

I thoroughly reviewed this manuscript. I agree that the subject of the review is very essential. This paper presents the characteristic of the particulate I/SVOCs from chassis dynamometer tests of HDDVs complying with multiple emission standards. Interestingly, this paper provides a versatile approach and could be applied into other significant sources prevailing in typical environments. This may have implications for environmental management. I have listed some specific comments (see below) for this paper, and it is recommended to make minor revision before publication. We thank the reviewer for the detailed comments and the very high mark of this paper. We provide below a point-to-point response to reviewers' comments. A copy of the manuscript with the changes tracked and a clean copy are submitted together with this response document. The comments from the reviewers are in black type and our response texts are marked in blue.

1. The format of the paper still needs to be improved. Such as, Lines 319-321. Please modify it.

Thanks very much for the comment. We use format printer at this place to keep consistency with the other contexts.

2. Lines 100-102, when mentioning the low-speed, middle-speed and high-speed driving cycle, the criteria of 342s, 988s and 470s are deployed. Could you explain why the specific numbers are used.

China heavy-duty commercial vehicle test cycle is a part of the China automotive test cycle (CATC) developed by the China Automotive Technology & Research Center (CATARC). The CHTC is defined by national standard GB/T38146.2, China Automotive Test Cycle Part 2: Heavy-duty Commercial Vehicles, released in October 2019 and applicable from May 2020. The CHTC test replaced the C-WTVC (a modified version of WHVC) for the purpose of vehicle certification.

The CHTC includes six chassis dynamometer driving cycles for various types of heavy commercial vehicles with GVW>3500 kg:

CHTC-B: China heavy-duty commercial vehicle test cycle for city buses

CHTC-C: China heavy-duty commercial vehicle test cycle for inter-city coaches

CHTC-LT: China heavy-duty commercial vehicle test cycle for light trucks of GVW≤5500 kg

CHTC-HT: China heavy-duty commercial vehicle test cycle for heavy trucks of GVW>5500 kg

CHTC-D: China heavy-duty commercial vehicle test cycle for dump trucks

CHTC-TT: China heavy-duty commercial vehicle test cycle for tractor trailers

We adopted CHTC-HT cycle for the heavy-duty vehicles tested in this study. In this particular driving cycle, the speed trace is divided into three segments (low-speed phase 342 s, middle-speed phase 988 s, and high-speed phase 470 s) with increasing vehicle speed to represent the constant speed changes typical of on-road driving.

3. Line 169. What is the unit of MC_{O_2} , M_{CO} , and M_C ? Please complete it.

Thanks for the suggestion. M_{CO_2} , M_{CO} , and M_C are the molar weight of CO_2 , CO , and C atom, of which the numbers are 44, 28, and 12 g mol⁻¹. The sentence is re-written as (line 169):

" M_{CO_2} , M_{CO} , and M_C are the molar weight of CO_2 (44 g mol⁻¹), CO (28 g mol⁻¹), and C (12 g mol⁻¹) atom;"