### Textual Amendments

- F2** Substituted by Regulation (EU) 2019/129 of the European Parliament and of the Council of 16 January 2019 amending Regulation (EU) No 168/2013 as regards the application of the Euro 5 step to the type-approval of two- or three-wheel vehicles and quadricycles.

(C) Evaporative emission limits

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## (C1)

## EURO 4

Vehicle category	Vehicle category name	Propulsion class	Euro level	Mass of total hydrocarbons (THC)(mg/test)	Test cycle
L3e L4e <sup>(7)</sup>	Two-wheel motorcycle <sup>(13)</sup> with and without side-car	PI <sup>(11)</sup>	Euro 4	2 000	SHED
L5e-A	Tricycle	PI <sup>(11)</sup>	Euro 4		
L6e-A	Light on-road quad	PI <sup>(11)</sup>	Euro 4		
L7e-A	Heavy on-road quad	PI <sup>(11)</sup>	Euro 4		

## (C2)

## EURO 5

Vehicle Class <sup>(12)</sup>	Vehicle category name	Propulsion Class	Euro level	Permeation test(mg/m <sup>2</sup> /day)		Mass of total hydrocarbons (THC) in SHED test(mg/test)
				Fuel tank	Fuel tubing	
L1e-A	Powered cycle	PI <sup>(11)</sup>	Euro 5	1 500	15 000	1 500
L1e-B	Two-wheel moped		Euro 5	1 500	15 000	1 500
L2e	Three-wheel moped		Euro 5	1 500	15 000	1 500
L3e L4e <sup>(7)</sup>	Two-wheel motorcycle with and without side-car		Euro 5			1 500
L5e-A	Tricycle		Euro 5			1 500

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L5e-B	Commercial tricycle	Euro 5	1 500	15 000	1 500
L6e-A	Light on-road quad	Euro 5			1 500
L6e-B	Light quadrimobile	Euro 5	1 500	15 000	1 500
L7e-A	Heavy on-road quad	Euro 5			1 500
L7e-.B	All terrain quad	Euro 5	1 500	15 000	1 500
L7e-C	Heavy quadrimobile	Euro 5	1 500	15 000	1 500

## (D) Sound-level limits — Euro 4 and Euro 5

Vehicle category	Vehicle category name	Euro 4 sound level <sup>(14)</sup> (dB(A))	Euro 4 test procedure <sup>(16)</sup>	Euro 5 sound level <sup>(15)</sup> (dB(A))	Euro 5 test procedure
L1e-A	Powered cycle	[ <sup>x1</sup> 63]	Delegated act/UNECE regulation No 63		UNECE regulation No 63
L1e-B	Two-wheel moped $v_{\max} \leq 25$ km/h	66			
	Two-wheel moped $v_{\max} \leq 45$ km/h	71			
L2e	Three-wheel moped	76	Delegated act/UNECE regulation No 9		UNECE regulation No 9
L3e	Two-wheel motorcycle Engine capacity $\leq 80$ cm <sup>3</sup>	75	Delegated act/UNECE regulation No 41		UNECE regulation No 41
	Two-wheel motorcycle $80$ cm <sup>3</sup> < Engine capacity $\leq 175$ cm <sup>3</sup>	77			

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	Two-wheel motorcycle Engine capacity > 175 cm <sup>3</sup>	80		
L4e	Two-wheel motorcycle with side-car	80	[ <sup>X2</sup> Delegated act/UNECE regulation No 9]	[ <sup>X2</sup> UNECE regulation No 9]
L5e-A	Tricycle	80	Delegated act/UNECE regulation No 9	UNECE regulation No 9
L5e-B	Commercial tricycle	80		
L6e-A	Light on-road quad	80	Delegated act/[ <sup>X1</sup> UNECE regulation No 9]	[ <sup>X1</sup> UNECE regulation No 9]
L6e-B	Light quadrimobile	80	Delegated act/UNECE regulation No 9	UNECE regulation No 9
L7e-A	Heavy on-road quad	80		
L7e-B	Heavy all terrain quad	80		
L7e-C	Heavy quadrimobile	80		

#### Editorial Information

- X1** Substituted by [Corrigendum to Regulation \(EU\) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles \(Official Journal of the European Union L 60 of 2 March 2013\)](#).
- X2** Inserted by [Corrigendum to Regulation \(EU\) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles \(Official Journal of the European Union L 60 of 2 March 2013\)](#).

NB: refer to the end of Annex VIII for an overview of the notes to the annexes.

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