

# As & Cd Natural Gas Emission Factors

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- As & Cd emission factors found in USEPA Document AP-42, Chapter 1, External Combustion Sources, Section 1.4 Natural Gas Combustion
- The Section 1.4 Factors began to be analyzed since:
  - Small boilers began to list As & Cd emissions as a result of the lowering of the Reporting Thresholds, which triggered health risk assessments
  - Other AP-42 Sections involving natural gas combustion, Chapter 3: Stationary Internal Combustion Sources, Sections 3.1 Stationary Gas Turbines and 3.2 Natural Gas-fired Reciprocating Engines did not list any heavy metal emission factors
  - AP-42 is inconsistent since internal and external natural gas combustion units should share the same heavy metal emission factors since
    - Factors are listed in pounds per million cubic feet combusted
    - These combustion units have no heavy metal control

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- **Three main findings**

- Stack test data used to develop AP-42 factors were inconclusive
- Four California Air Quality Management Districts do not evaluate natural gas combustion for heavy metal emissions
- Natural gas sampling for heavy metals resulted in emission factors orders of magnitude below AP-42

# As & Cd Natural Gas Emission Factors

- All findings included in 12/11/23 memo, Evaluation of AP-42 Emission Factors for Arsenic (As) and Cadmium (Cd) from Natural Gas Combustion
- The 12/11/23 memo states:
  - Permit evaluators can consider the information in the memo when reviewing air contaminant emissions from natural gas combustion
  - Sole responsibility of applicant to list air contaminant emission rates
  - For As & Cd emissions, do not differentiate between internal and external combustion units