Comments from referee #2 are in blue, and our replies are in black. Changes to the manuscripts are highlighted in red (in both this reply and the revised manuscript).

Heterogeneous reactions between atmospheric aerosols and trace gaseous species play crucial roles in atmospheric chemistry. Diffusion coefficients are required to accurately determine reactive uptake coefficients when aerosol particles are large and trace gaseous species are reactive towards the aerosol surfaces. This manuscript compiled and evaluated the diffusion coefficients of atmospheric reactive trace species (largely inorganic ones) and compared the experimentally data to those estimated values based on Fuller's method as well. The manuscript is well organized, referenced, and written. It offers much needed dataset for atmospheric chemistry community.

Reply: We would like to thank referee #1 for his/her highly positive comments. Though no revision was required by referee #1, we have made the following changes in the revised version:

[1] We have changed the title of the manuscript to "Compilation and evaluation of gas-phase diffusion coefficients of reactive trace gases in the atmosphere: Volume 1. Inorganic compounds", because we have started to compile and evaluate the diffusion coefficients of organics, and we plan to submit another manuscript with the title "Compilation and evaluation of gas-phase diffusion coefficients of reactive trace gases in the atmosphere: Volume 2. Organics" this year.

[2] We found another two papers which reported the diffusion coefficients of NO_2 and Br_2, respectively, and the corresponding contents in the manuscript have been updated.

[3] A different version of this compilation/evaluation has been updated online, enabling new experimental data to be compiled, evaluated, and disseminated. We have mentioned this update in a few places of the revised manuscript.

[4] The role of heterogeneous reactions and gas phase diffusion in indoor air quality (Nazaroff and Cass, 1989) has been mentioned in the revised manuscript.