9. The system of claim 1, wherein the sulfur dioxide trap is regenerable using a combustion exhaust stream having a temperature of from about 300° C. to about 450° C.

10. The system of claim 1, wherein the first emission control device comprises sufficient sorbent material to remove at least about 90% of sulfur dioxide from a combustion exhaust stream source.

11. The system of claim 1, wherein the first emission control device comprises sufficient sorbent material to remove at least about 95% of sulfur dioxide from a combustion exhaust stream source.

12. The system of claim 1, wherein the first emission control device comprises sufficient sorbent material to remove at least about 97% of sulfur dioxide from a combustion exhaust stream source.

13. The system of claim 1, wherein the combustion exhaust stream is a vehicular combustion exhaust stream source.

14. The system of claim 1, wherein the combustion exhaust stream source is a diesel engine.

15. The system of claim 14, further comprising a diesel particulate filter fluidly connectable to the combustion exhaust stream source.

16. The system of claim 15, wherein the diesel particulate filter is positioned fluidly downstream of the first emission control device and upstream of the second emission control device.

17. The system of claim 1, further comprising a reformer fluidly connectable to the first emission control device.

18. The system of claim 1, wherein the carrier of the first emission control device is a porous carrier comprising a precious metal; wherein the first catalytic material is selected from the group consisting of platinum, palladium, ruthenium, rhodium and combinations thereof, relative to the porous carrier; and wherein the second catalytic material is impregnated in the porous carrier.

19. The system of claim 1, wherein the sulfur dioxide trap is substantially completely regenerable in about twenty seconds.

20. The system of claim 1, wherein sulfur is removed from the sulfur dioxide trap when the sulfur dioxide trap is regenerated and substantially all of said sulfur is in the form of sulfur dioxide.

21. The system of claim 1, wherein the sulfur dioxide trap is capable of repeatedly:

sorbing about 97% or more of sulfur dioxide present in a combustion exhaust gas stream during lean cycles and substantially completely regenerating during rich cycles,

wherein the ratio of the durations of lean cycles to rich cycles is greater than or equal to 12:1.

22. The system of claim 1, wherein the sulfur dioxide trap is configured to sorb about 97% or more of sulfur dioxide present in a combustion exhaust gas stream during lean cycles having a period of at least about 4 minutes.

23. The system of claim 1, wherein the sulfur dioxide trap is substantially completely regenerable in twenty seconds or less during rich cycles of the combustion exhaust gas stream such that sulfur dioxide eluted from the sulfur dioxide trap during regeneration has a concentration greater than about 100 parts per million.

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