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## **MEMORANDUM**

To: Elena Lymberidi, Zero Mercury Campaign Coordinator, EEB

From: Alicia Culver

Re: Data on Mercury Content of High-pressure Sodium (HPS) Lamps Available from Major US Manufacturers

**Date: March 31, 2008** 

Below is the data on the mercury content of high-pressure sodium (HPS) lamps offered in the United States by GE Lighting, Philips Lighting and Osram Sylvania. Generally, only GE offers both TCLP-compliant and non-TCLP compliant versions of the same lamp model. GE's Ecolux (TCLP-compliant) models almost always have less mercury, although in one case (400-watt model) the mercury content is the same as its equivalent non-TCLP-compliant model. Sylvania has the best selection of low-mercury and mercury-free HPS lamps. While all of the Philips' models are TCLP-compliant, in some cases their models have the highest mercury content. The higher the wattage, the higher the mercury content in most cases for all of the companies.

So, what spec would facilitate the use of low-mercury HPS lamps? In most cases, specifying TCLP-compliant HPS lamps would enable the specifier to easily get models devoid of the highest mercury levels for each wattage. You could also set numerical levels based on the best two out of three manufacturers' offerings, but that would be complicated and could change as manufacturers reformulate. It would be great to write specifications that would encourage the use of the long-lasting/low-mercury and mercury-free models, but to do so would result in a sole-source spec. What are your suggestions?

## AVAILABLE HPS LAMPS FROM MAJOR US MANUFACTURERS (May 2007)

Watts	OEM	Lamp Description	Lamp Model #	Mercury Content (mg)	TCLP (Y/N)	Mean Lumens	Rated Life (Hours)	Notes
50	GE	LU50	44975	11-30	No	3600	24,000+	No LU50/ECO; Lucalox standard model
50	PH	50S68/ALTO	36867-0	17.7	Yes	3600	24,000+	Ceramalux ALTO
50	SY	LU50/ECO	67510	11	Yes	3600	24,000+	Ecologic, low-mercury
50	SY	LU50/PLUS/ECO	67607	8.5	Yes	3600	30,000	Ecologic, low-mercury and long-life
70	GE	LU70	44033	11-30	No	5450	24,000+	Lucalox standard model
70	GE	LU70/ECO	45760	1-10	Yes	5450	24,000+	Ecolux, low-mercury
70	PH	C70S62/ALTO	36869-6	17	Yes	5670	24,000	Ceramalux, ALTO
70	SY	LU70/ECO	67512	11	Yes	5500	24,000+	Ecolux, low-mercury
70	SY	LU70/HgF/ECO	67565	0.0	Yes	5100	24,000+	Ecologic, mercury-free; lower light output
100	GE	LU100	44037	11-30	No	8550	24,000+	Lucalox standard model
100	GE	LU100/ECO	45761	1-10	Yes	8550	24,000+	Ecolux, low-mercury
100	PH	C100S54/ALTO	36872-0	22.1	Yes	8460	24,000+	Ceramalux
100	SY	LU100/ECO	67514	11	Yes	8000	24,000+	Ecologic, low-mercury
100	SY	LU100/PLUS/ECO	67559	0.9	Yes	9000	30,000	Long-life and very low-mercury
100	SY	LU100/HgF/ECO	67558	0.0	Yes	8500	24,000+	Ecologic, mercury-free
150	GE	LU150/55	44043	10-50	No	14,400	24,000+	Lucalox standard model
150	GE	LU150/55/ECO	45762	1-10	Yes	14,400	24,000+	Ecolux, Low-mercury
150	PH	C150S55/ALTO	36874-6	22.1	Yes	14,220	24,000+	Ceramalux, ALTO
150	SY	LU150/55/ECO	67516	14	Yes	24,000	24,000+	Ecologic
150	SY	LU150/55/PLUS/ECO	67494	1.8	Yes	14,440	30,000	Ecologic, very low mercury and long life
150	SY	LU150/55/HgF/ECO	67566	0.0	Yes	13,200	24,000+	Ecologic, mercury-free

Watts	OEM	Lamp Description	Lamp Model #	Mercury Content (mg)	TCLP (Y/N)	Mean Lumens	Rated Life (Hours)	Notes
200	GE	LU200	44206	10-50	No	19,800	24,000+	Lucolux standard model
200	GE	LU200/ECO	45763	11-30	Yes	19,800	24,000+	Ecolux
200	PH	C200S66/ALTO	36877-9	31	Yes	19,260	24,000+	Ceramalux, ALTO
200	SY	LU200/ECO	67576	14	Yes	19,800	24.000+	Ecologic, low-mercury
200	SY	LU200/PLUS/ECO	67495	3	Yes	19,800	24,000+	Ecologic, very low-mercury and long-life
250	GE	LU250	44047	10-50	No	25,200	24,000+	Lucolux standard model
250	GE	LU250/ECO	45764	11-30	Yes	25,200	24,000+	Ecolux, made with no lead solder
250	PH	C250S50/ALTO	36879-5	31.9	Yes	24,300	24,000+	Ceramalux, ALTO
250	SY	LU250/ECO	67578	14	Yes	26,100	24,000+	Ecologic, low-mercury
250	SY	LU250/PLUS/ECO	67572	3	Yes	26,100	30,000	Ecologic, very low-mercury and long-life
100		7.77400	11071	11.00		47.000	21000	
400	GE	LU400	44054	11-30	No	45,000	24,000+	Lucolux standard model
400	GE	LU400/ECO	45765	11-30	Yes	45,000	24,000+	Ecolux, made with no lead solder
400	PH	C400S51/ALTO	36881-1	31	Yes	45,000	24,000+	Ceramalux, ALTO
400	SY	LU400/ECO	67533	11	Yes	45,000	24,000+	Ecologic, low-mercury
400	SY	LU400/PLUS/ECO	67312	3.7	Yes	45,000	30,000	Ecologic, very low-mercury and long-life
1000	GE	LU1000/ECO	44058	11-30	Yes	126,000	24,000+	Made with no lead solder; no LU1000 available; all TCLP-compliant
1000	PH	C1000S52/ALTO	36883-7	44	Yes	126,000	24,000+	Ceramalux, ALTO
1000	SY	LU1000/PLUS	67316	15	No	124,000	30,000	Not available in ECO (but still relatively low mercury)