

Article 8: The exhaust emission standards of carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NO<sub>x</sub>), and particulate matter (PM) for trains and exhaust emission standards of particulate matter (PM) emitted by ships are stipulated in the following table:

Type of Transportation Vehicle	Date of implementation	Emission Standards							Remarks
		Driving Cycle Testing						Judgment by visual determination	
		Classification	CO	HC	NO <sub>x</sub>	HC+NO <sub>x</sub>	PM	Particulate matter (opacity %)	
Train	Date of promulgation	—						40	I. During the starting duration (engine starts and in acceleration process), the opacity not exceeding 60% within 10 seconds is deemed as in compliance. II. Visually determined opacity of 40%, equivalent to Ringelmann No. 2.
	April 27, 2017	Railcars with net power > 130 kW	3.5	0.19	2.0	—	0.025	—	I. The so-called railway vehicles in this article are divided into the following two categories: (1) Railcar: means a railway vehicle with motive power for propelling itself and is specifically designed to carry goods or passengers. (2) Locomotive: means a railway vehicle with motive power for propelling itself and for propelling other railway vehicles, itself being designed or intended not to carry freight or passengers.
		Locomotives with net power > 130kW (Locomotives)	3.5	—	—	4.0	0.025	—	II. The units for the Duty Cycle testing is g/(kW·h) and the test methods are as follows: (1) Railcar: Follow the EU directive Non-Road Steady Cycle (NRSC) 8 modes duty cycle tests or the ISO 8178-4 C1 duty cycle operated on a dynamometer. (2) Locomotive: Follow the EU directive Non-Road Steady Cycle (NRSC) 3 modes duty cycle test or the ISO 8178-4 F duty cycle operated on a dynamometer. III. For domestic railcars or locomotives leaving plant (subject to the exit-factory date) and imported locomotives on board (subject to the on board date) after April 27, 2017 shall comply with these Standards; for already in-use or signed purchase contract before April 27, 2017, the original visual determination method of not to exceed 40% opacity limit particulate matter is still applicable. IV. Compliance with the following terms, subject to this license in the Standards: (1) Being tested in accordance with the testing methods stipulated in the US 40 CFR Part 1065 and obtain the testing compliance or test data according the emission products comply with the Tier 4 listed in 40 CFR part 1033. (2) In Accordance with the testing methods stipulated in the EU directive 97/68, subsequently amended, and its subsequent amendments and obtained the Railcar or locomotive related Stage IIIB emission certificates or test report data.
Ship	Date of promulgation	—						40	I. No more than 60% opacity is allowed within 20 seconds, in the case of a ship with main propulsion power above 3000 kW, and within 10 seconds, in the case of a ship with main propulsion power less than 3000 kW. II. Visually determined opacity of 40%, equivalent to Ringelmann No. 2.