

**Environmental Protection Agency****§ 471.91**

**§ 471.86 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]**

### **Subpart I—Zirconium-Hafnium Forming Subcategory**

**§ 471.90 Applicability; description of the zirconium-hafnium forming subcategory.**

This subpart applies to discharges of pollutants to waters of the United States, and introductions of pollutants into publicly owned treatment works from the process operations of the zirconium-hafnium forming subcategory.

**§ 471.91 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).**

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 for the process operations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(a) *Rolling spent neat oils—Subpart I—BPT.* There shall be no discharge of process wastewater pollutants.

(b) *Drawing spent lubricants—Subpart I—BPT.* There shall be no discharge of process wastewater pollutants.

(c) *Extrusion spent emulsions—Subpart I—BPT.* There shall be no discharge of process wastewater pollutants.

(d) *Extrusion press hydraulic fluid leakage.*

### **SUBPART I—BPT**

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium extruded |                       |                             |
| Chromium .....  | 0.104                 | 0.043                       |
| Cyanide .....   | 0.069                 | 0.029                       |
| Nickel .....  | 0.455                 | 0.301                       |
| Ammonia .....   | 31.6                  | 13.9                        |
| Fluoride .....  | 14.1                  | 6.26                        |
| Oil and grease .....  | 4.74                  | 2.85                        |
| TSS .....   | 9.72                  | 4.62                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

(e) *Swaging spent neat oils—Subpart I—BPT.* There shall be no discharge of process wastewater pollutants.

(f) *Heat treatment contact cooling water.*

### **SUBPART I—BPT**

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium heat treated |                       |                             |
| Chromium .....  | 0.151                 | 0.062                       |
| Cyanide .....   | 0.100                 | 0.041                       |
| Nickel .....  | 0.659                 | 0.436                       |
| Ammonia .....   | 45.7                  | 20.1                        |
| Fluoride .....  | 20.4                  | 9.06                        |
| Oil and grease .....  | 6.86                  | 4.12                        |
| TSS .....   | 14.1                  | 6.69                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

(g) *Tube Reducing Spent Lubricant—Subpart I—BPT.*

(1) There shall be no discharge of process wastewater pollutants except as provided under paragraph (g)(2) of this section.

(2) Process wastewater pollutants may be discharged, with no allowance for any pollutants discharged, provided the facility owner or operator demonstrates, on the basis of analytical methods set forth in or approved pursuant to 40 CFR part 136, that the concentrations of nitrosamine compounds in the wastewater discharged from the tube reducing process do not exceed 0.050 mg/l of N-nitrosodimethylamine, 0.020 mg/l of N-nitrosodiphenylamine, and 0.020 mg/l of N-nitrosodi-n-propylamine.

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(3) The demonstration required under subparagraph (g)(2) of this section shall be made once per month until the demonstration has been made for all three nitrosamine compounds for six consecutive months, after which time the demonstration may be made once per quarter. If a sample is found to contain any of the foregoing nitrosamine compounds at concentrations greater than those specified in subparagraph (g)(2) of this section, the actions described in paragraph (g)(4), of this section shall be taken, and the demonstration required under paragraph (g)(2) of this section shall be made once per month until it has been made for all three nitrosamine compounds for six consecutive months.

(4) If sampling results show that any of the foregoing nitrosamine compounds is present in the process wastewater at concentrations greater than those specified in subparagraph (g)(2) of this section, the facility owner or operator shall ensure that, within thirty days of receiving written notification of the sampling results, there is no further discharge of tube reducing spent lubricant wastewater until the owner or operator:

(i) Performs a subsequent analysis which demonstrates that the concentrations of the foregoing nitrosamine compounds do not exceed the levels specified in paragraph (g)(2) of this section; or

(ii) Substitutes a new tube reducing lubricant and thereafter complies with the requirements of paragraph (g)(3) of this section; or

(iii) Determines the source of the pollutant whose concentration exceeded the level specified in paragraph (g)(2) of this section and demonstrates to the satisfaction of the NPDES issuing authority that such source has been eliminated.

(5) The concentration limits specified in paragraph (g)(2) of this section apply at the point of discharge from the tube reducing process. However, sampling after the tube reducing wastewater has

been commingled with other wastewaters is permitted if:

(i) Any dilution caused by the other wastewaters is taken into account in determining the appropriate (i.e., lower) allowable discharge concentration; and

(ii) An analytical method of sufficient sensitivity is used to measure the levels of each of the foregoing nitrosamine compounds in the wastewaters being sampled.

*(h) Surface treatment spent baths.*

**SUBPART I—BPT**

| Pollutant or pollutant property  | Maximum for any 1 day | Maximum for monthly average |
|--|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium surface treated |                       |                             |
| Chromium .....   | 0.150                 | 0.61                        |
| Cyanide .....  | 0.099                 | 0.041                       |
| Nickel .....   | 0.653                 | 0.432                       |
| Ammonia .....  | 45.3                  | 20                          |
| Fluoride .....   | 20.3                  | 8.98                        |
| Oil and grease .....   | 6.80                  | 4.08                        |
| TSS .....  | 14                    | 6.63                        |
| pH .....   | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

*(i) Surface treatment rinse.*

**SUBPART I—BPT**

| Pollutant or pollutant property  | Maximum for any 1 day | Maximum for monthly average |
|--|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirkonium-hafnium surface treated |                       |                             |
| Chromium .....   | 3.91                  | 1.60                        |
| Cyanide .....  | 2.58                  | 1.07                        |
| Nickel .....   | 17.1                  | 11.3                        |
| Ammonia .....  | 1,190                 | 521                         |
| Fluoride .....   | 529                   | 235                         |
| Oil and grease .....   | 178                   | 107                         |
| TSS .....  | 364                   | 173                         |
| pH .....   | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

*(j) Alkaline cleaning spent baths.*

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### SUBPART I—BPT

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned |                       |                             |
| Chromium .....  | 0.704                 | 0.288                       |
| Cyanide .....   | 0.464                 | 0.192                       |
| Nickel .....  | 3.07                  | 2.03                        |
| Ammonia .....   | 214                   | 93.8                        |
| Fluoride .....  | 95.2                  | 42.3                        |
| Oil and grease .....  | 32                    | 19.2                        |
| TSS .....   | 65.6                  | 31.2                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

**(k) Alkaline cleaning rinse.**

### SUBPART I—BPT

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium alkaline cleaned |                       |                             |
| Chromium .....  | 13.8                  | 5.65                        |
| Cyanide .....   | 9.11                  | 3.77                        |
| Nickel .....  | 60.3                  | 39.9                        |
| Ammonia .....   | 4,190                 | 1,840                       |
| Fluoride .....  | 1,870                 | 829                         |
| Oil and grease .....  | 628                   | 377                         |
| TSS .....   | 1,290                 | 613                         |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

**(l) Sawing or grinding spent emulsions.**

### SUBPART I—BPT

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium sawed or ground with emulsions |                       |                             |
| Chromium .....  | 0.124                 | 0.051                       |
| Cyanide .....   | 0.082                 | 0.034                       |
| Nickel .....  | 0.540                 | 0.357                       |
| Ammonia .....   | 37.5                  | 16.5                        |
| Fluoride .....  | 16.7                  | 7.42                        |
| Oil and grease .....  | 5.62                  | 3.37                        |
| TSS .....   | 11.5                  | 5.48                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

**(m) Wet air pollution control scrubber blowdown—Subpart I—BPT.** There shall be no allowance for the discharge of process wastewater pollutants.

**(n) Degreasing spent solvents—Subpart I—BPT.** There shall be no discharge of process wastewater pollutants.

**(o) Degreasing rinse—Subpart I—BPT.** There shall be no discharge or process wastewater pollutants.

**(p) Molten salt rinse.**

### SUBPART I—BPT

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium treated with molten salt |                       |                             |
| Chromium .....  | 3.33                  | 1.360                       |
| Cyanide .....   | 2.20                  | 0.907                       |
| Nickel .....  | 14.5                  | 9.60                        |
| Ammonia .....   | 1,010                 | 443                         |
| Fluoride .....  | 450                   | 200                         |
| Oil and grease .....  | 151                   | 90.7                        |
| TSS .....   | 310                   | 148                         |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

**(q) Sawing or grinding contact cooling water.**

### SUBPART I—BPT

| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
|---|-----------------------|-----------------------------|
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium sawed or ground with contact cooling water |                       |                             |
| Chromium .....  | 0.142                 | 0.058                       |
| Cyanide .....   | 0.093                 | 0.039                       |
| Nickel .....  | 0.617                 | 0.408                       |
| Ammonia .....   | 42.8                  | 18.8                        |
| Fluoride .....  | 19.1                  | 8.48                        |
| Oil and grease .....  | 6.42                  | 3.85                        |
| TSS .....   | 13.2                  | 6.26                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

<sup>1</sup> Within the range of 7.5 to 10.0 at all times.

**(r) Sawing on grinding rinse.**

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| SUBPART I—BPT   |                       |                             |
|---|-----------------------|-----------------------------|
| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
| mg/off-kg (pounds per million off-pounds) of sawed or ground zirconium hafnium rinsed |                       |                             |
| Chromium .....  | 0.792                 | 0.324                       |
| Cyanide .....   | 0.522                 | 0.216                       |
| Nickel .....  | 3.46                  | 2.29                        |
| Ammonia .....   | 240                   | 106                         |
| Fluoride .....  | 107                   | 47.5                        |
| Oil and grease .....  | 36                    | 21.6                        |
| TSS .....   | 73.8                  | 35.1                        |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

  

| SUBPART I—BAT   |                       |                             |
|---|-----------------------|-----------------------------|
| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium extruded |                       |                             |
| Chromium .....  | 0.104                 | 0.043                       |
| Cyanide .....   | 0.069                 | 0.029                       |
| Nickel .....  | 0.455                 | 0.301                       |
| Ammonia .....   | 31.6                  | 13.9                        |
| Fluoride .....  | 14.1                  | 6.26                        |

  

|  |  |
|--|--|
| (s) <i>Sawing or grinding spent neat oils—Subpart I—BPT.</i> There shall be no discharge of process wastewater pollutants. | (e) <i>Swaging spent neat oils.</i> —There shall be no discharge of process wastewater pollutants. |
| (t) <i>Inspection and testing wastewater.</i>  | (f) <i>Heat treatment contact cooling water.</i>   |

  

| SUBPART I—BPT   |                       |                             |
|---|-----------------------|-----------------------------|
| Pollutant or pollutant property                                       | Maximum for any 1 day | Maximum for monthly average |
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium tested |                       |                             |
| Chromium .....  | 0.007                 | 0.003                       |
| Cyanide .....   | 0.005                 | 0.002                       |
| Nickel .....  | 0.030                 | 0.020                       |
| Ammonia .....   | 2.06                  | 0.903                       |
| Fluoride .....  | 0.917                 | 0.407                       |
| Oil and grease .....  | 0.308                 | 0.185                       |
| TSS .....   | 0.632                 | 0.301                       |
| pH .....  | ( <sup>1</sup> )      | ( <sup>1</sup> )            |

  

| SUBPART I—BAT   |                       |                             |
|---|-----------------------|-----------------------------|
| Pollutant or pollutant property   | Maximum for any 1 day | Maximum for monthly average |
| mg/off-kg (pounds per million off-pounds) of zirconium-hafnium heat treated |                       |                             |
| Chromium .....  | 0.015                 | 0.006                       |
| Cyanide .....   | 0.010                 | 0.004                       |
| Nickel .....  | 0.066                 | 0.044                       |
| Ammonia .....   | 4.57                  | 2.01                        |
| Fluoride .....  | 2.04                  | 0.906                       |

  

|   |   |
|---|---|
| (g) <i>Tube Reducing Spent Lubricant—Subpart I—BAT.</i>   | (1) There shall be no discharge of process wastewater pollutants except as provided under paragraph (g)(2) of this section. |
| (2) Process wastewater pollutants may be discharged, with no allowance for any pollutants discharged, provided the facility owner or operator demonstrates, on the basis of analytical methods set forth in or approved pursuant to 40 CFR part 136, that the concentrations of nitrosamine compounds in the wastewater discharged from the tube reducing process do not exceed 0.050 mg/l of N-nitrosodimethylamine, 0.020 mg/l of N-nitrosodiphenylamine, |   |

**§471.92 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).**

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 (BAT):

(a) *Rolling spent neat oils—Subpart I—BAT.* There shall be no discharge of process wastewater pollutants.