

AREA SOURCE EMISSIONS FOR CALENDAR YEAR 2023
METHODOLOGY DOCUMENTATION
ADHESIVES AND SEALANTS

DESCRIPTION OF CATEGORY

This category estimates the emissions of VOC from adhesive and sealant applications, disaggregated into the two categories listed below.

CES	EIC	Description
83030	250-292-8202-0000	Organic Solvent based Adhesive and Sealants (Unspecified)
83063	250-292-8250-0000	Water based Adhesives and Sealants (Unspecified)

METHODOLOGY AND ASSUMPTIONS

Pursuant to the reporting requirements of Rule 1168 – Adhesive and Sealant Applications¹, Sections (f)(2)(B), (f)(2)(C), and (f)(2)(F), regulated facilities are required to submit a Quantity & Emission Report (QER) using the approved QER form (1). The QER form was revised in March 2025 and contains four (4) tables: General QER, General QER for VOCs for percent weight VOC, Aerosol QER, and 55 Gallon Exemption QER, each corresponding to the aforementioned rule sections. In addition, the latest QER data available for Rule 1168 from 2021 and in order to estimate 2023 emissions inventory, staff utilized the population data for South Coast region from the U.S. Census Bureau (2) to adjust for annual growth factors. According to Census data, the South Coast region's population decreased by approximately 163,000 between 2021 and 2023, representing a 0.925% decline. Based on this population change, the 2021 QER data was adjusted to estimate the 2023 baseline emissions.

Determination of Solvent-based and Water-based Products

Reported sales data is sorted by type, i.e., solvent-based and water-based as reported in the QER for each facility prior to analysis.

Determination of VOC_TPD from Data Reported in the General QER

Reported sales volume for each product, as reported in the General QER section of the QER, is used to calculate the total VOC_TPD (in tons per day) for each product, using the equation below.

$$VOC_{TPD} = \frac{\{(Annual\ Throughput \times VOC\ Material)\}}{(119.83 \times 2000 \times 365)}$$

¹ [Rule 1168 Quantity and Emission Report Form \(08/15/19\)](#)

² [United States Census Bureau](#)

Determination of VOC_TPD from Data Reported in the General QER for VOCs Percent Weight

Reported sales weight for each product, as reported in the General QER for VOCs reported as weight percent section of the QER, is used to calculate the total VOC_TPD (in tons per day) for each product, using the equation below

$$VOC_{TPD} = \frac{\{(\% VOC \text{ by weight } VOC/100) \times \text{Annual Throughput}\}}{(2000 \times 365)}$$

Determination of VOC_TPD from Data Reported in the Aerosol QER

Reported product weight sold for each product (in pounds) and their corresponding percent VOC by weight are used to calculate the VOC_TPD for each product.

$$VOC_{TPD} = \frac{\{(\text{Annual Throughput} \times (\% VOC \text{ By Weight}/100))\}}{(2000 \times 365)}$$

Again, a total for all aerosol products is determined once the VOC_TPD for each product has been calculated.

Determination of VOC_TPD from Data Reported in the 55 Gallon Exemption QER

Facilities subject to (f)(2)(F) are users and purchasers of regulated products, not manufacturers as the case with sections (f)(2)(B) and (f)(2)(C). Nevertheless, the VOC_TPD for each product can be determined using the equation below.

$$VOC_{TPD} = \frac{\{(\text{Annual Throughput} \times VOC \text{ Material})\}}{(119.83 \times 2000 \times 365)}$$

Determination of the Overall Total VOC_TPD for Each Year

Once the totals for water-based products, solvent-based products, aerosol products, and 55-gallon exempt products are calculated, they are added to provide a final overall total for each CES (83030 & 83063). The same methodology is used for each reporting year.

Assumptions

The following assumptions are made in the analysis:

- For reported data that has no indication of whether the product is solvent-based or water-based, the product is assumed to be solvent-based.
- For products without listed VOC Material, the Regulatory VOC limit was used

Once the VOC_TPD for each product is determined, a sum for all products is calculated.

SUMMARY AND NEW EMISSIONS**Table 1. Total VOC emissions for base year 2018 (as reported in the 2022 AQMP) and for base year 2023 for the South Coast Air Basin (tpd)**

CES	Name	2022 AQMP	Prospective SIP/AQMP
83030	Organic Solvent based Adhesive and Sealants (Unspecified)	3.9	2.93
83063	Water based Adhesives and Sealants (Unspecified)	1.1	0.82
	Total	5.0	3.75