

EPA FACT SHEET

PROPOSED EFFLUENT LIMITATIONS GUIDELINES AND NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE PRODUCTION OF PULP, PAPER, AND PAPERBOARD – Industry Subcategory Definitions

INTRODUCTION

The proposed regulations are organized into 12 subcategories. These subcategories replace the subcategorization scheme used for the existing effluent guidelines for this industry (which are addressed in the Code of Federal Regulations, parts 430 and 431) because they better define the processes typically found in U.S. mills. The proposed subcategories are set forth below.

Dissolving Kraft (Subpart A)

-- Includes production of a highly bleached and purified kraft wood pulp using an alkaline sodium hydroxide and sodium sulfide cooking liquor with acid prehydrolysis. The principal product is a dissolving kraft wood pulp used primarily for the manufacture of rayon, viscose, acetate, and other products requiring a high percentage of alpha cellulose and a low percentage of hemicellulose. This sub-category includes production at facilities that manufacture dissolving grade kraft pulps and papergrade kraft pulps at the same site.

Bleached Papergrade Kraft and Soda (Subpart B)

-- Includes production of a bleached kraft wood pulp using an alkaline sodium hydroxide and sodium sulfide cooking liquor. Principal products include papergrade kraft market pulp, paperboard, coarse papers, tissue papers, uncoated free sheet, and fine papers, which include business, writing, and printing papers.

This subcategory also includes production of bleached soda wood pulp using an alkaline sodium hydroxide cooking liquor. Principal products are fine papers, which include printing, writing and business papers, and market pulp.

Unbleached Kraft (Subpart C)

-- Includes production of kraft wood pulp without bleaching using an alkaline sodium

hydroxide and sodium sulfide cooking liquor. Principal products include unbleached kraft market pulp, bag papers, and liner board (the smooth facing in corrugated boxes).

This subcategory also includes production of both unbleached kraft and semi-chemical wood pulps at mills with cross-recovery processes. Principal products are similar to those produced at stand-alone unbleached kraft mills and stand-alone semi-chemical mills.

Dissolving Sulfite (Subpart D)

-- Includes production of a highly bleached and purified sulfite wood pulp using acidic cooking liquors of calcium, magnesium, ammonium, or sodium sulfites. Pulps produced by this process are used primarily for manufacturing rayon, cellophane, methyl cellulose, ethyl cellulose, nitro-cellulose, cellulose acetate, and other products that require a high percentage of alpha cellulose and a low percentage of hemicellulose. It also includes production at facilities that manufacture dissolving grade sulfite pulps and papergrade sulfite pulps at the same site.

Papergrade Sulfite (Subpart E)

-- Includes production of sulfite wood pulp, with or without brightening or bleaching, using an acidic cooking liquor of calcium, magnesium, ammonium, or sodium sulfites. Principal products include tissue papers, fine papers, newsprint, and market pulp.

Semi-Chemical (Subpart F)

-- Includes production of pulp from wood chips under pressure using a variety of cooking liquors, including, but not limited to, neutral sulfite semi-chemical (NSSC), sulfur free (sodium carbonate), green liquor, and Permachem. The cooked chips are usually mechanically refined. Pulp is produced with or without bleaching. Principal products include corrugating medium, paper, and paperboard. Production of both semi-chemical wood pulp and unbleached kraft wood pulp at the same site using a cross-recovery system is included in the unbleached kraft subcategory.

Mechanical Pulp (Subpart G)

-- Includes production of stone groundwood, refiner mechanical, thermo-mechanical, chemi-mechanical, and chemi-thermo-mechanical pulps. Mechanical pulps are produced using mechanical defibration by either stone grinders or steel refiners. Thermo-mechanical pulp is produced using steam followed by mechanical defibration in refiners. Chemi-mechanical pulp is produced using a chemical cooking liquor to partially cook the wood. The softened wood fibers are further processed by mechanical defibration using refiners. Chemi-thermo-mechanical pulp is produced using steam followed by chemical cooking and mechanical defibration in refiners. Principal products include market pulp, newsprint, coarse papers, tissue, molded fiber products and fine papers, which include business, writing, and printing papers.

During the development of the proposed regulations, EPA frequently referred to Subpart G as the "Groundwood, Chemi-Mechanical, and Chemi-Thermo-Mechanical Subcategory." EPA changed the name of Subpart G to "Mechanical Pulp" because it characterizes the subcategory more correctly.

Non-Wood Chemical Pulp (Subpart H)

-- Includes production of non-wood pulps from chemical pulping processes such as kraft, sulfite, or soda. Fiber furnishes include textiles (rags), cotton linters, flax, hemp, bagasse, tobacco, and abaca. Principal products include market pulp, cigarette plug wrap paper, and other specialty paper products.

Secondary Fiber Deink (Subpart I)

-- Includes production of deinked pulps from wastepapers using a chemical or solvent process to remove contaminants such as inks, coatings, and pigments. Deinked pulp is usually brightened or bleached. Principal products include printing, writing, and business papers, tissue papers, newsprint, and deinked market pulp.

Secondary Fiber Non-Deink (Subpart J)

-- Includes production of pulps from wastepaper without deinking. Pulp is produced with or without brightening. Principal products include tissue, paperboard, molded products, and construction papers. Construction papers may be produced from cellulosic fibers derived from wastepaper, wood flour and sawdust, wood chips, and rags.

Fine and Lightweight Papers from Purchased Pulp (Subpart K)

-- Includes production of fine and lightweight papers produced from purchased virgin pulps or secondary fiber. Principal products include clay coated printing and converted paper, uncoated free sheet, cotton fiber writing paper and thin paper, and lightweight electrical papers.

Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp (Subpart L)

-- Includes production of paperboard, tissue papers, filter papers, and non-woven items from purchased virgin pulps or secondary fiber.