

**Table 5-4. Emission Rates Modeled - Point Source**

Stack	Description	Acrolein Emission Rate g/ s	Acetaldehyde Emission Rate g/ s	Arsenic Emission Rate g/ s	Formaldehyde Emission Rate g/ s
S1	RTO/Dryer	8.22E-03	3.93E-02	2.09E-06	5.01E-02
S2	RCO/GHM/DHM/PM/PC	4.11E-03	2.04E-03	7.91E-07	4.09E-03
S8	Pellet Storage Silo	--	7.15E-03	--	1.43E-02

**Table 5-5. Emission Rates Modeled - Area Source**

Source	Description	Acetaldehyde Emission Rate		Formaldehyde Emission Rate	
		g/ s	g/ s.m <sup>2</sup>	g/ s	g/ s.m <sup>2</sup>
S3	Chip Storage Silo No. 1	1.43E-03	2.84E-05	2.86E-03	5.69E-05
S4	Chip Storage Silo No. 2	1.43E-03	2.84E-05	2.86E-03	5.69E-05
S5	Chip Storage Silo No. 3	1.43E-03	2.84E-05	2.86E-03	5.69E-05
S6	Chip Storage Silo No. 4	1.43E-03	2.84E-05	2.86E-03	5.69E-05
S7	Chip Storage Silo No. 5	1.43E-03	2.84E-05	2.86E-03	5.69E-05

### 5.1.3 Land Use Classification

Classification of land use in the immediate area surrounding a facility is important in determining the appropriate dispersion coefficients to select for a particular modeling application. The selection of either rural or urban dispersion coefficients for a specific application should follow one of two procedures. These include a land use classification procedure or a population-based procedure to determine whether the area is primarily urban or rural.

Of the two methods, the land use procedure is considered more definitive. The land use within the total area circumscribed by a 5 km radius circle (78.5 km<sup>2</sup>) about the facility was classified using the meteorological land use typing scheme proposed by Auer. If land use types I1 (Heavy Industrial), I2 (Light Industrial), C1 (Commercial), R2 (Residential; Small Lot Single Family & Duplex), and R3 (Residential; Multi-Family) account for 50 percent or more of the circumscribed area, urban dispersion coefficients should be used; otherwise, rural dispersion coefficients are appropriate.

The 1992 United States Geological Survey (USGS) National Land Cover Dataset (NLCD92) set is convenient to use for characterizing land use surrounding a particular facility since it can be processed in AERSURFACE. The AERSURFACE tool was developed to aid users in obtaining surface characteristic values for input into AERMET for AERMOD meteorological data processing. AERSURFACE (v. 13016) was used to count the number of occurrences for each of the 21 USGS NLCD92 land use classes within the 5 km radius circle (78.5 km<sup>2</sup>) about the facility.

Each USGS NLCD92 land use class was compared to the most appropriate Auer land use category to quantify the total urban and rural area. As 98.79% of the area can be classified as rural, rural dispersion coefficients were used.