

Environmental Protection Agency

§ 421.332

methods of analysis set forth in 40 CFR part 401 shall apply to this subpart.

§ 421.332 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 shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) Sand drying wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	0.250	0.102
Cyanide (total)	0.165	0.068
Lead	0.239	0.114
Nickel	1.091	0.721
Ammonia (as N)	75.710	33.280
Total suspended solids	23.290	11.080
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(b) Sand chlorination off-gas wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	19.130	7.825
Cyanide (total)	12.610	5.216
Lead	18.260	8.694
Nickel	83.460	55.210
Ammonia (as N)	5,795.000	2,547.000
Total suspended solids	1,782.000	847.700
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(c) Sand chlorination area-vent wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	3.751	1.534
Cyanide (total)	2.472	1.023
Lead	3.580	1.705
Nickel	16.370	10.830
Ammonia (as N)	1,136.000	449.500
Total suspended solids	349.500	166.200
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(d) SiCl₄ purification wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	3.299	1.350
Cyanide (total)	2.174	0.900
Lead	3.149	1.500
Nickel	14.400	9.522
Ammonia (as N)	999.500	439.400
Total suspended solids	307.400	146.200
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(e) Feed makeup wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	2.501	1.023
Cyanide (total)	1.648	0.682
Lead	2.387	1.137
Nickel	10.910	7.217
Ammonia (as N)	757.500	333.000
Total suspended solids	233.000	110.800
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(f) Iron extraction (MIBK) steam stripper bottoms.

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BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	0.987	0.404
Cyanide (total)	0.651	0.269
Lead	0.942	0.449
Nickel	4.308	2.850
Ammonia (as N)	299.100	131.500
Total suspended solids	92.000	43.760
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(g) Zirconium filtrate.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	17.070	6.982
Cyanide (total)	11.250	4.655
Lead	16.290	7.758
Nickel	74.480	49.260
Ammonia (as N)	5,171.000	2,273.000
Total suspended solids	1,590.000	756.400
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(h) Hafnium filtrate.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	0.000	0.000
Cyanide (total)	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(i) Calcining caustic wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	3.959	1.619
Cyanide (total)	2.609	1.080
Lead	3.779	1.799
Nickel	17.270	11.430
Ammonia (as N)	1,199.000	527.200
Total suspended solids	368.900	175.400
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(j) Pure chlorination wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total)	16.860	6.897
Cyanide (total)	11.110	4.598
Lead	16.090	7.663
Nickel	73.570	48.660
Ammonia (as N)	5,108.000	2,245.000
Total suspended solids	1,571.000	747.200
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(k) Reduction area-vent wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total)	1.622	0.663
Cyanide (total)	1.069	0.442
Lead	1.548	0.737
Nickel	7.077	4.681
Ammonia (as N)	491.300	216.000
Total suspended solids	151.100	71.880
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(l) Magnesium recovery off-gas wet air pollution control.

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BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total)	9.123	3.732
Cyanide (total)	6.013	2.488
Lead	8.708	4.147
Nickel	39.810	26.330
Ammonia (as N)	2,764.000	1,215.000
Total suspended solids	850.100	404.300
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(m) Magnesium recovery area-vent wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total)	5.068	2.073
Cyanide (total)	3.340	1.382
Lead	4.838	2.304
Nickel	22.110	14.630
Ammonia (as N)	1,535.000	675.000
Total suspended solids	472.200	224.600
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 .

(n) Zirconium chip crushing wet air pollution control.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium and hafnium produced	
Chromium (total)	0.000	0.000
Cyanide (total)	0.000	0.000
Lead	0.000	0.000
Nickel	0.000	0.000
Ammonia (as N)	0.000	0.000
Total suspended solids	0.000	0.000
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(o) Acid leachate from zirconium metal production.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of pure zirconium produced	
Chromium (total)	12.970	5.304
Cyanide (total)	8.545	3.536
Lead	12.380	5.893
Nickel	56.570	37.420
Ammonia (as N)	3,928.000	1,727.000
Total suspended solids	1,208.000	574.600
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(p) Acid leachate from zirconium alloy production.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium contained in alloys produced	
Chromium (total)	6.939	2.839
Cyanide (total)	4.574	1.893
Lead	6.624	3.154
Nickel	30.280	20.030
Ammonia (as N)	2,102.000	924.200
Total suspended solids	646.600	307.600
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(q) Leaching rinse water from zirconium metal production.

BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium produced	
Chromium (total)	25.930	10.610
Cyanide (total)	17.090	7.072
Lead	24.750	11.790
Nickel	113.200	74.840
Ammonia (as N)	7,856.000	3,453.000
Total suspended solids	2,416.000	1,149.000
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0.

(r) Leaching rinse water from zirconium alloy production.

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BPT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium in alloys produced	
Chromium (total)	0.347	0.142
Cyanide (total)	0.229	0.095
Lead	0.331	0.158
Nickel	1.515	1.002
Ammonia (as N)	105.200	46.240
Total suspended solids	32.350	15.390
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

§ 421.333 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 shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Sand drying wet air pollution control.

BAT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	0.210	0.085
Cyanide (total)	0.114	0.045
Lead	0.159	0.074
Nickel	0.312	0.210
Ammonia (as N)	75.710	33.280

(b) Sand chlorination off-gas wet air pollution control.

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BAT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	16.080	6.521
Cyanide (total)	8.694	3.478
Lead	12.170	5.651
Nickel	23.910	16.080
Ammonia (as N)	5,795.000	2,547.000

(c) Sand chlorination area-vent wet air pollution control.

BAT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	3.154	1.279
Cyanide (total)	1.705	0.682
Lead	2.387	1.108
Nickel	4.688	3.154
Ammonia (as N)	1,136.000	499.500

(d) SiCl₄ purification wet air pollution control.

BAT LIMITATIONS FOR THE PRIMARY ZIRCONIUM AND HAFNIUM SUBCATEGORY

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/kg (pounds per million pounds) of zirconium dioxide and hafnium dioxide produced	
Chromium (total)	2.774	1.125
Cyanide (total)	1.500	0.600
Lead	2.099	0.975
Nickel	4.124	2.774
Ammonia (as N)	999.500	439.400

(e) Feed makeup wet air pollution control.