



Scope 1 and Scope 2 Emission Sources

Per the GHG Protocol, these are the Scope 1 and Scope 2 emissions sources that are applicable to Alto Ingredients' facilities for 2021 and 2022 sustainability reporting. Scope 1 emissions were included in the evaluation based on Alto's request or availability of data. Note: CO₂ emissions from fermentation have not been calculated or included in Scope 1 emissions at this time, but are potentially significant. Alto has indicated that fermentation may be included in future years.

Facility: Alto	Emission Source	Included in Evaluation?	Part 98 EPA Reportable?
Pekin Scope			
Scope 1	Natural gas combustion (Subpart C)	Yes	Yes
Scope 1	Biogas combustion (Subpart C)	Yes	Yes
Scope 1	Biogas from Wastewater Treatment (Subpart II)	Yes	Yes
Scope 1	Sale of CO ₂ (Subpart PP)	Yes	Yes
Scope 2	Electricity (Scope 2)	Yes	No
Scope 1	Combustion of ethanol vapors (from truck loading)	Yes	No
Scope 1	Flaring of Biogas	Yes	No
Scope 1	Combustion of fuel (propane, gasoline, and/or diesel)	Yes	No
Scope 1	Fermentation of corn	No	No
Scope 1	Aerobic growth of yeast	No	No
Scope 1	Contractor equipment emissions	No	No
Scope 1	Emissions associated with on-road company vehicles	No	No
Scope 1	Fugitive component emissions	No	No
Scope 1	Emissions associated with refrigerant leaks	No	No
Scope 1	Emissions associated with fire suppression usage	No	No
ICP Scope			
Scope 1	Natural Gas Combustion (Subpart C)	Yes	Yes
Scope 1	Biogas from Wastewater Treatment (Subpart II)	Yes	Yes
Scope 1	Sale of CO ₂ (Subpart PP)	Yes	Yes
Scope 2	Electricity (Scope 2)	Yes	No
Scope 1	Flaring of Biogas	Yes	No
Scope 1	Combustion of Propane	Yes	No
Scope 1	Fermentation of Corn	No	No
Scope 1	Combustion of fuel (propane, gasoline, and/or diesel)	No	No
Scope 1	Contractor equipment emissions	No	No
Scope 1	Emissions associated with on-road company vehicles	No	No
Scope 1	Fugitive component emissions	No	No
Scope 1	Emissions associated with refrigerant leaks	No	No
Scope 1	Emissions associated with fire suppression usage	No	No



Facility: Alto Columbia Scope	Emission Source	Included in Evaluation?	Part 98 EPA Reportable?
Scope 1	Natural Gas Combustion (Subpart C)	Yes	Yes
Scope 1	Sale of CO2 (Subpart PP)	Yes	Yes
Scope 2	Electricity (Scope 2)	Yes	No
Scope 1	Combustion of ethanol vapors (from truck loading)	Yes	No
Scope 1	Combustion of fuel (propane, gasoline, diesel)	Yes	No
Scope 1	Fermentation of Corn	No	No
Scope 1	Fugitive component emissions	No	No
Scope 1	Contractor equipment emissions	No	No
Scope 1	Emissions associated with on-road company vehicles	No	No
Scope 1	Emissions associated with refrigerant leaks	No	No
Scope 1	Emissions associated with fire suppression usage	No	No
Facility: Alto Magic Valley Scope	Emission Source	Included in Evaluation?	Part 98 EPA Reportable?
Scope 1	Natural Gas Combustion (Subpart C)	Yes	Yes
Scope 2	Electricity (Scope 2)	Yes	No
Scope 1	Combustion of ethanol vapors (from truck loading)	Yes	No
Scope 1	Fermentation of Corn	No	No
Scope 1	Combustion of fuel (propane, gasoline, and diesel)	No	No
Scope 1	Fugitive component emissions	No	No
Scope 1	Emissions associated with on-road company vehicles	No	No
Scope 1	Contractor equipment emissions	No	No
Scope 1	Emissions associated with refrigerant leaks	No	No
Scope 1	Emissions associated with fire suppression usage	No	No