

SMAQMD BACT CLEARINGHOUSE

ACTIVE

CATEGORY Type:

ORGANIC LIQUID - LOADING

BACT Category: MINOR SOURCE

| | |
|---------------------------------------|--|
| BACT Determination Number: 331 | BACT Determination Date: 7/5/2023 |
|---------------------------------------|--|

Equipment Information

Permit Number: N/A -- Generic BACT Determination
Equipment Description: ETHANOL TRANSLOADING
Unit Size/Rating/Capacity: ALL
Equipment Location:

BACT Determination Information

District Contact: Venk Reddy Phone No.: 279-207-1146 email: vreddy@airquality.org

| | | |
|--------------|--------------------------------|--|
| ROCs | Standard: | 0.08 lb/1000 gal |
| | Technology Description: | Balance system and 0.08 lbs VOC/1000 gal |
| | Basis: | Achieved in Practice |
| NOx | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |
| SOx | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |
| PM10 | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |
| PM2.5 | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |
| CO | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |
| LEAD | Standard: | |
| | Technology Description: | No standard |
| | Basis: | |

Comments: This is a generic BACT determination based on BACT determinations made, and published, by other air agencies in California and/or other States.



BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

DETERMINATION NOS.: 331
DATE: April 3, 2023
ENGINEER: Venk Reddy

Category/General Equip Description: Ethanol Transloading
Equipment Specific Description: Ethanol transfer between rail car and tanker truck in a mobile application not at a loading rack.
Equipment Size/Rating: N/A
Previous BACT Det. No.: Done as part of P/O 22871

This BACT determination will update a BACT determination done as part of SMAQMD permit 22871.

This determination will also include Best Available Control Technology for Toxics (T-BACT) for the hazardous air pollutants (HAP) associated with the process.

Ethanol Transloading is the process of transferring ethanol from two mobile sources, typically from a train pulled cargo rail tank to a tanker truck. This transfer does not occur at a loading rack but rather at various locations.

The ethanol typically moved is denatured with gasoline. For this document ethanol refers to any combination of ethanol and gasoline.

BACT/T-BACT ANALYSIS

A. ACHIEVED IN PRACTICE (Rule 202, §205.1a):

The following control technologies are currently employed as BACT/T-BACT by the following agencies and air pollution control districts:

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|---------------|
| US EPA |
|---------------|

BACT

Source: EPA RACT/BACT/LAER Clearinghouse

The database was reviewed for all process that contain ethanol. No transloading processes were identified for the period of 1/1/2013 to 4/3/2023

| Pollutant | Ethanol Transloading | |
|-----------|----------------------|--------|
| | Standard | Source |
| VOC | No standard | N/A |
| NOx | No standard | N/A |
| SOx | No standard | N/A |
| PM10 | No standard | N/A |
| PM2.5 | No standard | N/A |
| CO | No standard | N/A |

No determinations were identified.

T-BACT

Source: [EPA RACT/BACT/LAER Clearinghouse](#)

No determinations were found.

RULE REQUIREMENTS:

None

California Air Resource Board (CARB)

BACT

Source: [CARB BACT Clearinghouse](#)

| Pollutant | Ethanol Transloading | |
|-----------|----------------------|--------|
| | Standard | Source |
| VOC | No standard | N/A |
| NOx | No standard | N/A |
| SOx | No standard | N/A |
| PM10 | No standard | N/A |
| PM2.5 | No standard | N/A |
| CO | No standard | N/A |

No determinations were identified.

T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

RULE REQUIREMENTS:

No Rules have been identified.

Sacramento Metropolitan AQMD

BACT

| Ethanol Transloading (A) | |
|---------------------------------|--|
| VOC | Balance Vapor recovery system and meeting 0.08 lbs VOC/1,000 gal |
| NOx | No standard |
| SOx | No standard |
| PM10 | No standard |
| PM2.5 | No standard |
| CO | No standard |

(A) From P/O 22871

T-BACT

T-BACT has been identified as following the BACT requirements.

RULE REQUIREMENTS:

[Rule 447 Organic Liquid Loading](#)

Section 301 states that emissions from bulk terminals must not exceed 0.08 pounds of VOC per 1,000 gallons of organic liquid.

South Coast AQMD

BACT

Source: [SCAQMD BACT Guidelines for Non-Major Polluting Facilities](#)

| SCAQMD BACT Guidelines for Non Major Polluting Facilities, Ethanol Transloading | |
|--|-----|
| VOC | N/A |
| NOx | N/A |
| SOx | N/A |
| PM10 | N/A |
| PM2.5 | N/A |
| CO | N/A |

T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

RULE REQUIREMENTS:

[Rule 462 – Organic Liquid Loading](#)

For class A facilities (loading 20,000 gal or more per day)– CARB approved vapor recovery or district approved vapor recovery. VOC controlled to 0.08 lbs/1000 gallons. Bottom loading only.

For class B facilities (loading between 4,000 to 20,000 gal) 90 % controls.

For class C facilities (loading less than 4,000 gal) – Submerged fill, no overfills or leaks from disconnects.

San Joaquin Valley APCD

BACT

Source: [SJVAPCD BACT](#)

| Ethanol Transloading | |
|-----------------------------|-----|
| VOC | N/A |
| NOx | N/A |
| SOx | N/A |
| PM10 | N/A |
| PM2.5 | N/A |
| CO | N/A |

T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

RULE REQUIREMENTS:

[Rule 4624 Transfer of Organic Liquid](#)

Class I (greater than 20,000 gal/day) VOC not to exceed 0.08 lbs/gal, bottom loading, a vapor collection and control, and a closed VOC emission control system.

Class II (transferring between 4,000 and 20,000) Vapor Collection and control, a closed VOC emission control system.

San Diego County APCD

BACT

Source: [NSR Requirements for BACT \(June 2011\)](#)

| Ethanol Transloading | |
|-----------------------------|-------------|
| VOC | No Standard |
| NOx | No Standard |

| Ethanol Transloading | |
|-----------------------------|-------------|
| SOx | No Standard |
| PM10 | No Standard |
| PM2.5 | No Standard |
| CO | No Standard |

T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

RULE REQUIREMENTS:

[Rule 61.2 Transfer of Organic Compounds into Mobile Transport Tanks \(2-10-21\)](#)

The rule requires, for applicable throughput, a CARB certified system of transfer. Per Joseph Herzig (858) 586-2713, for organic compounds that do not have an approved CARB certified vapor recovery system of transfer the District requires the transfer efficiency to be equivalent to that of a CARB certified vapor recovery system.

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|----------------------|
| Bay Area AQMD |
|----------------------|

BACT

Source: [BAAQMD BACT Guideline Document](#)

| Ethanol Transloading | |
|-----------------------------|-------------|
| VOC | No standard |
| NOx | No standard |
| SOx | No standard |
| PM10 | No standard |
| PM2.5 | No standard |
| CO | No standard |

T-BACT

There are no T-BACT standards published in the clearinghouse for this category.

RULE REQUIREMENTS:

[Reg. 8 Organic Compounds Rule 2 Miscellaneous Operations 5/4/22](#)

Emissions of VOC must not exceed 15 lbs day and contain a concentration of more than 300 PPM total carbon on a dry basis.

Summary of Achieved in Practice Control Technologies

The following control technologies have been identified and are ranked based on stringency:

| SUMMARY OF ACHIEVED IN PRACTICE CONTROL TECHNOLOGIES ETHANOL TRANSLOADING | |
|--|---|
| VOC | Balance vapor recovery system and meeting 0.08 lbs VOC/1000 gal [SMAQMD] 0.08 lbs VOC/1000 gal [SCAQMD, SJVAPCD] CARB certified controls or approved equivalent [SDCAPCD] 15 lbs/day and a concentration of less than 300 ppm [BAAQMD] |
| NOx | N/A |
| SOx | N/A |
| PM10 | N/A |
| PM2.5 | N/A |
| CO | N/A |

The following control technologies have been identified as the most stringent, achieved in practice control technologies:

| BEST CONTROL TECHNOLOGIES ACHIEVED - ETHANOL TRANSLOADING | | |
|--|---|-------------------------|
| Pollutant | Standard | Source |
| VOC | Balance vapor recovery system and meeting 0.08 lbs VOC/1000 gal | SMAQMD, SCAQMD, SJVAPCD |
| NOx | No standard | N/A |
| SOx | No standard | N/A |
| PM10 | No standard | N/A |
| PM2.5 | No standard | N/A |
| CO | No standard | N/A |

B. TECHNOLOGICALLY FEASIBLE AND COST EFFECTIVE (Rule 202, §205.1.b.):

There were no technologically feasible options identified for VOC control in a mobile ethanol transloading application.

C. SELECTION OF BACT:

No technologically feasible control technologies were found. BACT will be standards that have been achieved in practice.

| BACT for Ethanol Transloading | | |
|--------------------------------------|---|-------------------------|
| Pollutant | Standard | Source |
| VOC | Balance vapor recovery system and meeting 0.08 lbs VOC/1000 gal | SMAQMD, SJVAPCD, SCAQMD |
| NOx | No standard | |
| SOx | No standard | |
| PM10 | No standard | |
| PM2.5 | No standard | |
| CO | No standard | |

D. SELECTION OF T-BACT:

The toxics at issue with this technology are VOCs. The control of VOCs through meeting the BACT standard will also control toxics found in the VOCs. Therefore, the BACT VOC controls are also the T-BACT controls.

APPROVED BY: *Brian F Krebs* **DATE:** 07-21-2023