



Jennifer M. Granholm, Governor  
Steven E. Chester, Director

Michigan Department of Environmental Quality  
Air Quality Division

## 2008 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 Source Classification Codes (SCC).

#### **New for this year:**

The Material and Unit Codes may be different than what was previously reported. The software is now pulling this information from the most current EPA tables and replacing these fields with the new Material and Unit Code in MAERS 2008. Before entering the Material Throughput information, verify that you are reporting in the Material and Unit Code required for that SCC, which are automatically filled in on the A-101 form. In some cases, the A-101 Material and Unit Codes may be blank and these codes will need to be chosen from the drop-down lists. Using these new Material and Unit Codes will ensure that the Emission Calculator will work for all activities that have these codes in the SCC table.

#### **FORM REFERENCE SECTION:**

1. **Form Type** - DEQ Air Quality reference identification for the form.
2. **AQD Source ID (SRN) - (Required)** - AQD Source ID (SRN) is where the SRN must be entered.
3. **Operator's ID - (Required)** Use the EU ID that you created on the Emission Unit form EU-101, Field 4 or the RG ID on the RG-101 Reporting Group form, Field 4.

## **EMISSION UNIT ACTIVITY SECTION:**

*Every source must complete one of these sections for each SCC associated with this Operator's ID. Only select ADD only if this is a new SCC for the current Operator's ID.*

4. **SCC - (Required)** This is an eight-character code that describes a process creating emissions at an Operator ID. **Multiple use of an SCC on the A-101 is not available.** Refer to the electronic SCC table (on our website [www.michigan.gov/deqair](http://www.michigan.gov/deqair). Go to "Emissions", "Emissions Reporting", and then "MAERS Support Resources") and verify that the SCCs that are contained in the MAERS Source Summary Report are appropriate for the Operator ID. List all SCCs that represent the processes that take place in this Operator ID. Use the codes within your source's major NAICS group. When the appropriate codes can not be found within your major NAICS group, select the SCCs which most accurately describe the process using the entire SCC table for reference. For MAERS software users, the material code (Field 14A.) and unit code (Field 14C.) will be prefilled for most SCC's.
5. **Operator's SCC Comment** - Provide a brief description for the process that best represents this activity.
6. **Remove from MAERS** - Select YES if you would like to have this activity information removed from the Michigan Air Emissions Reporting System (MAERS), if the Operator's ID no longer supports this activity. (The default is NO.)
- 7.-10. **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, 2008, March through May, June through August, September through November. The total of all four seasonal percentages must equal 100%.
- 11.-13. **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:**

- 14A. **Material Code** - Enter the throughput material name as specified by the SCC. If a material code is not prefilled in the software by selecting the SCC, choose an appropriate material code from the dropdown list. A copy of the list may be requested from the district office listed on the Submittal Instructions, Map and Table I guide). The material codes may be different than what was previously reported. The software is now pulling this information from the most current EPA tables and replacing this field with the new material code in MAERS 2008. Before entering the Material Throughput information, verify that you are reporting in the Material code required for that SCC, which is automatically filled in on the A-101 form. Using this new Material code will ensure that the Emission Calculator will work for all activities. In some cases, the A-101 Material and Unit Codes may be blank and these codes will need to be chosen from the drop-down lists that have this code in the SCC table.
- 14B. **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 each SCC associated with the Operator's ID.

- 14C. Unit Code** - List the unit code associated with the SCC (as indicated in the emission factor table). The unit code may be different than what was previously reported. The software is now pulling this information from the most current EPA tables and replacing this field with the new unit code in MAERS 2008. Before entering the Material Throughput information, verify that you are reporting in the unit code required for that SCC, which is automatically filled in on the A-101 form. Using this new unit code will ensure that the Emission Calculator will work for all activities that have these codes in the SCC table. In some cases, the unit code may be blank and this code will need to be chosen from the drop-down list. For paper copy submittals, go to the DEQ website and check for the unit codes that are associated with the SCC on the emission factor table. The DEQ – MAERS website address is: [www.michigan.gov/deqair](http://www.michigan.gov/deqair). Go to “Emissions”, “Emissions Reporting” and then “MAERS Support Resources”. If assistance is needed, contact your Air Quality Division district office by e-mail or phone. (see Submittal Instructions, Map and Table I guide)
- 15. Operator’s Material Description** - Provide a brief description of the material that is processed, produced, applied, or combusted.
- 16. 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.

- 17. 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>
Natural Gas	0.042LB/FT3(S)
Paint	10-15LB/GAL
Varnish	7LB/GAL
Water	8.33LB/GAL
Southern Pine	40LB/FT3
White Oak	48LB/FT3
Sugar Maple	43LB/FT3
Elm	35LB/FT3

18. **BTUs** - BTU's 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 BTU</u>	<u>% Sulfur (by WT)*</u>	<u>% Ash (by WT)</u>
<b><i>Solid Fuels</i></b>			
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
<b><i>Liquid Fuels</i></b>			
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
<b><i>Gaseous Fuels</i></b>			
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.

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

<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

20. **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



Michigan Department of Environmental Quality - Air Quality Division  
Michigan Air Emissions Reporting System (MAERS)  
**EXAMPLE 2008 A-101 ACTIVITY**

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:** Verify the accuracy of all information on last year's forms or summary report and make any necessary additions or corrections. Refer to the General Instructions Booklet for more detailed instructions.

<b>FORM REFERENCE</b>		
1. Form Type <b>A-101</b>	2. AQD Source ID (SRN) <b>A 1234</b>	3. Operator's ID <b>EUBOILER</b>

<b>ACTIVITY INFORMATION</b>				<input checked="" type="checkbox"/> Change	<input type="checkbox"/> Add	
4. Source Classification Code(SCC) <b>1-03-006-02</b>		5. Operator's SCC Comment <b>Natural Gas - 10 MMBTU/HR</b>		6. Remove from MAERS <input type="checkbox"/> Yes <input type="checkbox"/> No		
SEASONAL MATERIAL USAGE SCHEDULE IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%				OPERATING SCHEDULE		
7. WINTER (JAN,FEB & DEC) <b>25</b>	8. SPRING (MAR-MAY) <b>25</b>	9. SUMMER (JUN-AUG) <b>25</b>	10. FALL (SEP-NOV) <b>25</b>	11. Hours per Day <b>24</b>	12. Days per Week <b>5</b>	13. Days per Year <b>250</b>
MATERIAL INFORMATION						
14A. Material Code <b>NATURAL GAS</b>			14B. Material Throughput <b>300</b>		14C. Unit Code <b>MMCF</b>	
15. Operator's Material Description <b>Natural Gas</b>						
16. VOC Content (coatings or solvent) _____ . _____ Weight Percent			17. Density _____ . _____ <input type="checkbox"/> lb / gallon <input type="checkbox"/> lb / ft <sup>3</sup>			
18. BTUs (fuel) <b>1050</b>		<input type="checkbox"/> lb <input checked="" type="checkbox"/> gallon <input type="checkbox"/> ft <sup>3</sup>		19. Sulfur Content (fuel) _____ . _____ Weight Percent		
20. Ash Content (fuel) _____ . _____ Weight Percent						

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

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