

# Soda Ash Manufacturing



## Final Rule: Mandatory Reporting of Greenhouse Gases

*Under the Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain soda ash manufacturing (as defined below) must report emissions from soda ash manufacturing processes and all other source categories located at the facility for which methods are defined in the rule. Owners or operators are required to collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.*

## How Is This Source Category Defined?

A soda ash manufacturing facility is any facility that produces soda ash by calcining trona, calcining sodium sesquicarbonate, or by using a liquid alkaline feedstock process that directly produces carbon dioxide (CO<sub>2</sub>).

In the context of the soda ash manufacturing sector, “calcining” means the thermal/chemical conversion of the bicarbonate fraction of the feedstock to sodium carbonate.

## What GHGs Must Be Reported?

Soda ash manufacturing facilities must report the following emissions:

- CO<sub>2</sub> process emissions from each soda ash manufacturing line.
- CO<sub>2</sub> combustion emissions from each soda ash manufacturing line.
- Methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) combustion emissions from each soda ash manufacturing line. Calculate and report these emissions under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.
- CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions from each stationary combustion unit other than soda ash manufacturing lines. Calculate and report these emissions under 40 CFR 98, subpart C (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

In addition, each facility must report GHG emissions for any other source categories for which calculation methods are provided in other subparts of the rule.

## How Must GHG Emissions Be Calculated?

For CO<sub>2</sub> emissions from soda ash manufacturing lines, facilities must use one of the following methods, as appropriate:

- Soda ash manufacturing lines with certain types of continuous emission monitoring systems (CEMS) in place must report using the CEMS and follow the Tier 4 methodology of 40 CFR part 98, subpart C to report combined CO<sub>2</sub> emissions from calcination and fuel combustion.
- For other soda ash manufacturing lines, reporters can elect to use one of the following:
  - Install and operate a CEMS to measure combined process and combustion CO<sub>2</sub> emissions according to the requirements specified in 40 CFR part 98, subpart C
  - Calculate CO<sub>2</sub> process emissions using one of three alternative methods, as applicable:
    - **Trona input method.** Calculate calcination emissions using the following measurements:
      - Monthly mass of trona input.
      - The monthly inorganic carbon in the trona based on weekly composite analysis.
    - **Soda ash output method.** Calculate calcination emissions using the following measurements:

- Monthly mass of soda ash produced.
- The monthly inorganic carbon in the soda ash.
- **Site-specific emission factor method.** Can only be used to calculate emissions from the liquid alkaline feedstock process through an annual performance test using:
  - Direct measurements of hourly CO<sub>2</sub> concentration at process vents.
  - Hourly stack gas volumetric flow rate from mine water stripper/evaporate.

A checklist for data that must be monitored is available at:

[www.epa.gov/ghgreporting/documents/pdf/checklists/sodaashmanufacturing.pdf](http://www.epa.gov/ghgreporting/documents/pdf/checklists/sodaashmanufacturing.pdf).

## When Must Reports be Submitted?

The submission date for the annual GHG report can vary in the first 3 years of the program.

- Reporting Year 2010. The report was required to be submitted by September 30, 2011.
- Reporting Year 2011. The due date depends on which source categories are included in the report. If the report includes one or more of the source categories listed below, then the report must be submitted by September 28, 2012. This reporting deadline applies to all subparts being reported by the facility. In addition, if the facility contains one or more of these source categories and the facility submitted a GHG annual report for reporting year 2010 under another subpart (e.g., subpart C for general stationary fuel combustion), then by April 2, 2012 you must notify EPA through e-GGRT that you are not required to submit the second annual report until September 28, 2012 (the notification deadline according to 4 CFR 98.3(b) is March 31, 2012, however, because this date falls on a Saturday in 2012, the notification is due on the next business day).
  - Electronics Manufacturing (subpart I)
  - Fluorinated Gas Production (subpart L)
  - Magnesium Production (subpart T)
  - Petroleum and Natural Gas Systems (subpart W)
  - Use of Electric Transmission and Distribution Equipment (subpart DD)
  - Underground Coal Mines (subpart FF)
  - Industrial Wastewater Treatment (subpart II)
  - Geologic Sequestration of Carbon Dioxide (subpart RR)
  - Manufacture of Electric Transmission and Distribution (subpart SS)
  - Industrial Waste Landfills (subpart TT)
  - Injection of Carbon Dioxide (subpart UU)
  - Imports and Exports of Equipment Pre-charged with Fluorinated GHGs or Containing Fluorinated GHGs in Closed-cell Foams (subpart QQ)

If the report contains none of the source categories listed above, then the report must be submitted by April 2, 2012 (the deadline is March 31, 2012, however, because this date falls on a Saturday, the annual report is due on the next business day).

- Reporting Year 2012. Starting in 2013 and each year thereafter, the report must be submitted by March 31 of each year, unless the 31st is a Saturday, Sunday, or federal holiday, in which case the reports are due on the next business day.

## What Information Must Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), the following information must be reported:

If a CEMS is used to measure CO<sub>2</sub> emissions, then under this subpart the relevant information required for the CEMS by subpart C (General Stationary Fuel Combustion Sources) and the following information for each manufacturing line must be reported:

- Line identification number.
- Annual consumption of trona or liquid alkaline feedstock (metric tons).
- Annual production of soda ash (tons).
- Annual production capacity of soda ash (tons).

If a CEMS is not used to measure emissions, then the following information must be reported for each manufacturing line:

- Line identification number.
- Annual process CO<sub>2</sub> emissions (metric tons).
- Annual soda ash production (tons).
- Annual soda ash production capacity (tons).
- Monthly consumption of trona or liquid alkaline feedstock (tons).
- Monthly production of soda ash (metric tons).
- Inorganic carbon content factor of trona or soda ash (monthly percent by weight decimal fraction).
- Method used to calculate CO<sub>2</sub> emissions for each manufacturing line (trona input method, soda ash output method, or site-specific emission factor method).
- Number of manufacturing lines used to produce soda ash.
- If producing soda ash using the liquid alkaline feedstock process and using the site-specific emission factor method, report the relevant information listed under 40 CFR 98.296(b)(10).
- Number of times that missing data procedures were used for the parameters specified under 40 CFR 98.296(b)(11).

EPA has temporarily deferred the requirement to report data elements in the above list that are used as inputs to emission equations (76 FR 53057, August 25, 2011). For the current status of reporting requirements, including the list of data elements that are considered to be inputs to emissions equations, consult the following link: <http://www.epa.gov/ghgreporting/reporters/cbi/index.html>

## For More Information

This document is provided solely for informational purposes. It does not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. The series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the final rule.

Visit EPA's Web site ([www.epa.gov/ghgreporting/reporters/index.html](http://www.epa.gov/ghgreporting/reporters/index.html)) for more information, including the final preamble and rule, additional information sheets on specific industries, the schedule for training sessions, and other documents and tools. For questions that cannot be answered through the Web site, please contact us at: [GHGReporting@epa.gov](mailto:GHGReporting@epa.gov).