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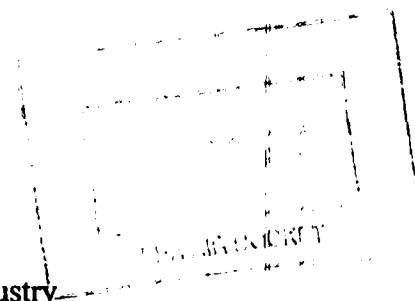
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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

July 23, 1997

Attn: Ms. Karen L. Holmes
EC/R Incorporated
2327 Englert Dr., Suite 100
Durham, NC 27713



Subject: Information on Metal Furniture Manufacturing Industry

Dear Ms. Holmes:

I am writing in response to your letter of June 9, 1997, in which you request information regarding sources of HAP and VOC emissions in the metal furniture manufacturing industry.

Our records indicate that there are only a few small operations currently operating within our agency's jurisdiction in this source category (none of these facilities require Title V Permits). Copies of recent emission inventory listings for these facilities are enclosed. Also enclosed for your information is a copy of our Regulation 8, Rule 14: Surface Coating of Large Appliances and Metal Furniture.

I hope that this information is helpful to you. If I can be of further assistance, please call me at (415) 749-4653.

Very truly yours,

A handwritten signature in dark ink, appearing to read "BBateman".

Brian Bateman
Manager, Toxics Evaluation Section

BB:bb
Enclosures

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**REGULATION 8
ORGANIC COMPOUNDS
RULE 14
SURFACE COATING OF LARGE APPLIANCES AND METAL FURNITURE**

(Adopted March 7, 1979)

8-14-100 GENERAL

8-14-101 Description: The purpose of this Rule is to limit emissions of volatile organic compounds (VOC) from the coating of large appliances and metal furniture. Any operation which is determined to be exempt from the provisions of this Rule shall be subject to the provisions of Rule 4, if not already subject to another rule of Regulation 8. (Amended December 19, 1984; June 7, 1989)

8-14-110 Exemption, Low Usage Coatings: The requirements of Sections 8-14-301 and 302 shall not apply to the use of any coating used in volumes less than 75.7 liters (20 gal) in any one calendar year, provided the requirements in Section 8-14-402 are satisfied. A person shall be limited to 208.1 liters (55 gallons) total coating per year under this exemption.

(Amended December 19, 1984; January 7, 1987; June 7, 1989; June 1, 1994)

8-14-111 Exemption Touch-up: The provisions of this Rule shall not apply to touch-up operations. (Amended March 3, 1982; January 7, 1987)

8-14-112 Exemption, Adhesives: The provisions of this Rule shall not apply to the application of adhesives. (Adopted January 7, 1987)

8-14-113 Exemption, Aerosol Cans: The provisions of this Rule shall not apply to coating operations employing hand-held aerosol cans. Such coating is subject to the provisions of Regulation 8, Rule 49.

(Adopted January 7, 1987; Amended June 20, 1990)

8-14-114 Exemption Powder Coatings: The requirements of Sections 8-14-302 and 310 shall not apply to the use of any powder coating provided the emission of VOC to the atmosphere does not exceed that which is equivalent to the use of coatings which comply with those limits.

(Adopted January 7, 1987; Amended April 1, 1987; June 7, 1989)

8-14-115 Deleted April 1, 1987

8-14-116 Deleted April 1, 1987

8-14-117 Deleted April 1, 1987

8-14-118 Deleted April 1, 1987

8-14-119 Deleted April 1, 1987

8-14-200 DEFINITIONS

8-14-201 Air-Dried Coatings: Any coating which is not heated above 90°C (194°F) for the purpose of curing or drying.

8-14-202 Baked Coatings: Any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F). (Amended December 19, 1984)

8-14-203 Deleted June 7, 1989

8-14-204 Large Appliances: Doors, cases, lids, panels and interior support parts of residential or commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners and other similar products.

8-14-205 Metal Furniture: Includes tables, chairs, waste baskets, beds, dishes, lockers, benches, shelving, file cabinets, room dividers, drapery hardware, window blinds and shades or other similar products or parts used to fabricate such products.

(Amended January 7, 1987)

8-14-206 Volatile Organic Compound: Any organic compound (excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and

ammonium carbonate) which would be emitted during use, application, curing or drying of a solvent or surface coating.

206.1 For purposes of calculating VOC content of a coating, any water or any of the following non-precursor organic compounds:

methylene chloride

1,1,1 trichloroethane

1,1,2-trichlorotrifluoroethane (CFC-113)

trichlorofluoromethane (CFC-11)

dichlorodifluoromethane (CFC-12)

dichlorotetrafluoroethane (CFC-114)

chloropentafluoroethane (CFC-115)

chlorodifluoromethane (HCFC-22)

trifluoromethane (HFC-23)

acetone

parachlorobenzotrifluoride (PCBTF)

cyclic, branched or linear, completely methylated siloxanes (VMS)

shall not be considered to be part of the coating.

(Amended January 7, 1987; June 7, 1989, December 20, 1995)

8-14-207 Touch-up: That portion of the coating operation which is incidental to the main coating process but necessary to cover minor imperfections or mechanical damage incurred prior to intended use. (Amended December 19, 1984; January 7, 1987)

8-14-208 Transfer Efficiency: The ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage. (Amended March 3, 1982; January 7, 1987)

8-14-209 Pretreatment Wash Primer: Any coating which contains a minimum of 0.5% acid by weight, is necessary to provide surface etching and is applied directly to bare metal surfaces to provide corrosion resistance and adhesion.

(Adopted January 7, 1987; Amended June 7, 1989)

8-14-210 Powder Coating: Any coating applied as a dry (without solvent or other carrier), finely divided solid which, when melted and fused, adheres to the substrate as a paint film. (Adopted January 7, 1987)

8-14-211 Adhesive: Any coating which is applied for the purpose of bonding surfaces together. (Adopted January 7, 1987)

8-14-212 Solar Absorbant Coating: Any coating which has as its primary purpose the absorption of solar radiation. (Adopted January 7, 1987)

8-14-213 Heat-Resistant Coating: Any coating which during normal use must withstand temperatures of at least 204°C (400°F). (Adopted January 7, 1987)

8-14-215 Metallic Topcoats: Any coating which contains more than 5 g/l (.042 lb/gal) of metal particles, as identified on a technical or material safety data sheet, as applied, where such metal particles are visible in the dried film.

(Adopted January 7, 1987; Amended June 1, 1994)

8-14-216 High-Gloss Coating: Any coating which achieves at least 85% reflectance on a 600 meter when tested by ASTM Method D-523-1989.

(Adopted January 7, 1987; Amended June 7, 1989; October 6, 1993)

8-14-217 Deleted June 7, 1989

8-14-218 High-Volume, Low-Pressure (HVLP) Spray: Equipment used to apply coating by means of a gun which operates between 0.1 and 10.0 psig air atomizing pressure.

(Adopted June 7, 1989; Amended October 6, 1993)

8-14-219 Electrostatic Application: The application of charged atomized paint droplets which are deposited by electrostatic attraction. (Adopted June 7, 1989)

8-14-220 Key System Operating Parameter: An air pollution abatement equipment operating parameter, such as temperature, flow rate or pressure, that ensures operation of the abatement equipment within manufacturer specifications and compliance with the standards in Sections 8-14-302, and 310. (Adopted June 1, 1994)

8-14-300 STANDARDS

- 8-14-301 Deleted June 7, 1989**
- 8-14-302 Limits:** A person shall not apply to any large appliance or metal furniture part or product any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating applied, excluding water, unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an abatement device efficiency of at least 85% that meets the requirements of Regulation 2, Rule 1.
- | | |
|--------------------------|-------------------------------|
| 302.1 Baked Coatings | 275 grams/liter (2.3 lbs/gal) |
| 302.2 Air-Dried Coatings | 340 grams/liter (2.8 lbs/gal) |
- (Amended 3/3/82; 12/19/84; 1/7/87; 6/7/89; 10/6/93)
- 8-14-303 Deleted June 7, 1989**
- 8-14-304 Transfer Efficiency:** All persons subject to this Rule shall use a method of coating application with a transfer efficiency of 65% or greater. Application by properly operated electrostatic application or HVLP spray, flow coat, roller coat, dip coat including electrodeposition and brush coat will serve to comply with this section.
- (Amended 3/3/82; December 19, 1984; June 7, 1989)
- 8-14-305 Deleted October 6, 1993**
- 8-14-306 Deleted June 7, 1989**
- 8-14-307 Deleted June 7, 1989**
- 8-14-308 Prohibition of Specification:** No person shall require for use or specify the application of a coating subject to this Rule if such use or application results in a violation of any of the provisions of this Rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating is to be applied to any large appliance for metal furniture product at any physical location within the District.
- (Adopted January 7, 1987; Amended June 7, 1989)
- 8-14-309 Compliance Statement Requirement:** The manufacturer of coatings subject to this Rule shall include a designation of VOC (as defined in Section 8-14-206) expressed in grams per liter or pounds per gallon of coating, excluding water.
- (Adopted January 7, 1987; Amended April 1, 1987; June 7, 1989)
- 8-14-310 Specialty Coating Limitations:** A person shall not apply to any large appliance or metal furniture any specialty coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (lb VOC per gal) of coating applied, excluding water, unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an abatement device efficiency of at least 85% that meets the requirements of Regulation 2, Rule 1.
- | | | |
|--------------------------------|--------------|------------------|
| | Baked | Air-Dried |
| 310.1 High-Gloss | 360 (3.0) | 420 (3.5) |
| 310.2 Heat-Resistant | 360 (3.0) | 420 (3.5) |
| 310.3 Metallic Topcoat | 360 (3.0) | 420 (3.5) |
| 310.4 Pretreatment Wash Primer | 420 (3.5) | 420 (3.5) |
| 310.5 Solar Absorbant | 360 (3.0) | 420 (3.5) |
- (Adopted April 1, 1987; Amended June 7, 1989; October 6, 1993)
- 8-14-320 Surface Preparation and Cleanup Solvent:** The requirements of this Section shall apply to any person using organic solvent for surface preparation or cleanup:
- 320.1 A person shall use closed containers for the storage or disposal of cloth or paper used for solvent surface preparation and cleanup.
- 320.2 A person shall store fresh or spent solvent in closed containers.
- 320.3 A person shall not use organic compounds for the cleanup of spray equipment including paint lines unless equipment for collecting the cleaning compounds and minimizing their evaporation to the atmosphere is used.
- (Adopted June 7, 1989)
- 8-14-400 ADMINISTRATIVE REQUIREMENTS**
- 8-14-401 Deleted December 19, 1984**

8-14-402 Low Usage Coating Petition: Any person seeking to satisfy the conditions of Section 8-14-110 shall comply with the following requirements:

- 402.1 The user or specifier shall petition the APCO in writing that substitute complying coatings are not available.
- 402.2 If the APCO grants written approval, such petition will be repeated on an annual basis.
- 402.3 If the APCO grants written approval, such approval shall contain volume and VOC limit conditions.
- 402.4 Records shall be maintained as in Section 501.

(Adopted 3/3/82; Amended 12/19/84; 1/7/87; June 7, 1989; October 6, 1993)

8-14-403 Deleted June 7, 1989

8-14-500 MONITORING AND RECORDS

8-14-501 Coating Records: Any person subject to Sections 8-14-302 or 310 shall:

501.1 Maintain a current list of coatings in use which provides all of the coating data necessary to evaluate compliance, including the following information, as applicable:

- a. coating, catalyst and reducer used
- b. quantity of each coating applied
- c. VOC content of coating as applied

501.2 Record on a daily basis the following information, as applicable:

- a. coating and mix ratio of components in the coating used
- b. quantity of each coating applied
- c. identification of specialty coating limit category
- d. oven temperature
- e. type and amount of solvent used for cleanup and surface preparation

501.3 Retain and have the records available for inspection by the APCO for two years.

(Adopted 12/19/84; Amended 1/7/87; 4/1/87; 6/7/89; 6/1/94)

8-14-502 Deleted October 6, 1993

8-14-503 Air Pollution Abatement Equipment, Recordkeeping Requirements: Any person operating air pollution abatement equipment to comply with Sections 8-14-302 and 310, in addition to Section 8-14-501 shall record key system operating parameters on a daily basis.

(Adopted June 1, 1994)

8-14-600 MANUAL OF PROCEDURES

8-14-601 Analysis of Samples: Samples of volatile organic compounds as specified in Sections 8-14-302 and 310 shall be analyzed as prescribed in the Manual of Procedures, Volume III, Method 21 or 22.

(Adopted 3/17/82; Amended 12/19/84; 1/7/87; 4/1/87; 6/7/89)

8-14-602 Determination of Emissions: Emissions of volatile organic compounds as specified in Sections 8-14-302 and 310 shall be measured as prescribed by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A. When either EPA Method 25 or 25A is used, control device equivalency shall be determined as prescribed in 55 FR 26865 (June 29, 1990). A source shall be considered in violation if the VOC emissions measured by any one of the referenced test methods exceed the standards of this rule.

(Adopted 3/17/82; Amended 12/19/84; January 7, 1987; June 7, 1989; June 1, 1994)

8-14-603 Determination of Acid Content: Measurement of acid content as specified in Section 8-14-209 shall be determined in accordance with ASTM Method D-1613-85.

(Adopted October 6, 1993)

List of pollutants and amounts emitted for plant sources that:			
	a. have SIC = 2514, 2522, 2531 or 2542		
	b. or are subject to Regulation 8, Rule 14 and have SIC =		
	2599, 3429, 3495, 3499, 3821, 3843, 3999 and 7641.		
Plant#	Plant Name/ Pollutant	City/ Emissions lbs/day	Principal product
1189	Arrow McBride	East Palo Alto, Ca.	
	Hydrocarbon - mixtures, other/not spec (318)	0	
1342	Johnson Controls, Inc	Livermore, Ca.	Auto Seats
	Glycols (131)	0	
	Hydrocarbon - mixtures, other/not spec (318)	0	
	Isopropyl alcohol (157)	1.3	
	Naphtha (188)	0	
	Organic liquid - other/not spec (201)	0.2	
2765	Suba Mfg, Inc	Benicia, Ca.	Countertops
	Acetone (455)	1.8	
	Hydrocarbon - mixtures, other/not spec (318)	0.6	
	Toluene (293)	0.8	
6413	Northwood Industries, Inc	Union City, Ca.	Office Furniture
	no approved emissions for sources that apply		
6485	Walter Jacobi And Sons, Inc	Belmont, Ca.	Church Furniture
	Aliphatic aldehydes (15)	1.3	
	Butyl acetate (48)	2.1	
	Hydrocarbon - mixtures, other/not spec (318)	3.6	
	Organic liquid - other/not spec (201)	0	
	Particulates (portion of total not spec elsewhere) (199)	0	
7529	PIC Industries	Redwood City, Ca.	
	Benzene (41)	0	
	Carbon Monoxide (CO) pollutant (4990)	0	
	Nitrogen Oxides (part not spec elsewhere) (2990)	0	
	Organics (part not spec elsewhere) -- including Metha	0	
	Particulates (portion of total not spec elsewhere) (199)	0	
	Sulfur Dioxide (SO2) (3990)	0	
10465	Nor Cal Window Coverings	Livermore, Ca.	Draperies, Blinds & Shutters
	Butyl cellosolve (522)	0.5	
	Ethyl alcohol (105)	0.3	
	Organic liquid - other/not spec (201)	0	

List of pollutants and amounts emitted for plant sources that:			
	a. have SIC = 2514, 2522, 2531 or 2542		
	b. or are subject to Regulation 8, Rule 14 and have SIC =		
	2599, 3429, 3495, 3499, 3821, 3843, 3999 and 7641.		
Plant#	Plant Name/ Pollutant	City/ Emissions lbs/day	Principal product
1524	Precision Metal Finishing	Gilroy, Ca.	
	Benzene (41)	0	
	Butyl acetate (48)	7.4	
	Carbon Monoxide (CO) pollutant (4990)	0.2	
	Cellosolve acetate (63)	4.4	
	Hydrocarbon - mixtures, other/not spec (318)	0.5	
	LPG (160)	0.3	
	Mineral spirits (184)	0	
	Nitrogen Oxides (part not spec elsewhere) (2990)	1	
	Organic liquid - other/not spec (201)	2.4	
	Organics (part not spec elsewhere) -- including Metha	0	
	Particulates (portion of total not spec elsewhere) (199	0	
	Sulfur Dioxide (SO2) (3990)	0	
4130	Computer Aided Systems	Hayward, Ca.	
	Organic liquid - other/not spec (-594)	5.7	
	Butyl alcohol (49)	1.3	
	Ethers (103)	0.6	
	Organic liquid - other/not spec (201)	0	
4504	Bank of America	Livermore, Ca.	Warehouse
	Organic liquid - other/not spec (-598)	0.5	
	Naphtha (188)	0.3	
	Organic liquid - other/not spec (201)	0.4	
	Toluene (293)	0.8	
8839	Mr Chairman	Milpitas, Ca.	Furniture
	Organics (part not spec elsewhere) -- including Metha	4	
	Particulates (portion of total not spec elsewhere) (199	0	
11143	Applied Komatsu Technology America	Santa Clara, Ca.	Warehouse Flat Panel Display Equ
	no approved emissions for sources that apply		