

Environmental Protection Agency

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- 78. anthracene
- 80. fluorene
- 81. phenanthrene
- 84. pyrene
- (5) Mold Cooling (§ 464.35(g) and § 464.36(g)):
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- (6) Slag Quench (§ 464.35(h) and § 464.36(h)):
- 34. 2,4-dimethylphenol
- 71. dimethyl phthalate
- (7) Wet Sand Reclamation (§ 464.35(i) and § 464.36(i)):
- 1. acenaphthene
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 71. dimethyl phthalate
- 72. benzo(a)anthracene (1,2-benzanthracene)
- 77. acenaphthylene
- 84. pyrene

(b) *Cast Iron.* An iron containing carbon in excess of the solubility in the austenite that exists in the alloy at the eutectic temperature. Cast iron also is defined here to include any iron-carbon alloys containing 1.2 percent or more carbon by weight.

(c) *Ductile Iron.* A cast iron that has been treated while molten with a master alloy containing an element such as magnesium or cerium to induce the formation of free graphite as nodules or spherules, which imparts a measurable degree of ductility to the cast metal.

(d) *Gray Iron.* A cast iron that gives a gray fracture due to the presence of flake graphite.

(e) *Malleable Iron.* A cast iron made by a prolonged anneal of white cast iron in which decarburization or graphitization, or both, take place to eliminate some or all of the cementite. Graphite is present in the form of temper carbon.

(f) *Steel.* An iron-base alloy containing carbon, manganese, and often other alloying elements. Steel is defined here to include only those iron-carbon alloys containing less than 1.2 percent carbon by weight.

(g) The "primary metal cast" shall mean the metal that is poured in the

greatest quantity at an individual plant.

(h) *Multiple Ferrous Melting Furnace Scrubber Configuration.* A multiple ferrous melting furnace scrubber configuration is a configuration where two or more discrete wet scrubbing devices are employed in series in a single melting furnace exhaust gas stream. The ferrous melting furnace scrubber mass allowance shall be given to each discrete wet scrubbing device that has an associated wastewater discharge in a multiple ferrous melting furnace scrubber configuration. The mass allowance for each discrete wet scrubber shall be identical and based on the air flow of the exhaust gas stream that passes through the multiple scrubber configuration.

(i) *Discrete Wet Scrubbing Device.* A discrete wet scrubbing device is a distinct, stand-alone device that removes particulates and fumes from a contaminated gas stream by bringing the gas stream into contact with a scrubber liquor, usually water, and from which there is a wastewater discharge. Examples of discrete wet scrubbing devices are: Spray towers and chambers, venturi scrubbers (fixed and variable), wet caps, packed bed scrubbers, quenchers, and orifice scrubbers. Semi-wet scrubbing devices where water is added and totally evaporates prior to dry air pollution control are not considered to be discrete wet scrubbing devices. Ancillary scrubber operations such as fan washes and backwashes are not considered to be discrete wet scrubber devices. These ancillary operations are covered by the mass limitations of the associated scrubber. Aftercoolers are not considered to be discrete wet scrubbing devices, and water discharges from aftercooling are not regulated as a process wastewater in this category.

**§ 464.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must

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achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/1,000 kkg or lb/million lb of sand reclaimed; kg/62.3 million Sm<sup>3</sup> or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to non-continuous dischargers.

(a)  *Casting Cleaning Operations.*

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	0.0129	0.0071
Lead (T) .....	0.0353	0.0174
Zinc (T) .....	0.0656	0.025
Oil and grease .....	1.34	0.446
TSS .....	1.7	0.67
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0029
Lead (T) .....	0.79	0.39	0.0098
Zinc (T) .....	1.47	0.56	0.0179
Oil and grease .....	30	10	0.223
TSS .....	38	15	0.446
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.  
<sup>2</sup> These concentrations must be multiplied by the ratio (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.  
<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

(b)  *Casting Quench Operations*

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BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	0.0138	0.0076
Lead (T) .....	0.0376	0.0185
Zinc (T) .....	0.0699	0.0266
Oil and grease .....	1.43	0.476
TSS .....	1.81	0.713
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0031
Lead (T) .....	0.79	0.39	0.0105
Zinc (T) .....	1.47	0.56	0.019
Oil and grease .....	30	10	0.238
TSS .....	38	15	0.476
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.  
<sup>2</sup> These concentrations must be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.  
<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

(c)  *Dust Collection Scrubber Operations.*

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million Sm <sup>3</sup> (pounds per billion SCF) of air scrubbed	
Copper (T) .....	0.218	0.12
Lead (T) .....	0.593	0.293
Zinc (T) .....	1.1	0.421
Total phenols .....	0.656	0.225
Oil and grease .....	22.5	7.51
TSS .....	28.5	11.3
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>
Copper (T) .....	0.29	0.16	0.0488
Lead (T) .....	0.79	0.39	0.165
Zinc (T) .....	1.47	0.56	0.3
Total phenols .....	0.86	0.3	0.15
Oil and grease .....	30	10	3.76
TSS .....	38	15	7.51
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/62.3 million Sm<sup>3</sup> (pounds per billion SCF) of air scrubbed.  
<sup>2</sup> These concentrations must be multiplied by the ratio (0.090/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.  
<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

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(d) *Grinding Scrubber Operations.* No discharge of process wastewater pollutants to navigable waters.

(e) *Investment Casting.*

**BPT EFFLUENT LIMITATIONS**

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	3.19	1.76
Lead (T) .....	8.7	4.3
Zinc (T) .....	16.2	6.17
Oil and grease .....	330	110
TSS .....	419	165
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.716
Lead (T) .....	0.79	0.39	2.42
Zinc (T) .....	1.47	0.56	4.41
Oil and grease .....	30	10	55.1
TSS .....	38	15	110
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.  
<sup>2</sup> These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.  
<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

(f) *Melting Furnace Scrubber Operations.*

**BPT EFFLUENT LIMITATIONS**

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million Sm <sup>3</sup> (pounds per billion SCF) of air scrubbed	
Copper (T) .....	1.02	0.561
Lead (T) .....	2.77	1.37
Zinc (T) .....	5.15	1.96
Total phenols .....	3.01	1.05
Oil and grease .....	105	35
TSS .....	133	52.6
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.228
Lead (T) .....	0.79	0.39	0.771
Zinc (T) .....	1.47	0.56	1.4
Total phenols .....	0.86	0.3	0.701
Oil and grease .....	30	10	17.5
TSS .....	38	15	35
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/62.3 million Sm<sup>3</sup> (pounds per billion SCF) or air scrubbed.

<sup>2</sup> These concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

(g) *Mold Cooling Operations.*

**BPT EFFLUENT LIMITATIONS**

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	0.0428	0.0236
Lead (T) .....	0.117	0.0576
Zinc (T) .....	0.217	0.0827
Oil and grease .....	4.43	1.48
TSS .....	5.61	2.22
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0096
Lead (T) .....	0.79	0.39	0.0325
Zinc (T) .....	1.47	0.56	0.0591
Oil and grease .....	30	10	0.738
TSS .....	38	15	1.48
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.  
<sup>2</sup> These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.  
<sup>3</sup> Within the range of 7.0 to 10.0 at all times.

(h) *Slag Quench Operations.*

**BPT EFFLUENT LIMITATIONS**

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Cooper (T) .....	0.0527	0.0291
Lead (T) .....	0.144	0.0709
Zinc (T) .....	0.267	0.102
Oil and grease .....	5.46	1.82
TSS .....	6.91	2.73
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup>Within the range 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0118
Lead (T) .....	0.79	0.39	0.04
Zinc (T) .....	1.47	0.56	0.0728
Oil and grease .....	30	10	0.909
TSS .....	38	15	1.82
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.

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<sup>2</sup>These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

<sup>3</sup>Within the range of 7.0 to 10.0 at all times.

(i) *Wet Sand Reclamation Operations.*

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of sand reclaimed	
Copper (T) .....	0.217	0.12
Lead (T) .....	0.59	0.291
Zinc (T) .....	1.1	0.418
Total phenols .....	0.642	0.224
Oil and grease .....	22.4	7.47
TSS .....	28.4	11.2
pH .....	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0485
Lead (T) .....	0.79	0.39	0.164
Zinc (T) .....	1.47	0.56	0.299
Total phenols .....	0.86	0.3	0.149
Oil and grease .....	30	10	3.73
TSS .....	38	15	7.47
pH .....	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

<sup>2</sup>These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

<sup>3</sup>Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 1986]

**§ 464.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.**

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/1,000 kkg or lb/million lb of sand reclaimed; kg/62.3 million Sm<sup>3</sup> or lb/billion SCF of air scrubbed) effluent

limitations for copper, lead, zinc, and total phenols. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to non-continuous dischargers.

(a) *Casting Cleaning Operations.* (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	0.0129	0.0071
Lead (T) .....	0.0237	0.0116
Zinc (T) .....	0.0437	0.0165

	Maximum for any 1 day	Maximum for monthly average	Annual average <sup>1</sup>
	(mg/l) <sup>2</sup>	(mg/l) <sup>2</sup>	
Copper (T) .....	0.29	0.16	0.0029
Lead (T) .....	0.53	0.26	0.0067
Zinc (T) .....	0.98	0.37	0.0116

<sup>1</sup> kg/1,000 kkg (pounds per million pounds) of metal poured.

<sup>2</sup>These concentrations must be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) .....	0.0129	0.0071
Lead (T) .....	0.0353	0.0174
Zinc (T) .....	0.0656	0.025