

Environmental Protection Agency

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471.103 New source performance standards (NSPS).

471.104 Pretreatment standards for existing sources (PSES).

471.105 Pretreatment standards for new sources (PSNS).

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

AUTHORITY: Secs. 301, 304(b), (c), (e), and (g), 306(b) and (c), 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972 as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314(b), (c), (e), and (g), 1316(b) and (c), and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

SOURCE: 50 FR 34270, Aug. 23, 1985, unless otherwise noted.

GENERAL PROVISIONS

§ 471.01 Applicability.

(a) This part applies to discharges of pollutants to waters of the United States and introduction of pollutants into a publicly owned treatment works from the forming of nonferrous metals (including nonferrous metal alloys), except beryllium, copper, and aluminum and their alloys. Aluminum alloys are defined as any alloy in which aluminum is the major constituent in percent by weight. Copper alloys are defined as any alloy in which copper is the major constituent in percent by weight except when copper is alloyed with precious metals. Any copper-precious metal alloy containing 30 percent or greater precious metal is considered a precious metal alloy for the purposes of this part. Beryllium alloys are any alloy in which beryllium is present at 0.1 percent or greater. This part applies to:

(1) Forming operations, including rolling (both hot and cold), extruding, forging, drawing, swaging, cladding, and tube reducing, and

(2) Ancillary operations performed as an integral part of the forming of these metals, including casting for subsequent forming, heat treatment, surface treatment, alkaline cleaning, solvent degreasing, product testing, surface coating, sawing, grinding, tumbling, burnishing, and wet air pollution control.

(b) This part also applies to discharges of pollutants to waters of the United States and introduction of pollutants into a publicly owned treatment works from mechanical metal powder production operations, forming of parts from metal powders, and associated ancillary operations (listed in paragraph (a)(2) of this section) of:

(1) Iron, copper, and aluminum, and their alloys; and

(2) The nonferrous metals and their alloys described in paragraph (a) of this section. This part does not regulate the production of metal powders by chemical means such as precipitation. The production of metal powder as the final step in refining metal is regulated under the Nonferrous Metals Manufacturing Point Source Category regulation, 40 CFR part 421.

(c) Surface treatment includes any chemical or electrochemical treatment applied to the surface of the metal. For the purposes of this regulation, surface treatment of metals is considered to be an integral part of the forming of metals whenever it is performed at the same plant site at which the metals are formed. Such surface treatment operations are not regulated under the Electroplating or Metal Finishing Point Source Category regulations, 40 CFR part 413 or 433, respectively.

(d) Casting is covered by this part when it is performed as an integral part of the metal forming process and takes place at the same plant site at which metals are formed. Such casting will not be regulated under the provisions of Metal Molding and Casting Point Source Category regulations, 40 CFR part 464.

(e) This part does not apply to the forming of the metals cadmium, chromium, gallium, germanium, indium, lithium, manganese, neodymium, or praseodymium.

§ 471.02 General definitions.

In addition to the definitions set forth in 40 CFR part 401, the following definitions apply to this part:

(a) "Nonferrous metal" is any pure metal other than iron or any metal alloy for which a metal other than iron is its major constituent in percent by weight.

(b) "Forming" is a set of manufacturing operations in which metals and alloys are made into semifinished products by hot or cold working.

(c) "Alkaline cleaning" uses a solution (bath), usually detergent, to remove lard, oil, and other such compounds from a metal surface. Alkaline cleaning is usually followed by a water rinse. The rinse may consist of single or multiple stage rinsing. For the purposes of this part, an alkaline cleaning operation is defined as a bath followed by a rinse, regardless of the number of rinse stages. Each alkaline cleaning bath and rinse combination is entitled to a discharge allowance.

(d) "Atomization" is the process in which a stream of water or gas impinges upon a molten metal stream, breaking it into droplets which solidify as powder particles.

(e) "Burnishing" is a surface finishing process in which minute surface irregularities are displaced rather than removed.

(f) "Casting" is pouring molten metal into a mold to produce an object of desired shape.

(g) "Cladding" or "metal cladding" is the art of producing a composite metal containing two or more layers that have been metallurgically bonded together by roll bonding (co-rolling), solder application (or brazing), or explosion bonding.

(h) "Contact cooling water" is any wastewater which contacts the metal workpiece or the raw materials used in forming metals for the purpose of removing heat from the metal.

(i) "Continuous casting" is the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open-ended mold.

(j) "Degreasing" is the removal of oils and greases from the surface of the metal workpiece. This process can be accomplished with detergents as in alkaline cleaning or by the use of solvents.

(k) "Direct chill casting" is the pouring of molten nonferrous metal into a water-cooled mold. Contact cooling water is sprayed onto the metal as it is dropped into the mold, and the metal ingot falls into a water bath at the end of the casting process.

(l) "Drawing" is the process of pulling a metal through a die or succession of dies to reduce the metal's diameter or alter its cross-sectional shape.

(m) "Dye penetrant testing" is a non-destructive method for finding discontinuities that are open to the surface of the metal. A dye is applied to the surface of metal and the excess is rinsed off. Dye that penetrates surface discontinuities will not be rinsed away thus marking these discontinuities.

(n) "Emulsions" are stable dispersions of two immiscible liquids. In the Non-ferrous Metals Forming and Metal Powders Point Source category, this is usually an oil and water mixture.

(o) "Electrocoating" is the electrodeposition of a metallic or non-metallic coating onto the surface of a workpiece.

(p) "Extrusion" is the application of pressure to a billet of metal, forcing the metal to flow through a die orifice.

(q) "Forging" is deforming metal, usually hot, with compressive force into desired shapes, with or without dies. Where dies are used, the metal is forced to take the shape of the die.

(r) "Grinding" is the process of removing stock from a workpiece by the use of a tool consisting of abrasive grains held by a rigid or semi-rigid grinder. Grinding includes surface finishing, sanding, and slicing.

(s) "Heat treatment" is the application of heat of specified temperature and duration to change the physical properties of the metal.

(t) "Hot pressing" is forming a powder metallurgy compact at a temperature high enough to effect concurrent sintering.

(u) "Hydrotesting" is the testing of piping or tubing by filling with water and pressurizing to test for integrity.

(v) "Impregnation" is the process of filling pores of a formed powder part, usually with a liquid such as a lubricant, or mixing particles of a non-metallic substance in a matrix of metal powder.

(w) "In-process control technology" is the conservation of chemicals and water throughout the production operations to reduce the amount of wastewater to be discharged.

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(x) "Metal powder production" operations are mechanical process operations which convert metal to a finely divided form.

(y) "Milling" is the mechanical treatment of a nonferrous metal to produce powder, or to coat one component of a powder mixture with another.

(z) "Neat oil" is a pure oil with no or few impurities added. In nonferrous metals forming, its use is mostly as a lubricant.

(aa) "Powder forming" includes forming and compressing powder into a fully dense finished shape, and is usually done within closed dies.

(bb) "Precious metals" include gold, platinum, palladium, and silver and their alloys. Any alloy containing 30 or greater percent by weight of precious metals is considered a precious metal alloy.

(cc) "Product testing" includes operations such as dye penetrant testing, hydrotesting, and ultrasonic testing.

(dd) "Refractory metals" includes the metals of columbium, tantalum, molybdenum, rhenium, tungsten and vanadium and their alloys.

(ee) "Rolling" is the reduction in thickness or diameter of a workpiece by passing it between lubricated steel rollers.

(ff) "Roll bonding" is the process by which a permanent bond is created between two metals by rolling under high pressure in a bonding mill (co-rolling).

(gg) "Sawing" is cutting a workpiece with a band, blade, or circular disc having teeth.

(hh) "Shot casting" is the production of shot by pouring molten metal in finely divided streams to form spherical particles.

(ii) "Stationary casting" is the pouring of molten metal into molds and allowing the metal to cool.

(jj) "Surface treatment" is a chemical or electrochemical treatment applied to the surface of a metal. Such treatments include pickling, etching, conversion coating, phosphating, and chromating. Surface treatment baths are usually followed by a water rinse. The rinse may consist of single or multiple stage rinsing. For the purposes of this part, a surface treatment operation is defined as a bath followed by a rinse, regardless of the number of

stages. Each surface treatment bath, rinse combination is entitled to discharge allowance.

(kk) "Swaging" is a process in which a solid point is formed at the end of a tube, rod, or bar by the repeated blows of one or more pairs of opposing dies.

(ll) "Tube reducing" is an operation which reduces the diameter and wall thickness of tubing with a mandrel and a pair of rolls with tapered grooves.

(mm) "Tumbling" or "barrel finishing" is an operation in which castings, forgings, or parts pressed from metal powder are rotated in a barrel with ceramic or metal slugs or abrasives to remove scale, fins, or burrs. It may be done dry or with an aqueous solution.

(nn) "Ultrasonic testing" is a non-destructive test which applies sound, at a frequency above about 20 HJz, to metal, which has been immersed in liquid (usually water) to locate inhomogeneities or structural discontinuities.

(oo) "Wet air pollution control scrubbers" are air pollution control devices used to remove particulates and fumes from air by entraining the pollutants in a water spray.

(pp) "Grab sample" is a single sample which is collected at a time and place most representative of total discharge.

(qq) "Composite sample" is a sample composed of no less than eight grab samples taken over the compositing period.

(rr) A "flow proportional composite sample" is composed of grab samples collected continuously or discretely in proportion to the total flow at time of collection or to the total flow since collection of the previous grab sample. The grab volume or frequency of grab collection may be varied in proportion to flow.

(ss) The term "control authority" is defined as the POTW if it has an approved pretreatment program; in the absence of such a program, the NPDES State if it has an approved pretreatment program or EPA if the State does not have an approved program.

(tt) "Continuous operations" means that the industrial user introduces regulated wastewaters to the POTW throughout the operating hours of the

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facility, except for infrequent shut-downs for maintenance, process changes, or other similar activities.

(uu) "Intermittent operations" means the industrial users does not have a continuous operation.

(vv) The term "off-kg (off-lb)" means the mass of metal or metal alloy removed from a forming operation at the end of a process cycle for transfer to a different machine or process.

§ 471.03 Compliance date for PSES.

The compliance date for PSES under this regulation is August 23, 1988.

Subpart A—Lead-Tin-Bismuth Forming Subcategory

§ 471.10 Applicability; description of the lead-tin-bismuth 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 lead-tin-bismuth forming subcategory.

§ 471.11 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 emulsions.*

SUBPART A—BPT		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth rolled with emulsions	
Antimony	0.068	0.030
Lead	0.010	0.005
Oil and grease	0.468	0.281
TSS	0.960	0.457
pH		(¹)

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

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(b) *Rolling spent soap solutions.*

SUBPART A—BPT		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pound) of lead-tin-bismuth rolled with soap solutions	
Antimony	0.125	0.055
Lead	0.019	0.009
Oil and grease	0.860	0.520
TSS	1.80	0.840
pH		(¹)

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

(c) *Drawing spent neat oils—Subpart A—BPT.* There shall be no discharge of process wastewater pollutants.

(d) *Drawing spent emulsions.*

SUBPART A—BPT		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth drawn with emulsions	
Antimony	0.076	0.034
Lead	0.011	0.005
Oil and grease	0.526	0.316
TSS	1.08	0.513
pH		(¹)

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

(e) *Drawing spent soap solutions.*

SUBPART A—BPT		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of lead-tin-bismuth drawn with soap solutions	
Antimony	0.022	0.010
Lead	0.003	0.002
Oil and grease	0.149	0.090
TSS	0.306	0.146
pH		(¹)

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

(f) *Extrusion press and solution heat treatment contact cooling water.*