

Cutback Asphalt, Road Oils and Emulsified Asphalt

The following categories are being revised by this methodology:

<u>EIC</u>	<u>Category Name</u>
540-560-0400-0000	Cutback Asphalt
540-562-0400-0000	Road Oils
540-566-0400-0000	Emulsified Asphalt.

The attached methodology developed by the Imperial County Air Pollution Control District (ICAPCD) is the foundation of the Northern Sierra methodology. However, the Hot-Mix Asphalt category addressed in the ICAPCD methodology is not being included in this inventory revision.

The miles of maintained roadway used in the revisions here are from Caltrans's Highway Performance Monitoring System, 2012. Statewide asphalt data are from 2012, included in the ICAPCD methodology.

The attached spreadsheet includes 8 tables and is based on ICAPCD's methodology. The principal differences between these tables and those from ICAPCD are as follow:

1. Hot-Mix Asphalt (including "Modified Asphalt") in Table 6 and elsewhere was removed.
2. Table 7 was renumbered as Table 6.
3. Since the ICAPCD methodology was for a whole county, Table 8 was added in order to fractionate emissions for the Portola federal nonattainment area. The fraction of 0.08 is the fraction of Plumas County's miles of maintained roadways that exist in the Portola Nonattainment Area, from a "spatial surrogate that reflects all paved road types" provided by the California Air Resources Board.

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Table 1. Operations with EIC Code in 540- Category					
540-560-0400-0000	Cutback Asphalts				
540-562-0400-0000	Road Oils (Slow Cure)				
540-566-0400-0000	Emulsified Asphalt				
Table 2. Statewide 2012 Usage					
Modified Asphalt	70510	tons			
Cutback Asphalt	30904	tons			
Emulsified Asphalt	66211	tons			
Table 3. Miles of Maintained Roads					
Plumas County	1460	miles			
Statewide	175544	miles			
Fraction	0.00831				
Table 4. 2012 Plumas Asphalt Usage as Fraction of CA					
Type	CA (tpy)	Fraction	Plumas Co. (tpy)		
Cutback Asphalt	30904	0.00831496	256.965596		
Emulsified Asphalt	66211	0.00831496	550.54197		
Table 5. Cutback Asphalt & Road Oils Distribution					
Type	% Distribution				
Cutback Asphalt (100%)	100	256.965596			
Cutback (Medium Cure)	5	12.8482798			
Road Oils (Slow Cure Cutback)	95	244.117316			
Table 6. Asphalt Paving Emission Factors (Sonoma Technology, 2003)					
Type	VOC EF (lb/ton)				
Cutback	268.3				
Road Oils	70.4				
Emulsified	17.9				
Table 7. 2012 Total Plumas Emissions, Asphalt Paving					
EIC	Description	Usage (tpy)	VOC EF (lb/ton)	Emissions (tpy)	
540-560-0400-0000	Cutback Asphalts	12.8482798	268.3	1.724	
540-562-0400-0000	Road Oils (Slow Cure)	244.117316	70.4	8.593	
540-566-0400-0000	Emulsified Asphalt	550.54197	17.9	4.927	
Table 8. Portola NAA Emissions, Asphalt Paving					
EIC	Description	Plumas (tpy)	Portola Fraction	Portola Emissions (tpy)	
540-560-0400-0000	Cutback Asphalts	1.724	0.08	0.138	
540-562-0400-0000	Road Oils (Slow Cure)	8.593	0.08	0.687	
540-566-0400-0000	Emulsified Asphalt	4.927	0.08	0.394	