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Category: 27 – Solids Applied/Transfer Efficiency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: OCT 17 1980

SUBJECT: Equivalency Calculations With The CTG Recommendations for
Surface Coating

FROM: Richard G. Rhoads, Director
Control Programs Development Division (MD-15)

TO: David Kee, Director
Air and Hazardous Materials Division, EPA Region V

This is a follow up to your memorandum asking for clarification of several issues in May 5, 1980 memorandum to the Air Branch Chiefs, "Equivalency Calculations with the CTG Recommendations for Surface Coating." These responses have been discussed on several occasions with members of your staff. The issues are discussed below in the order which you raised them.

1. "Solids consumed" means all solids that pass through the application equipment. This has the same meaning as the term "as delivered to the coating applicator."

2. The extrusion lamination industry that uses solid primers should not be required to use the mass of VOC/gal solid calculation to determine equivalency. These coatings do not "fit" the baseline coating that was used to develop the CTG limits. These special low solid coatings should be considered on a case-by-case basis. The example cited in your letter of a 98-volume percent VOC coating reformulated to a 95-volume percent water, 3-volume percent VOC represents a 97 percent reduction in VOC. This is a sizable reduction that meets the intent of the paper coating CTG and would be considered reasonable even though it is not equivalent to the emission limits as stated in the CTG. Once again the States should consider these unique low solid coatings on a case-by-case basis.

3. States that have adopted VOC surface coating regulations with an incorrect procedure for calculating equivalency with the States' emission limits will have to revise their regulations. If EPA has granted final approval time to incorporate the corrections. In any event, EPA cannot approve a bubble in which the internal offsets were based on incorrect calculations. All surface coating VOC bubble applications must have the reductions and offsets calculated on a mass of VOC per gallon of solids basis.

An inconsistency has been found with the Case 2 example calculation in my May 5, 1980 memorandum on equivalency calculations. In the example, an assumed transfer efficiency of 50 percent was cited for the RACT limit.

The company should only get credit for transfer efficiency greater than 50 percent. Likewise, they should not be penalized for being below the 50 percent baseline; otherwise they will be required to reduce emissions below the RACT limits. This is what happened in the Case 2 example with the company being penalized for being below the baseline transfer efficiency. The Case 2 calculation is being rewritten, and a corrected copy will be sent to each Regional Office when available.

It should be stressed that the calculations in the May 5, 1980 memorandum are for purposes of providing an example on how equivalency calculations should be made. Transfer efficiencies cited in the calculations bear no relation to specific CTG categories. The transfer efficiency calculations are only applicable where a baseline transfer efficiency has been established for a CTG category.

The Emission Standards and Engineering Division has established a baseline transfer efficiency of 30 percent of topcoat and guidecoat (prime surfacing) operations in the automobile and light duty truck industry (see memorandum dated July 3, 1979 from R. G. Rhoads, Director, CPDD to Director, Air and Hazardous Materials Division, Regions I-X). A baseline transfer efficiency of 60 percent has been established for the metal furniture and large appliance industries, and a memorandum to this effect is in preparation and will be sent to all Regional Offices when finalized.

To date, these are the only CTG categories where baseline surface coating transfer efficiencies have been established. It is emphasized that a baseline transfer efficiency will not be developed for the miscellaneous metal parts and products CTG category. This is because of the wide variation in the numerous products and coatings covered by this category. If a State agency wants to allow a transfer efficiency credit for industries in the miscellaneous metal parts category, it will be necessary for the State to establish a case-by-case baseline transfer efficiency that is typical of the industry norm for that type of coating operation.

Please contact Tom Helms (629-5226) for additional information.

cc: Chief, Air Programs Branch, Regions I-X
VOC Contact, Regions I-X