

**AIR QUALITY**  
MANAGEMENT DISTRICT

**THESE SUGGESTED FORMS MAY BE USED  
TO COMPLY WITH THE RECORDKEEPING  
REQUIREMENTS OF RULE 451**  
(Surface Coating of Miscellaneous Metal Parts & Products)

- Form 451A List of Currently Used Materials
- Form 451B Monthly Usage and Emissions Record
- Form 451B Sup Quarterly Emissions Summary
- Form 451C Monthly Usage Record for Low Usage Exemption
- Form 451D Daily Usage Record of Non-Compliant Materials
- Form 451E Annual Report for Low Usage Exemption

*YOU MAY REPRODUCE THESE FORMS AS NEEDED.*

**DEFINITIONS OF MATERIALS USED IN SURFACE COATING  
OF MISCELLANEOUS METAL PARTS AND PRODUCTS**

MATERIAL TYPE	DEFINITION
Aluminum Coating for Window Frames and Door Frames	A coating which is applied in a shop environment and is used to protect prefabricated aluminum window frames, window walls, and door frames and which is required to meet the specifications of Architectural Aluminum Manufacturers Association AAMA 605.2-1980.
Camouflage	A coating applied as a topcoat on equipment to conceal such equipment from detection.
Cleanup Material	A VOC-containing material used to clean parts and application equipment used in miscellaneous metal parts and products coating operations.
Coating Remover (Stripper)	A material applied to the surface of any miscellaneous metal part or product to completely remove maskants, coatings or coating residues. A coating remover (stripper) is not a surface preparation material or cleanup material. Material used for the removal of overspray is not considered a coating remover.
Electrical Insulating	A coating which is applied to electrical components expressly for the purpose of electrical insulation.
Extreme High Gloss	A coating which, when tested by American Society for Testing Materials test method D-523 adopted in 1980, shows a 75% reflectance on a 60° meter.
Extreme Performance	A coating that is used on a metal surface where the coated surface, in its intended use, is acutely or chronically exposed to salt water, corrosives, caustics, acids, oxidizing agents, wind or ocean driven debris or electromagnetic pulse.
Heat Resistant	A coating used on a metal surface where the coated surface must withstand a temperature of at least 400° F during normal use.
Metallic/Iridescent	Any coating which contains more than 5.0 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried film.
Non-Skid	Any coating which has, as its primary purpose, the creation of traction to prevent slippage.
Prefabricated Architectural Component	Prefabricated metal parts and products which are to be used as architectural appurtenances or structures and which are coated in a shop environment, not including window frames and door frames.
Pretreatment Wash Primer	A coating which contains at least ½ percent acid by weight, as determined in Section 502.2, and is applied directly to metal surfaces to provide surface etching and corrosion resistance or adhesion of subsequent coatings. A pretreatment wash primer is not a surface preparation material as defined in Section 242.
Silicone Release Coating	A coating which contains silicon resin and is intended to prevent a substance from sticking to metal surfaces such as baking pans.
Solar Absorbent	A coating which has, as its primary purpose, the absorption of solar radiation.
Surface Preparation Material	A VOC-containing material applied to the surface of any miscellaneous metal part or product prior to the application of coatings to clean the substrate or to promote adhesion of subsequent coatings.

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**  
**RULE 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS & PRODUCTS**  
**LIST OF CURRENTLY USED MATERIALS**

P/O # \_\_\_\_\_

RULE 451 COATING CATEGORY PER SECTIONS 301, 302, 304 OR EXEMPT IN SECTION 110 <i>Refer to definitions at the back</i>	MATERIAL TYPE (INDICATE MANUFACTURER, PRODUCT NAME & PRODUCT CODE)			MIXING RATIO AS APPLIED  [A]	VOC CONTENT AS APPLIED EXCLUDING WATER AND EXEMPT COMPOUNDS <b>g/l (lb/gal)</b> [B]	VOC CONTENT AS APPLIED INCLUDING WATER AND EXEMPT COMPOUNDS <b>g/l (lb/gal)</b> [C]	MATERIAL EXCEEDING VOC LIMITS? <b>(YES/NO)</b>  [D]
	MATERIAL	ADDITIVE	SOLVENT				
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

[A] Mixing ratio of coating, reducer, retarder, catalyst, hardener, additive, etc. as applied.

[B] Also known as **Coating VOC**. Used to demonstrate compliance with the VOC limits in Rule 451, Section 301.

[C] Also known as **Material VOC**. Used to demonstrate compliance with the VOC limits in Rule 451, Sections 302 & 304 and to calculate ROC emissions. Alternatively, Coating VOC may be used to calculate ROC emissions, but this calculation overestimates the actual emissions.

[D] VOC limits as specified in Rule 451, Sections 301, 302, 304.3 & 304.5, including materials under the “low usage” exemption.

*For assistance with this form, please call the SMAQMD’s Compliance Assistance Hotline at 916/874-4884.*

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**  
**RULE 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS & PRODUCTS**  
**MONTHLY USAGE AND EMISSIONS RECORD OF MATERIALS COMPLYING**  
**WITH THE VOC CONTENT LIMITS IN SECTIONS 301, 302, 304.3 & 304.5**

MONTH \_\_\_\_\_ 20 \_\_\_\_\_

P/O # \_\_\_\_\_

RULE 451 COATING CATEGORY (SECTIONS 301, 302 & 304) <i>Refer to definitions at the back</i>	METHOD OF APPLICATION (SECTION 303)	TOTAL APPLIED VOLUME gal/month [A]	VOC CONTENT AS APPLIED INCLUDING WATER & EXEMPT COMPOUNDS lb/gal [B]	MONTHLY ROC EMISSIONS lb/month [C]
<b>SECTION 301</b>				
ALUMINUM COATING FOR WINDOW FRAMES AND DOOR FRAMES				
CAMOUFLAGE				
ELECTRICAL INSULATING				
EXTREME HIGH GLOSS				
EXTREME PERFORMANCE				
HEAT RESISTANT				
METALLIC/IRIDESCENT				
NON-SKID				
PREFABRICATED ARCHITECTURAL COMPONENT				
PRETREATMENT WASH PRIMER				
SILICONE RELEASE COATING				
SOLAR ABSORBENT				
ALL OTHER COATINGS				
<b>SECTION 302</b>				
COATING REMOVER (STRIPPER)				
<b>SECTION 304.3</b>				
CLEANUP SOLVENT FOR APPLICATION EQUIPMENT				
<b>SECTION 304.5</b>				
CLEANUP SOLVENT FOR SURFACE PREPARATION				
<b>ROC EMISSIONS, lb/month</b>				
<b>ROC EMISSIONS, lb/quarter (TO-DATE)</b>				

[A] Volume after mixing to include the coating, reducer, retarder, catalyst, hardener, additive, etc.

[B] Also known as Material VOC. Used to calculate ROC emissions.

[C] ROC Monthly Emissions = [A] x [B]. These are the total emissions from all types of coatings and solvents used. Quarterly ROC emissions are determined by adding the monthly emissions in each calendar quarter.

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**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**  
**RULE 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS & PRODUCTS**  
**MONTHLY USAGE FOR LOW USAGE (EXEMPTION) OF MATERIALS EXCEEDING**  
**THE VOC CONTENT LIMITS IN SECTIONS 301, 302, 304.3 & 304.5**

MONTH \_\_\_\_\_ 20 \_\_\_\_\_

P/O # \_\_\_\_\_

RULE 451 COATING CATEGORY (SECTIONS 301, 302 & 304) <i>Refer to definitions at the back</i>	MATERIAL TYPE (INDICATE MANUFACTURER, PRODUCT NAME & PRODUCT CODE)	TOTAL APPLIED VOLUME gal/month  [A]	VOC CONTENT AS APPLIED INCLUDING WATER & EXEMPT COMPOUNDS lb/gal [B]	MONTHLY ROC EMISSIONS lb/month  [C]
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
<b>ROC EMISSIONS, lb/month</b>				
<b>ROC EMISSIONS, lb/quarter (TO-DATE)</b>				

[A] Volume after mixing to include the coating, reducer, retarder, catalyst, hardener, additive, etc.

[B] Also known as Material VOC. Used to calculate ROC emissions.

[C] ROC Monthly Emissions = [A] x [B]. These are the total emissions from coatings and solvents used exceeding the VOC limits in Sections 301, 302, 304.3 & 304.5. Quarterly ROC emissions are determined by adding the monthly emissions in each calendar quarter.

*Rule 451, Section 110 Low usage exemption of materials exceeding the VOC limits pursuant to Sections 301, 302, 304.3 & 304.5:*

<u>Coating Category</u>	<u>Max. Usage Limit</u>
Aluminum Coatings for Window Frame and Door Frames	<200 gal/yr
Pretreatment Wash Primer	<200 gal/yr
All Other Coatings	<55 gal/yr

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**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**  
**RULE 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS & PRODUCTS**  
**ANNUAL REPORT FOR LOW USAGE EXEMPTION**  
**(MATERIALS EXCEEDING VOC CONTENT LIMITS)**

*Submit to the District by January 31st*

YEAR \_\_\_\_\_

P/O # \_\_\_\_\_

MATERIAL TYPE (INDICATE MANUFACTURER, PRODUCT NAME & PRODUCT CODE)	VOC CONTENT AS APPLIED EXCLUDING WATER & EXEMPT COMPOUNDS <b>lb/gal</b> [A]	TOTAL APPLIED VOLUME <b>gal/year</b> [B]
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

[A] Also know as **Coating VOC**. Used to demonstrate compliance with the VOC limits in Rule 451, Sections 301, 302, 304.3 & 304.5.

[B] **SECTION 110:** Low usage exemption of materials exceeding the VOC limits pursuant to Sections 301, 302, 304.3 & 304.5.

Coating Category

Max. Usage Limit

*Aluminum Coatings for Window Frame and Door Frames*  
*Pretreatment Wash Primer*  
*All Other Coatings*

*<200 gal/yr*  
*<200 gal/yr*  
*<55 gal/yr*

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**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**  
**RULE 451 – SURFACE COATING OF MISCELLANEOUS METAL PARTS & PRODUCTS**  
**QUARTERLY EMISSIONS SUMMARY**

YEAR \_\_\_\_\_

P/O # \_\_\_\_\_

FIRST QUARTER	
MONTH	MONTHLY EMISSIONS [A] (May be obtained from FORM 451B)
January	
February	
March	
TOTAL QUARTERLY ROC EMISSIONS, LB/QUARTER	

SECOND QUARTER	
MONTH	MONTHLY EMISSIONS [A] (May be obtained from FORM 451B)
April	
May	
June	
TOTAL QUARTERLY ROC EMISSIONS, LB/QUARTER	

THIRD QUARTER	
MONTH	MONTHLY EMISSIONS [A] (May be obtained from FORM 451B)
July	
August	
September	
TOTAL QUARTERLY ROC EMISSIONS, LB/QUARTER	

FOURTH QUARTER	
MONTH	MONTHLY EMISSIONS [A] (May be obtained from FORM 451B)
October	
November	
December	
TOTAL QUARTERLY ROC EMISSIONS, LB/QUARTER	

[A] Monthly ROC emissions are the total emissions from all types of coatings and solvents used.

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