

Relationships Among Organic Gas Terms Used in the Emission Inventory

MOTOR VEHICLES:

1. **NMHC** + **methane** = **HC**
 (Non-Methane Hydrocarbons) (Hydrocarbons)
 or
THC
 (Total Hydrocarbons)
 - NMHC and HC (THC) contain only hydrocarbons (not oxygenated compounds like aldehydes) due to GC-FID measurement technique
 - NMHC and HC must be adjusted for the oxygenated compounds to get NMOG

2. **NMHC** —————→ **NMOG**
 (Non-Methane Hydrocarbons) adjust to add oxygenated compounds (Non-Methane Organic Gas)

3. **NMOG** + **methane** ≈ **TOG**
 (Non-Methane Organic Gas) (approx. Total Organic Gas)

OVERALL INVENTORY:

4. **TOG** X **FROG** = **ROG**
 (Fraction of Reactive Organic Gas) (Reactive Organic Gas)

5. **TOG** X **FR_VOC** = **VOC**
 (Fraction of Volatile Organic Compounds) (Volatile Organic Compounds)
 - VOC is U.S. EPA term -- uses a separate federal list of exempted compounds

6. **TOG** - Exempt Compounds = **ROG**
 [ARB list of methane, ethane, CFCs, etc.]