

Lane Regional Air Pollution Authority
Synthetic Minor Air Contaminant Discharge Permit

REVIEW REPORT

Orkot Incorporated

Permit No. 206121

1. General Background Information

A. Site/Equipment Description and History

This facility manufactures reinforced thermoset laminates. Processes at Orkot consist of the following:

- 4 resin baths used to coat fabric;
- 2 natural gas-fired curing ovens;
- 3 curing presses; and
- 1 baghouse to collect small particulate generated by the machining of plastic parts.

B. Reasons for Permit Issuance

This is a new facility. In order to remain below the Title V permit threshold, the facility will limit chemical usage to levels below major source thresholds.

2. Enforcement Actions

None.

3. Source Tests

None.

4. Existing Air Contaminant Sources and Controls

There is a baghouse on the ventilation from the cutting and sanding operations. All other sources are uncontrolled.

5. Plant Site Emission Limits (PSELS) Information

A. Criteria Used to Set Baseline PSELS

The plant was not in existence in 1977 or 1978, so the baseline PSEL is 0 for all pollutants.

B. Criteria Used to Set Current PSELS

The Synthetic Minor Limit on HAPs limits potential VOC emissions to less than 25 tons per year. The PSEL for VOCs from this source is set at 25 tons per year.

1) **VOC**

Basis for Calculations:

Assuming 320,000 pounds resin with HAP (e.g., styrene) content of 30% and 20% of the styrene (or other HAP) emitted as air contaminants, the expected emissions would be:

Calculation:

$$320,000 \text{ lbs} \times .3 \times .2 = 9.6 \text{ tons}$$

Note: The Synthetic Minor provision in this permit requires a 12-month rolling limit; therefore, the PSEL for VOC shall also be a 12-month rolling limit. This is to avoid complications with emissions calculation.

2) **Particulate**

Basis for Calculations:

- a. Total amount of dry material collected by the baghouse per calendar year is 312 cubic yards.
- b. The fiberglass material weighs 270 pounds per cubic yard.
- c. The baghouse is 99% efficient.

Calculation:

$$312 \text{ yd}^3/\text{yr} \times 270 \text{ lbs}/\text{yd}^3 \times 0.01 = 842 \text{ lbs}/\text{yr} \text{ (or } 0.42 \text{ tons}/\text{yr})$$

Note: No PSEL is set for particulate.

3) **Emissions Due to Natural Gas Combustion**

The combined rate for both ovens is less than 400,000 Btu/hr (-100,000 Btu/hr and 75,000 Btu/hr) and are exempt from permitting requirements as insignificant units.

C. Potential to Emit

Consistent with estimating potential to emit (PTE) based on chemical usage and consideration of production goals, the PTE for Orkot is based on 1998 usage and a goal of doubling current production levels. Using this approach, Orkot could be considered a minor source and not be required to obtain a Synthetic Minor Permit. However, the emission factor of 20% from catalyzed resin processes is an estimate that has not been verified through testing. The estimate is assumed to be a conservative one, since the AP-42 factors are much lower, and Orkot uses a thicker laminate process that, it is further assumed, would result in lower overall emissions. Orkot may not use any other emission factor without LRAPA approval under the provisions of LRAPA Title 34.

For purposes of determining compliance with the synthetic minor and plant site emissions limits, the source shall include the use of all resins, solvents, catalysts, glues, and all other HAP- and VOC-containing materials in the calculation of emissions.