

11/20/1980

VOC011120801

Category: 1 – Surface Coating of Cans

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Washington, D.C. 20460

NOV 20 1980

Office of
Air, Noise, and Radiation

SUBJECT: Compliance with VOC Emission Limitations
for Can Coating Operations

FROM: David G. Hawkins, Assistant Administrator
for Air, Noise, and Radiation (ANR-443)

MEMO TO: Regional Administrator, Regions I-X

The Agency has been requested by the Can Manufacturers Institute to consider the utilization of the compliance program described below for determining compliance with appropriate emission limitations in State Implementation Plans. The Agency has previously considered such an approach and in a memorandum dated November 21, 1978, from Richard G. Rhoads, Director, Control Programs Development Division to Director, Air and Hazardous Materials Division, Regions I-X entitled "RACT Options for Can Coating Operations," the Agency stated that a SIP submittal with such provisions would be approvable. This memorandum expands Mr. Rhoads memorandum to cover options which can be utilized by States in determining compliance with can coating VOC emission limitations.

Mr. Rhoads' memorandum stated that a State's regulation which provides for a daily weighted average in conjunction with a plantwide emission limitation would be approvable as part of a SIP. This is because of the severe practical problems faced by can manufacturing plants where a number of lines apply as many as 50 different coatings, depending on the end uses of the cans. In this industry, line specific emission limitations may cause can coaters to be in violation when a high solvent coating is applied.

Regulatory language in State Implementation Plans defining the allowable emission limits for can coating operations differs in detail from State to State and among areas in individual States. The Agency believes that for the most part, the States and relevant local agencies may utilize a daily weighted average to determine whether a can manufacturing operation is in compliance with the State's emission limitations. EPA is issuing this interpretative

statement to notify State and local agencies that in EPA's view, in general, their regulations may be interpreted as allowing daily weighted averages for approving permits and compliance plans without further regulatory changes or the need for a SIP revision. EPA encourages such an interpretation.¹

Compliance can be determined for any 24-hour period based on total actual emissions calculated from daily units of production records (e.g., number of each type of can, sheet, or end), application rates of each coating (e.g., gallons/units of production), solvent and solids content of each coating, and control efficiency. This would then be compared to the total allowable emissions for that production mix assuming each coating complied with applicable emission limitations. The attached suggested format allows use of a standardized equation to express the weight of VOC per gallon of coatings, less water, in terms of weight of VOC per gallon of solids to determine compliance. The pounds of solvent per gallon of coating should be based on a certified analysis of the VOC content of each coating given to the user by the supplier. This analysis should be verifiable by laboratory analysis. For purposes of emission limitation compliance, VOC content of coatings is the responsibility of the user. The percent capture and control efficiency must be established by using approved test methods on the worst case solvent or for all cases of use and held constant until such time as a new test is conducted to demonstrate a different efficiency.

It is essential that companies keep detailed records in a format that will allow simple and accurate verification and that the information be available as necessary for compliance certification and possible enforcement action. Further, standard test methods to verify the solvent content of each coating should be in accordance with those prescribed in the State's regulations.

States are urged to utilize enforcement techniques which encourage the development and use of low solvent coatings technology in the can manufacturing industry. In the long run, use of such technology is preferable to incineration from the point of view of reliability and maintenance of controls, as well as for purposes of energy conservation.

Attachment

cc: Director, Air and Hazardous Materials Division, Regions I-X
Director, Enforcement Division, Regions I-X
Jeff Miller, Office of Enforcement
Michele Beigel Corash, Office of General Counsel

¹ This compliance method may be applicable to multiplant situations where the plants are under common ownership or control and are located in the same geographic area. EPA will consider approval of such multiplant applications of this method.

Attachment

Suggested Form for Determining Compliance¹
for Can Coating Operations

Actual Emissions

	lb VOC/ gal coating less water (a)	% Solids (b)	% Solvent (c)	% Water (d)	lb VOC/ gal solids (e)	Application rate (gal/units produced (f)	Units Produced (g)	Gal coating applied (f x g) (h)	Gal solids applied (b x h + 100) (i)	Control ² efficiency (j)	lb of VOC [e x ix(1-j)] (k)
1. Sheet Coating	5.42	26.4	73.6	--	20.52	22	5	110	29.0	0.81	113.1
2. Sheet Coating	1.09	50.0	8.7	41.3	1.28	10	24	240	120.0	--	153.6
3. Sheet Coating	5.06	31.2	68.8	--	16.23	10	24	240	74.9	0.81	231.0
4. Side Seam	6.34	13.9	86.1	--	45.59	1.5	18	27	3.8	--	173.2
5. Inside Spray	3.91	16.0	18.1	65.9	8.33	8	24	192	30.7	--	255.7
6. End Compound	4.20	42.9	57.1	--	9.80	1.5	24	36	15.4	--	150.9
ACTUAL TOTAL EMISSIONS 1077.5											

Allowable Emissions Using Complying Coating³

	lb VOC/ gal coating less water (a)	% Solids (b)	% Solvent (c)	% Water (d)	lb VOC/ gal solids (e)	Application rate (gal/units produced (f)	Units Produced (g)	Gal coating applied (f x g) (h)	Gal solids applied (b x h + 100) (i)	Control ² efficiency (j)	lb of VOC [e x ix(1-j)] (k)
1. Sheet Coating	2.8	--	--	--	4.52	--	--	--	29.0	--	131.1
2. Sheet Coating	2.8	--	--	--	4.52	--	--	--	120.0	--	542.4
3. Sheet Coating	2.8	--	--	--	4.52	--	--	--	74.9	--	338.5
4. Side Seam	5.5	--	--	--	21.76	--	--	--	3.8	--	82.7
5. Inside Spray	4.1	--	--	--	9.78	--	--	--	30.7	--	300.2
6. End Compound	3.7	--	--	--	7.44	--	--	--	15.4	--	114.6
ALLOWABLE TOTAL EMISSIONS 1509.5											

NOTE: Data in columns a, b, c, d, f, g, and j (under actual emissions) obtained from plant records including thinning solvent.
D = Density of solvent for complying coating (average is 7.36 lbs/gallon).

$$(e) = \left(\frac{(a) \times 100\%}{(b)} \right) \quad \text{or} \quad (e) = \left(\frac{D \times (a)}{[D - (a)]} \right)$$

¹ Concept based on the following principal for comparing actual and allowable emissions: Pounds VOC emitted = pounds VOC per gallon of solids x gallons of solids applied per unit. (Same gallons of solids applied for actual and allowable).

² Control efficiency varies with emission devices used. The percent capture and control efficiency must be established by using approved test methods on the worst case solvent or for all cases of use and held constant until such time as a new test is conducted to demonstrate a different efficiency.

³ Complies with State VOC emission limitations.