



Rick Snyder, Governor
Dan Wyant, Director

Michigan Department of Environmental Quality
Air Quality Division

MICHIGAN AIR EMISSIONS REPORTING SYSTEM (MAERS)

A-101 ACTIVITY FORM INSTRUCTIONS AND EXAMPLE

The material information describes what material is consumed, applied, or produced. The material throughput must be reported in the same unit codes as the unit codes indicated in the emission factors for the Source Classification Code (SCC) chosen. The Material and Unit Codes may be different than what was previously reported. Before entering the Material Throughput information, verify that you are reporting in the Material and Unit Code required for that SCC. Refer to the electronic SCC table available on our website www.michigan.gov/deqair; go to “Emissions”, “Emissions Reporting”, and then “MAERS Support Resources”, under Reference Tables

INVENTORY YEAR

1. **Inventory Year – (Required)** the year in which the emission unit activities took place. (Example: 2011 is the inventory year for the 2011 MAERS report, which is due March 15, 2012.)

FORM REFERENCE SECTION:

2. **Form Type** - DEQ Air Quality reference identification for the form.
3. **AQD Source ID (SRN) - (Required)** AQD Source ID (SRN) is where the SRN must be entered. This number is also called a State Registration Number (SRN).
4. **EU or RG ID - (Required)** Enter the EU ID that you created on the Emission Unit forms EU-101, Field 5 or the RG ID on the RG-101 Reporting Group forms, Field 5.

EMISSION UNIT ACTIVITY SECTION:

Every source must complete one of these sections for each SCC associated with this Emission Unit ID (EU) or Reporting Group ID (RG). Select ADD only if this is a new SCC for the current Emission Unit ID or Reporting Group ID.

5. **SCC - (Required)** This is an eight-character code that describes a process creating emissions at an Emission Unit. **Multiple use of an SCC on the A-101 is not available.** Refer to the electronic SCC table available on our website www.michigan.gov/deqair; go to “Emissions”, “Emissions Reporting”, and then “MAERS Support Resources”, under Reference Tables and verify that the SCC is appropriate for the Emission Unit. Complete the Activity Information Section for each SCC that represents the processes that take place in this Emission Unit. Use the SCC within your source's major NAICS group. When the appropriate codes cannot be found within your major NAICS group, select the SCCs which most accurately describe the process using the entire SCC table for reference.
6. **SCC Comment** - Provide a brief description for the process that best represents this activity.
7. **Remove from MAERS** - Check “YES” if you would like to have this activity information removed from MAERS, if the Emission Unit no longer supports this activity. Check “No” if there are no changes to this SCC and SCC description.
- 8.-11. **Seasonal Material Usage Schedule** – Indicate the percentage of material used per season. The quarterly percentages are now changed to specific months. The breakdown is as follows: January, February and December, 2011, March through May, June through August, September through November. The total of all four seasonal percentages must equal 100%.
- 12.-14. **Operating Schedule** - Indicate the normal operating schedule in hours per day, days per week, and days per year based on an annual average.

MATERIAL INFORMATION SECTION:

- 15A. **Material Code** - Enter the throughput material name as specified by the SCC. Refer to the electronic SCC table available on our website www.michigan.gov/deqair; go to “Emissions”, “Emissions Reporting”, and then “MAERS Support Resources”, under Reference Tables.
- 15B. **Material Throughput** – **This is a required field that must be updated every reporting year.** Enter the amount of material (on an annual basis) processed, produced, applied, or combusted during the reporting year for the SCC associated with the Emission Unit.

- 15C. Unit Code** - List the throughput unit code associated with the SCC (as indicated in the emission factor table). The unit code may be different than what was previously reported. Refer to the DEQ website and check for the throughput unit codes that are associated with the SCC on the Emission Factor Table. The DEQ – AQD website address is: www.michigan.gov/deqair. Go to “Emissions”, “Emissions Reporting” and then “MAERS Support Resources”, under Reference Tables.
- 16. Operator’s Material Description** - Provide a brief description of the material that is processed, produced, applied, or combusted.
- 17. VOC Content** – This field is only required if the material is a coating or solvent. Enter the weight percent of the volatile organic compounds (VOC) contained in the throughput material, “as applied”. “As applied” refers to the composition of the throughput material at the point of application.

If thinners are added to the throughput material, the VOC content of the thinner must be considered when calculating the weight percent of VOC “as applied”.

Many coatings, solvents, inks, paints, and adhesives contain water. Water is a volatile compound but it is not an organic compound. The weight of the water must be included in the calculation of the weight percent of VOC “as applied”. At the same time, care must be taken to ensure that the water is not included as a VOC in the estimated emission.

Details for calculating the weight percent of VOC are found in the Coatings and Adhesives Fact Sheet. The DEQ – AQD website address is: www.michigan.gov/deqair. Go to “Emissions”, “Emissions Reporting” and then “MAERS Support Resources”, under Reference Tables.

- 18. Density** – Density is required for materials that have a volumetric throughput. Enter the density of the throughput material at standard temperature and pressure, and select the appropriate units. For liquids, use pounds per gallon. For solids and gases, use pounds per cubic foot. For example, the densities of some common materials are listed below:

<u>Material</u>	<u>Density</u>
<i>Natural Gas</i>	<i>0.042LB/FT3(S)</i>
<i>Paint</i>	<i>10-15LB/GAL</i>
<i>Varnish</i>	<i>7LB/GAL</i>
<i>Water</i>	<i>8.33LB/GAL</i>
<i>Southern Pine</i>	<i>40LB/FT3</i>
<i>White Oak</i>	<i>48LB/FT3</i>
<i>Sugar Maple</i>	<i>43LB/FT3</i>
<i>Elm</i>	<i>35LB/FT3</i>

19. **BTUs** – British thermal units (BTUs) are only required for fuels. Enter the average heat content in BTUs and select the appropriate unit code. The following table lists **typical** values for heat content, sulfur content and ash content for the more common fuels:

<u>Type of Fuel</u>	<u>Heating Value</u> <u>BTU</u>	<u>% Sulfur (by WT)*</u>	<u>% Ash (by WT)</u>
Solid Fuels			
Bituminous Coal	13,000/LB	0.6-5.4	4-20
Anthracite Coal	12,300/LB	0.5-1.0	7-16
Lignite (@ 35% Moisture)	7,200/LB	0.7	6.2
Wood (@ 40% Moisture)	5,200/LB	N	1-3
Bagasse (@ 50% Moisture)	4,000/LB	N	1-2
Bark (@ 50% Moisture)	4,500/LB	N	1-3**
Coke (Byproduct)	13,300/LB	0.5-1.0	0.5-5.0
Liquid Fuels			
Residual Oil	150,000/GAL	0.5-4.0	0.05-0.1
Distillate Oil	140,000/GAL	0.2-1.0	N
Diesel	137,000/GAL	0.4	N
Gasoline	130,000/GAL	0.03-0.04	N
Kerosene	135,000/GAL	0.02-0.05	N
Liquid Petroleum Gas	94,000/GAL	N	N
Gaseous Fuels			
Natural Gas	1,050/FT3(S)	N	N
Coke Oven Gas	590/FT3(S)	0.5-2.0	N
Blast Furnace Gas	100/FT3(S)	N	N

*N = negligible – Numeric value not required to be reported. (Leave Blank, do not enter zero.)

**Ash content may be considerably higher when sand, dirt, etc. are present.

20. **Sulfur Content** – Sulfur content is only required for fuels. Enter the sulfur content in weight percent. **Acceptable** sulfur content ranges are in the table below:

<u>Type of Fuel</u>	<u>% Sulfur (by WT)</u>
Anthracite or Bituminous Coal	0.02 – 7.00
Distillate	0.01 – 2.00
Natural Gas	0.00 – 0.05
Residual Oil	0.01 – 5.00
Wood or Wood & Bark	0.02 – 5.00
Other Miscellaneous Fuels	0.01 – 7.00

21. **Ash Content** – Ash content is only required for fuels. Enter the ash content in weight percent. **Acceptable** ash content ranges:

<u>Type of Fuel</u>	<u>% Ash (by WT)</u>
Anthracite Coal	0.01 – 11.00
Bituminous Coal	0.01 – 25.00
Natural Gas	0.00 – 0.05
Other Miscellaneous Fuels	0.01 – 25.00

The Office of Environmental Assistance is available to help with MAERS related questions and can be contacted by calling the Environmental Assistance Center at (800) 662-9278 or on the Internet at www.michigan.gov/deqair (select “Clean Air Assistance”).



Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)
A-101 ACTIVITY

1. INVENTORY YEAR
2011

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable, with additions or corrections as necessary. For more detailed instructions, refer to the MAERS General Instructions Booklet. This MAERS form is used to report emission unit activities for a specific inventory year. Enter the specific inventory year in field 1.

FORM REFERENCE		
2. Form Type	A-101	3. AQD Source ID (SRN) A1234
		4. Emission Unit (EU) OR Reporting Group (RG) ID EUBOILER

ACTIVITY INFORMATION				<input checked="" type="checkbox"/> Change	<input type="checkbox"/> Add	
5. Source Classification Code (SCC) 1-03-006-02	6. SCC Description Natural Gas – 10 MMBTU/HR		7. Remove from MAERS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
SEASONAL MATERIAL USAGE SCHEDULE IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%				OPERATING SCHEDULE		
8. WINTER (JAN, FEB & DEC) 25	9. SPRING (MAR - MAY) 25	10. SUMMER (JUN - AUG) 25	11. FALL (SEP - NOV) 25	12. Hours per Day 24	13. Days per Week 5	14. Days per Year 250
MATERIAL INFORMATION						
15A. Material Code Natural Gas		15B. Material Throughput 300		15C. Unit Code MMCF		
16. Operator's Material Description Natural Gas						
17. VOC Content (coatings or solvent) _____ . _____ Weight Percent				18. Density _____ . _____ <input type="checkbox"/> lb / gallon <input type="checkbox"/> lb / ft ³		
19. BTUs (fuel) 1,050		<input type="checkbox"/> lb <input checked="" type="checkbox"/> gallon <input type="checkbox"/> ft ³	20. Sulfur Content (fuel) _____ . _____ Weight Percent		21. Ash Content (fuel) _____ . _____ Weight Percent	

ACTIVITY INFORMATION				<input checked="" type="checkbox"/> Change	<input type="checkbox"/> Add	
5. Source Classification Code (SCC) 1-03-005-01	6. SCC Description No. 2 Distillate Oil		7. Remove from MAERS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
SEASONAL MATERIAL USAGE SCHEDULE IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%				OPERATING SCHEDULE		
8. WINTER (JAN, FEB & DEC) 25	9. SPRING (MAR - MAY) 25	10. SUMMER (JUN - AUG) 25	11. FALL (SEP - NOV) 25	12. Hours per Day 24	13. Days per Week 5	14. Days per Year 250
MATERIAL INFORMATION						
15A. Material Code DISTILLATE		15B. Material Throughput 20		15C. Unit Code E3GAL		
16. Operator's Material Description Distillate Oil – No. 2						
17. VOC Content (coatings or solvent) _____ . _____ Weight Percent				18. Density _____ . _____ <input type="checkbox"/> lb / gallon <input type="checkbox"/> lb / ft ³		
19. BTUs (fuel) 140,000		<input type="checkbox"/> lb <input checked="" type="checkbox"/> gallon <input type="checkbox"/> ft ³	20. Sulfur Content (fuel) 0 . 0 8 Weight Percent		21. Ash Content (fuel) 0 . 0 1 Weight Percent	