

Wiedinmyer et al. (2014) Trash Emissions of reactive gases and aerosols:

Present-day emissions of reactive gases and aerosols from open waste burning at residential and dump sites.

Reference: Wiedinmyer et al., <http://pubs.acs.org/doi/pdf/10.1021/es502250z>.

Implemented in GEOS-Chem by Eloise Marais (e.a.marais@bham.ac.uk).

Includes global emissions of CH₄*, CO, SO₂, NO, NH₃, ACET, ALD2, APIN**, BENZ, C₂H₂, C₂H₄, CH₂O, GLYC, HAC, HCOOH, ISOP**, MEK, MGLY, MOH, MVK**, PRPE, TOLU, XYLE, OC, BC at 0.1°×0.1°.

*Not included in the HEMCO emission file.

**Can only be implemented if isoprene, alpha-pinene (APIN), and MVK are defined in the HEMCO diagnostics as anthropogenically species and if APIN and MVK are emitted.

Annual emissions for selected species as a sanity check for implementing trash emissions in GEOS-Chem:

Compound	Annual Emissions
NO _x (emitted as NO)	3.6 Tg NO
SO _x (96.9% SO ₂ ; 3.1% as SO ₄)	0.49 Tg SO ₂
CO	37 Tg CO
NH ₃	1.1 Tg NH ₃
OC (50:50 OCPI:OCPO)	5.1 Tg OC
BC (20:80 BCPI:BCPO)	0.63 Tg BC

No temporal scaling factors are applied to the trash emissions and the year is arbitrarily defined as 2008 (present-day).