

## Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL  
PROTECTION AGENCYSUBCHAPTER N—EFFLUENT LIMITATIONS,  
GUIDELINES AND STANDARDS

[FRL 540-7]

PART 454—GUM AND WOOD CHEMICALS  
MANUFACTURING POINT SOURCE  
CATEGORY

## Interim Final Rule Making

Notice is hereby given that effluent limitations and guidelines for existing sources to be achieved by the application of best practicable control technology currently available as set forth in interim final form below are promulgated by the Environmental Protection Agency (EPA). The regulation set forth below establishes Part 454—gum and wood chemicals manufacturing point source category and will be applicable to existing sources for char and charcoal briquets subcategory (Subpart A); the gum rosin and turpentine subcategory (Subpart B); the wood rosin, turpentine and pine oil subcategory (Subpart C); the tall oil rosin, pitch and fatty acids subcategory (Subpart D); the essential oils subcategory (Subpart E); and the rosin-based derivatives subcategory (Subpart F) of the gum and wood chemicals manufacturing point source category pursuant to sections 301, 304 (b) and (c), of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 86 Stat. 816 et seq.; P.L. 92-500) (the Act). Simultaneously, the Agency is publishing in proposed form effluent limitations and guidelines for existing sources to be achieved by the application of best available technology economically achievable, standards of performance for new point sources and pretreatment standards for new sources for the char and charcoal briquets subcategory (Subpart A); the gum rosin and turpentine subcategory (Subpart B); the wood rosin, turpentine and pine oil subcategory (Subpart C); the tall oil rosin, pitch and fatty acids subcategory (Subpart D); the essential oils subcategory (Subpart E); and the rosin-based derivatives subcategory (Subpart F).

(a) Legal authority. (1) Existing point sources. Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedural innovations, operating methods and other alternatives. The regulation herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304(b) of the Act, for the char and charcoal briquets subcategory (Subpart A), the gum rosin and turpentine subcategory (Subpart B), the wood rosin, turpentine and pine oil subcategory (Subpart C), the tall oil rosin, pitch and fatty acids subcategory (Subpart D), the essential oils subcategory (Subpart E), and the rosin-based derivatives subcategory (Subpart F) of the gum and wood chemicals manufacturing point source category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The report or "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(2) New sources. Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306 also requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306 of the Act. The regulations proposed herein set forth the standards of performance applicable to new sources for the char and charcoal briquets subcategory (Subpart A), the gum rosin and turpentine subcategory (Subpart B), the wood rosin, turpentine and pine oil subcategory (Subpart C), the tall oil rosin, pitch and fatty acids subcategory (Subpart D), the essential oils subcategory (Subpart E), and the rosin-based derivatives subcategory (Subpart F) of the gum and wood chemicals manufacturing point source category.

Section 307(b) of the Act requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works and 40 CFR 128 establishes that the Agency will propose specific pretreatment standards at the

time effluent limitations are established for point source discharges.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. In another section of the FEDERAL REGISTER regulations are proposed in fulfillment of these requirements.

(b) Summary and basis of interim final effluent limitations and guidelines for existing sources, proposed effluent limitations and guidelines for existing sources to be achieved by the application of the best available technology economically achievable, proposed standards of performance for new sources, and proposed pretreatment standards for new sources.

(1) General methodology. The effluent limitations and guidelines set forth herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, wastewater constituents and other factors require development of separate limitations for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and wastewaters in the operation and the constituents of all wastewater. The constituents of the wastewaters which should be subject to effluent limitations were identified.

The existing control and treatment technologies within each segment were examined. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which exists or is capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems with each treatment and control technology also were noted. In addition, the nonwater quality environmental impact, such as the effects of the application of these technologies upon other pollution problems, including air, solid waste, noise and radiation were examined. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information outlined above was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to

the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

(2) Summary of conclusions with respect to the char and charcoal briquets subcategory (Subpart A), the gum rosin and turpentine subcategory (Subpart B), the wood rosin, turpentine and pine oil subcategory (Subpart C), the tall oil rosin, pitch and fatty acids subcategory (Subpart D), the essential oils subcategory (Subpart E), and the rosin-based derivatives subcategory (Subpart F) of the gum and wood chemicals manufacturing point source category.

(i) Categorization.

For the purpose of establishing effluent limitations guidelines and standards, the gum and wood chemicals manufacturing point source category was divided into six subcategories which facilitated the study of the gum and wood chemicals manufacturing point source category and provided a basis for the six subcategories. Factors such as type of product, raw waste loads, water requirements, type of manufacturing processing, treatability of wastewaters, and other means were used to establish effluent limitations guidelines and standards of performance for each of the specific subcategories. In general, the largest contributing factors are manufacturing operations and treatability of wastewater based on production volume and specific water requirements.

Hence, this broad base subcategorization scheme simplifies the application of effluent limitations and guidelines for a complex mix of production activity and a large number of selected chemical groupings. These categories reflect differences in the character, the volume, and the treatability of wastewater streams due to manufacturing process variables related to each grouping of chemicals.

(ii) Waste characteristics.

The known significant wastewater pollutants and pollutant properties resulting from the gum and wood chemicals manufacturing include pH, total suspended solids, BOD<sub>5</sub>, COD, TOC, metals, and pesticides. BOD<sub>5</sub>, COD, and TOC, which are primary measurements for organic pollution, are evident in wastewaters from the gum and wood chemicals manufacturing point source category.

(iii) Origin of wastewater pollutants.

Sources of wastewater pollutants from gum and wood chemicals manufacturing include aqueous wastes from reactors, filtration systems, decanting systems, distillation vacuum exhaust scrubbers, caustic scrubbers, process equipment

cleanouts, production area washdowns, refining area washdowns, formulation equipment cleanup, and spill washdowns.

Pollutant parameters for the gum and wood chemical manufacturing pertain to wastewaters from process operations. Process wastewater pollutants are proportional to the level of production and it was therefore possible to establish limitations and standards on the basis of production. Other pollutant sources within gum and wood chemical manufacturing plants from nonprocess sources such as utilities, labs, terminals and others are generally not related to production unless otherwise noted.

(iv) Treatment and control technology.

Wastewater treatment and control technologies have been studied for each subcategory of this industry to determine what is the best practicable control technology currently available.

The following discussion of treatment technology provides the basis for the effluent limitations guidelines. This discussion does not preclude the selection of other wastewater treatment alternatives which provide equivalent or better levels of treatment.

Subcategory A (production of char and charcoal briquets via carbonization of hardwood and softwood) is a net water consumer and discharges no process wastewaters. Raw materials and intermediate char and charcoal briquets are handled in a dry form. Any materials outside of the production specification range can be reworked or disposed of in dry form. Therefore, no discharge of process wastewater pollutants is consistent with BPT for this subcategory.

For the other five subcategories both biological oxidation and carbon adsorption processes have been shown to be effective in reducing the pollution load in aqueous wastes generated by gum and wood chemicals manufacturing plants in this point source category. The primary design parameter in BPT, NSPS and BAT wastewater treatment models is BOD<sub>5</sub> removal. The BPT percent removal used is 90.

End-of-pipe treatment technologies commensurate with BPT are based on the utilization of equalization and biological treatment, including activated sludge or aerated lagoon with clarification of the effluent. These end-of-pipe systems may include additional treatment operations such as neutralization, dissolved air flotation for subcategories C and D for the separation of insoluble hydrocarbons and nutrient addition.

The parallel-train design is not normally used for treatment plants in the very low flow range because of economic considerations. For subcategories B, E and F, as flow is small, provision is made for single treatment units with adequate holding capacity. However, standby items should be provided for key process functions.

Equalization facilities are provided to minimize short interval fluctuations in the organic loading to the treatment

plant to absorb loads from reactor cleanouts, accidental spills, and other heavy loads, and to minimize the usage or neutralization chemicals. Equalization will provide for continuous (seven days per week) operation of the wastewater treatment facilities even though the manufacturing facilities may operate only five days a week.

Since many wastewater streams are of low pH, neutralization may be necessary. Alkaline neutralization is provided in the form of hydrated lime storage and feed facilities for subcategories C and D and in the form of caustic soda feed for subcategories B, E and F. Since some of the subcategories have high oil RWL concentrations, dissolved air flotation was recommended for subcategories C and D.

An activated sludge process was selected for the biological treatment portion of the system. However, many of the gum and wood chemical plants are located in the southeastern United States, where aerated lagoons could provide a viable treatment alternative. However, to make the subsequent cost estimates universally applicable, activated sludge was selected. The sludge handling scheme proposed has been developed to handle anticipated small quantities of sludge. The aerobic digester will provide a nonputrescible sludge which can be thickened and stored before being trucked for either land spreading or to a regional treatment facility for dewatering.

The BPT treatment model process includes land spreading of the digested biological sludge. If practiced correctly, this disposal method will not create health hazards or nuisance conditions. However, there is a widespread diversity of opinion over the effects of heavy metals on crop toxicity and in the food chain, and the possible nitrate contamination of the ground water. Carefully controlled sludge application should minimize these problems.

Best available technology economically achievable (BAT) is based upon the very best control and treatment technology employed by the existing exemplary plants in each industrial subcategory. In those industrial subcategories where this level of control and treatment technology was found inadequate for the purpose of defining BAT, control and treatment technologies transferable from other industries or technology demonstrated in pilot plant studies were employed.

Treatment commensurate with BAT requires the application of activated carbon adsorption and filtration to the biological treatment system described for BPT, or the use of second-stage biological treatment in series with the BPT. The specific choice of waste treatment systems should depend on the specific process, or group of processes, in operation at any given facility. The model for subcategories C and D includes dual-media filtration followed by carbon adsorption of the BPT biological treatment plant effluent. The BAT model for the subcategories B, E and F consist of BPT

treatment with addition of dual-media filtration and addition of powdered carbon to the aeration basin. A summary of the general design basis used to size the unit processes is presented in the Development Document.

Dual-media filtration was selected for the BAT treatment model to reduce suspended solids in the biological effluent and to protect the carbon column. The pulsed bed upflow carbon system was selected for subcategories C and D to minimize capital investment for a system with a relatively high carbon exhaustion rate compared to the carbon column inventory.

The BAT waste treatment models show the exhausted carbon being hauled to a sanitary landfill. This is because the amount of carbon exhausted per day is generally less than 500 pounds/day, which is considered below the break-even point for on-site carbon regeneration.

BAT effluent limitations and guidelines for subcategory A are no discharge of process wastewater pollutants. Subcategory A has no discharge and therefore end-of-pipe treatment was not applicable.

New source performance standards (NSPS) is based upon the utilization of both in-plant controls and end-of-pipe process treatment technologies, which include biological treatment as proposed for BPT and removal of additional total suspended solids via effluent filtration for subcategories B through F.

In order to evaluate the economic impact on a uniform treatment basis, end-of-pipe treatment models as described above were proposed which will provide the desired level of treatment.

The combination of in-plant controls and end-of-pipe treatment used to attain the effluent limitations and guidelines is left up to the individual manufacturer to choose on the basis of cost-effectiveness.

Wastewater impoundments may be subject to runoff from their drainage area. Some rainfall events may cause these impoundments to overflow. New sources can be properly located and designed to avoid this problem. Furthermore, existing impoundments can be modified by construction of diversion ditches or by increasing the amount of surge capacity of the impoundment with either a higher dam or a lower operating water level. Through use of these techniques, a rainfall up to the 25 year-24 hour event can be prevented from causing the discharge of process wastewater pollutants.

The application and performance of various control and treatment technologies to reduce the quantities of pollutants discharged to navigable waters as a result of the production or processing operations in the gum and wood chemicals manufacturing are specific to the product manufactured or processed. However, many in-process control measures, as well as end-of-pipe treatment systems, may be generally applied to several product subcategories.

Good in-process control is a significant pollution abatement technique for all

products produced in the gum and wood chemicals manufacturing. Practices such as minimization and containment of spills and leaks, segregation of waste streams, monitoring process wastewater, water conservation and reuse, wastewater equalization and good housekeeping, process operation and equipment maintenance are necessary to eliminate or reduce the volume of process wastewater requiring treatment. Those subcategories in which the facilities have process wastewater, i.e., those plants in subcategories other than A, which often contain suspended solids. These can be removed by sedimentation, clarification and filtration.

If thermal processing (incineration) is the choice for disposal, provisions must be made to ensure against entry of hazardous pollutants into the atmosphere. Consideration should also be given to recovery of materials of value in the wastes.

For those waste materials considered to be nonhazardous where land disposal is the choice for disposal, proper sanitary landfill technology must be followed. The principles set forth in the EPA's Land Disposal of Solid Wastes Guidelines 40 CFR Part 241 may be used as guidance for acceptable land disposal techniques.

Best practicable control technology as known today requires disposal of the pollutants removed from wastewaters in this industry in the form of solid wastes and liquid concentrates. In most cases these are nonhazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure long-term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g., impervious liners) should be taken to ensure long-term protection to the environment from hazardous materials. Where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

(v) Cost estimates for control of wastewater pollutants.

Capital and annual costs were computed for each product process within a subcategory on the basis of the cost per 1,000 pounds of production. Due to the complexity and degree of integration in this industry, it was necessary to make some simplifying assumptions in order to determine costs on a product by product basis. These assumptions are:

(1) that each product process is a discrete plant whose process wastewater is treated in a single end-of-process waste treatment system.

(2) that all wastewaters are treated by the model end-of-process treatment system regardless of alternate disposal tech-

niques and in-process changes which may be made.

New plants being built can avoid major future waste abatement costs by inclusion of: (1) dikes, emergency holding ponds, catch basins and other containment facilities, for leaks, spills and wash-downs, (2) piping, trenches, sewers, sumps, and other isolation facilities to keep leaks, spills and process water separate from cooling and sanitary water, (3) noncontact condensers for cooling water, (4) efficient reuse, recycling and recovery of all possible raw materials and by-products and (5) closed cycle water utilization whenever possible. Closed cycle operation eliminates all waterborne wastes to surface water.

Alternate disposal methods such as incineration or like processes are also commonly used for disposal of highly concentrated and difficult wastes. In any specific case, the manufacturer can best determine the most attractive economic alternatives for in-process controls and end-of-process treatment which will meet the limitations required.

Cost information was obtained directly from industry, from engineering firms, equipment suppliers, government sources, and available literature whenever possible. Costs are based on actual industrial installations or engineering estimates for projected facilities as supplied by contributing companies. In the absence of such information, costs estimates have been developed from either plant-supplied costs for similar waste treatment installation at plants making other similar chemicals or general cost estimates for treatment technology.

(vi) Potential benefits to be achieved.

The point sources in this category discharge a variety of pollutants which can seriously degrade water quality. In some instances the wastes contain materials which may have human health implications. It is estimated that the volume of wastewaters which result from operations within this category amount to 10 billion gallons each year. Besides discharging materials which reduce the oxygen in receiving waters as a result of biological or chemical reactions, substances such as phenols, phosphorus, zinc and oil and grease are released. Phenols have been identified as having serious human health implications at low levels. Oil and grease can cause taste and odor problems, and are extremely toxic to freshwater fish. Phosphorus is perhaps the greatest cause of premature aging of water bodies known as eutrophication. In small quantities it can stimulate plant growth to the nuisance level. Zinc in as low a level as 0.1 mg/l has been reported to be lethal to fish.

While the technology used to determine achievable pollution reduction for this category does not directly address the above named toxic pollutants and others present in the waste stream, it is well known that use of this technology will bring about general reduction of the level of these toxicants in the waste streams. The benefits to be achieved by compliance with these regulations are especially noteworthy in view of the rel-

ative ease with which the pollution reduction can be achieved.

(vii) Energy requirements and non-water quality environmental impacts.

The major nonwater quality consideration which may be associated with in-process control measures is the use of alternative means of ultimate disposal. As the process-raw waste load (RWL) is reduced in volume, alternate disposal techniques become more attractive. Recent regulations are tending to limit the use of ocean discharge and deep-well injection because of the potential long-term detrimental effects associated with these disposal procedures. Incineration is a viable alternative for concentrated waste streams. Associated air pollution and the need for auxiliary fuel, depending on the heating value of the waste, are considerations which must be evaluated on an individual basis for each use.

Other nonwater quality aspects, such as noise levels, will not be perceptibly affected. Most chemical plants generate fairly high noise levels (85-95 decibels) within the battery limits because of equipment such as pumps, compressors, steam jets, flare stacks, etc. Equipment associated with in-process or end-of-pipe control systems would not add significantly to these levels.

Energy requirements associated with treatment and control technologies in the wastewater treatment model are less than 8 percent when compared to the total energy requirements for most plants for this industry.

(viii) Economic and inflationary impact analysis.

Executive Order 11821 (November 27, 1974) requires that major proposals for legislation and promulgation of regulations and rules by agencies of the executive branch be accompanied by a statement certifying that the inflationary impact of the proposal has been evaluated. The Administrator has directed that all regulatory actions that are likely to result in (1) annualized costs of more than \$100 million, (2) additional costs of production more than 5% of the selling price, or (3) an energy consumption increase equivalent to 25,000 barrels of oil per day will require a certified inflationary impact statement. The analysis indicates that the total investment required to meet the regulations is \$5.7 million with an annual cost of \$2.1 million. The costs as a percent of selling price are no more than 2.4% of the selling price. The limits presented in the Administrator's criteria are not expected to be exceeded due to these regulations. The analysis that has been performed satisfies all the requirements for an inflationary impact statement and is certified as such.

The Agency has considered the economic impact of the internal and external costs of the effluent limitations guidelines. Internal costs given in 1975 dollars are defined as investment and annual cost, where annual cost is composed of operating costs, maintenance cost, the cost of capital and depreciation. External cost deals with the assessment of the economic impact of the internal costs in terms of price increases, produc-

tion curtailments, plant closures, resultant unemployment, community and regional impacts, international trade, and industry growth.

Subcategory A (charcoal briquets and char), as noted above, have no process wastewater dischargers. In Subcategory B (gum rosin and turpentine) there are no direct dischargers. In Subcategory C (wood rosin, turpentine and pine oil) three of the five plants have no direct dischargers.

The two direct discharging plants have pollution treatment in place that should be capable of attaining the limitations required for 1977. These two plants will only be affected by the 1983 standards. The total investment required for both plants is \$806,000 and the annual cost is \$294,000. The unit cost of treatment is approximately 2.4% of the selling price. Due to the relatively low costs involved, little effect on production or employment in this subcategory is expected.

Ten of the fourteen plants manufacturing tall oil rosin (Subcategory D) are direct dischargers. The pollution treatment that is currently in place is equivalent to technology that will meet the 1977 standards. Thus, there will be no effect on the industry by the 1977 standards. An investment of \$4.1 million and an annual cost of \$1.6 million will be required by the tall oil rosin producers to meet the 1983 standards. This causes a unit cost of treatment that is approximately 0.9% of selling price. Due to the relatively small costs involved, no effect on production or employment in this subcategory is expected from these regulations.

The three plants in the essential oils subcategory (Subcategory E) have no direct discharges. Eight of the sixteen plants that produce rosin derivatives (Subcategory F) are not direct dischargers. Of the remaining eight only one plant will be affected in 1977, and all eight will be affected in 1983. The one plant will incur investment costs of \$200,000 and annualized costs of \$56,000 for meeting 1977 standards, causing a unit treatment cost that is 0.52 to 0.86% of selling price. The eight plants will incur investment costs of \$570,000 and annualized cost of \$220,000 for meeting the 1983 standards, causing a unit treatment cost that is 0.25 to 0.42% of selling price. Since only one plant is affected in 1977 and the relative costs are quite low, the economic impact to this subcategory is expected to be minimal.

The charcoal manufacturers, gum rosin and turpentine manufacturers, and the essential oil producers will not be economically impacted by these regulations. Charcoal producers use a process that has no wastewater stream; gum, rosin and turpentine and essential oil manufacturers have achieved zero discharge or discharge to a municipal system. Hence, no costs are incurred by these subcategories due to the regulations.

The report entitled "Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Gum and Wood Chemicals Manu-

facturing Point Source Category" details the analysis undertaken in support of the interim final regulation set forth herein and is available for inspection in the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M St. S.W., Washington, D.C. 20460, at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the regulation is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 F.R. 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, WH-552.

When this regulation is promulgated in final rather than interim final form, revised copies of the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis document will be available through the National Technical Information Service, Springfield, VA 22151.

(c) Summary of public participation. Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards proposed for the gum and wood chemicals industry manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); all State and U.S. Territory Pollution Control Agencies; Academy of Pharmaceutical Sciences; Reichhold Chemical, Inc.; Chemware-Champion; National Institutes of Health; H. B. Fuller Company; Union Camp Corporation; Naval Facilities Engineering Command; Olin Corporation; Mobay Chemical Corporation; Monsanto Company; Shell Chemical Company; Stauffer Chemical Corporation; Union Carbide Corporation; Bell and Howell, Inc., Micro Photo Division; MTS Chemicals; Hercules, Inc.; Rohm and Haas Company; Defense Mapping Agency; Pfizer, Inc.; CIBA-GEIGY Corporation; U.S. Army Audio Visual Activity; U.S. Department of Health, Education, and Welfare; E. I. du Pont de Nemours and Company; Allied Chemical Corporation; Pepsi Company; Western Agricultural Chemicals Association; Tennessee Eastman Company; Cabot Corporation; CPAC Company; Diamond Shamrock, Inc.; American Cyanamid Corporation; EPAC; Lederle Laborato-

ries; National Ecological Research Center; Office of Pesticides; Dow Chemical Company; National Association of Pharmaceutical Manufacturers; Abbott Laboratories; Eastman Kodak Company; Office of Environmental Affairs; BASF Wyandotte Corporation; Ohio River Valley Sanitation Commission; The Conservation Foundation; Businessmen for the Public Interest; Environmental Defense Fund, Inc.; Natural Resources Defense Council; American Society of Civil Engineers; Water Pollution Control Federation; National Wildlife Federation; Kimberly Clark Corporation; National Pest Control Association; U.S. Army Corps of Engineers; Carbon Adsorption Systems; AFWL Envirionics; WSME; Institute of Makers of Explosives; Pulp Chemical Association; American Carbon Committee; American Hospital Association; Bureau of Explosives, Association of American Railroads; United Pesticides Formulation and Distribution Association; Technical Association of Pulp and Paper Industry; Professional Photographers of America, Inc.; Adhesive and Sealants Council; Smith, Bucklin and Associates, Inc.; Photo Marketing Association; Carbon Black Producers Traffic Committee; Arundale, Inc.; Enviroengineering, Inc.; U.S. Army Environmental Hygiene Agency; American Defense Preparedness Association; The Fertilizer Institute; National Agricultural Chemicals Association; Walden Research; American Pharmaceutical Association; Pharmaceutical Manufacturers Association; Manufacturing Chemists Association; National Microfilm Association; New England Interstate Water Pollution Control Commission; American Society of Mechanical Engineers; American Medical Association, Public Health Division; U.S. Water Resources Council; U.S. Department of Defense; U.S. Department of Interior; Atlas Powder Company; U.S. Department of the Army; National Association of Photographic Manufacturers; M&T Chemicals, Inc.; FRP Company; Swift Chemical Company; Roberts Consolidated Industries; Eli Lilly and Company; Merck and Company, Inc.; and Parke, Davis and Company.

It should be noted that some of the recipients of the contractor draft documents appear to be and are from areas of interest outside the manufacturing activities covered in this regulation. This situation results because eight industries are being handled as one administratively within the project called miscellaneous chemicals.

The following organizations responded with comments for the gum and wood chemicals manufacturing point source category: EPA, Office of Enforcement; EPA, Office of Planning and Evaluation; Effluent Standards and Water Quality Information Advisory Committee; Hercules Incorporated; North Carolina Department of Natural and Economic Resources; Reichhold Chemicals, Incorporated; Union Camp Corporation; and United States Department of Interior.

The primary issues raised by commenters during the development of the interim final effluent limitations and guidelines and the response to these comments are as follows:

(1) One commenter stated that the effluent limitations as proposed would not be adequate to protect the water quality of low flowing streams.

The effluent limitations guidelines and new source performance standards presented herein essentially are based on the practicability and availability of control and treatment technologies. More stringent standards may be applied to a point source, pursuant to section 303 of the Act, when necessary to preserve water quality.

(2) Variability factors for treatment plant performance transferred from petroleum manufacturing is questionable is the position taken by another commenter.

The gum and wood chemicals manufacturing point source category operates in a manner very similar to the petroleum refining point source category. Both petroleum and gum and wood chemicals wastes are essentially similar in nature and are amenable to biological treatment. The available historical data and the similarity of the two industries indicate that the petroleum manufacturing variability factors are applicable to these production processes. Of course, it is preferable to have long term operating data for each specific plant. However, in this subcategory, such information does not exist, and cannot be assembled, despite repeated requests to industry from the Agency for this data.

(3) Several commenters were concerned that the potential effects on ground water as a result of landfilling wastes were not adequately addressed.

No ground water contamination from the gum and wood chemicals point source category as a result of landfilling has been found. The engineering technology required to design and operate landfill operations to prevent this problem is readily available and widely practiced.

(4) Several commenters felt that the raw waste loads as presented were not correct or were questionable.

The commenters who made this criticism were unable or unwilling to provide the Agency with supporting data. The data used to develop these numbers, derived from survey sampling and historical data, are the most reliable data available at this time.

(5) One commenter felt that an insufficient representation of the gum and wood manufacturers had been surveyed. Seven plants were observed. Of these seven, the commenter states that two discharge to publicly owned treatment plants and one discharges to landfill.

Over 40% of the direct discharging plants were examined by EPA and its contractor. These plants were chosen because they have treatment systems, have segregated wastes from readily identified product lines, have pilot treatment plants in operation and are representa-

tive in size and/or are representative in product grouping.

(6) One commenter felt that not all wastes from the gum and wood chemicals point source category were biodegradable and that the cost model treatment system was not completely applicable.

The cost model is an example of the type of treatment that can treat the wastewater generated in the manufacture of gum and wood chemicals products. It is currently in use in this category. EPA has funded studies on physical/chemical treatment of waste generated from the manufacture of gum and wood chemicals. Results from these studies should identify additional technology that can be used to meet or surpass the effluent limitations. The biological treatment system model used for cost estimating purposes is accepted and used by the manufacturers of gum and wood chemicals products. Of course, this model is not required technology; the individual plant personnel are responsible for selecting the most effective treatment system applicable in their own case.

(7) One commenter felt the recommendations of the addition of a combined filtration and carbon treatment to meet the 1983 limitations appears to have been chosen without benefit of actual performance tests.

The combined filtration and carbon treatment system is, as explained in the development document, for cost model purposes. Whatever treatment systems a company chooses is its decision. The selection of carbon adsorption as the cost model example is based on carbon sorption isotherm results and studies ongoing in the gum and wood chemicals manufacturing point source category. A full scale unit is currently operating at this time in this industry and is a part of the EPA funded ongoing studies.

(8) One commenter felt that BAT standards should be delayed until the results of the BPT regulations were known. If the water quality was acceptable, then no further standards would be necessary.

The U.S. Environmental Protection Agency is required by the Federal Water Pollution Control Act, 33 USC 1251 et seq., to establish effluent limitations, guidelines and standards of performance for point source categories for best practicable control technology currently available, new source and best available technology economically achievable at this time.

(9) One commenter felt that it is unrealistic to set a blanket average limit for BOD<sub>5</sub> reduction of 95 percent for all activated sludge systems. A more reasonable value of 90 percent reduction was suggested.

The Agency and its contractor calculated the BOD removal efficiency of 90% by reference to the historical data for plant number 54 which showed removal efficiencies of 90%. This figure is further supported by both pilot plant data and historical physical/chemical re-

moval efficiencies. The pilot plants were achieving 96 to 98.8% removal and physical/chemical was obtaining 95.4% removal. The Agency has concluded that plant number 54 is an exemplary plant, which may be used as a basis for regulation.

(10) In the contractor's draft development document it was suggested that some of the waste disposal problems be turned over to a private disposal contractor. Commenters stated that this is an ineffective way of solving problems unless the contractor is covered by the same guidelines. They said that such contractors should be covered under the category of "miscellaneous chemicals industry".

The suggestion that contract disposal systems are available was not meant to imply that the generator of the wastes is relieved of the responsibility for proper disposal.

The Agency is subject to an order of the United States District Court for the District of Columbia entered in *Natural Resources Defense Council v. Train et al.* (Cv. No. 1609-73), which requires the promulgation of regulations for this point source category no later than April 30, 1976. This order also requires that such regulations become effective immediately upon publication.

It has not been practicable to develop and publish regulations for this category in proposed form, to provide a comment period, and to make revisions within the time constraints imposed by the court order referred to above. Accordingly, the Agency has determined pursuant to 5 USC § 553(b) that notice and comment on the interim final regulations would be impracticable and contrary to the public interest. Good cause is also found for these regulations to become effective immediately upon publication.

Interested persons are encouraged to submit written comments. Comments should be submitted in triplicate to the Environmental Protection Agency, 401 M St. SW., Washington, D.C. 20460. Attention: Distribution Officer, WH-552. Comments on all aspects of the regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the amendment or modification of the regulation. In the event comments address the approach taken by the Agency in establishing an effluent limitation or guideline EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301 and 304(b) of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M Street, S.W., Washington D.C., 20460. A copy of preliminary

draft contractor reports, the Development Document and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before June 17, 1976 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 F.R. 21202). In the event that the final regulation differs substantially from the interim final regulation set forth herein the Agency will consider petitions for reconsideration of any permits issued in accordance with these interim final regulations.

In consideration of the foregoing, 40 CFR Part 454 is hereby established as set forth below.

Dated: April 30, 1976,

RUSSELL R. TRAPP,  
Administrator.

Subpart A—Char and Charcoal Briquets Subcategory

- Sec. 454.10 Applicability; description of the manufacture of char and charcoal briquets subcategory.
- 454.11 Specialized definitions.
- 454.12 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart B—Gum Rosin and Turpentine Subcategory

- 454.20 Applicability; description of the manufacture of gum rosin and turpentine subcategory.
- 454.21 Specialized definitions.
- 454.22 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart C—Wood Rosin, Turpentine and Pine Oil Subcategory

- 454.30 Applicability; description of the manufacture of wood rosin, turpentine and pine oil subcategory.
- 454.31 Specialized definitions.
- 454.32 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart D—Tall Oil Rosin, Pitch and Fatty Acids Subcategory

- 454.40 Applicability; description of the manufacture of tall oil rosin, pitch and fatty acids subcategory.
- 454.41 Specialized definitions.
- 454.42 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart E—Essential Oils Subcategory

- Sec. 454.50 Applicability; description of the manufacture of essential oils subcategory.
- 454.51 Specialized definitions.
- 454.52 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart F—Rosin-Based Derivatives Subcategory

- Sec. 454.60 Applicability; description of the manufacture of rosin-based derivatives subcategory.
- 454.61 Specialized definitions.
- 454.62 Effluent limitations and guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

AUTHORITY: Secs. 301, 304(b) and (c), 306(b), 307(b) and (c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314(b) and (c), 1316(b) and 1317(b) and (c), 86 Stat. 816 et. seq.; Pub. L. 92-500) (the Act).

Subpart A—Char and Charcoal Briquets Subcategory

§ 454.10 Applicability; description of the manufacture of char and charcoal briquets subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of char and charcoal briquets.

§ 454.11 Specialized definitions.

For the purpose of this subpart:

- (a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in Part 401 of this chapter shall apply to this subpart.
- (b) The term "product" shall mean char and charcoal briquets.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the

basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of char and charcoal briquets by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available: There shall be no discharge of process wastewater pollutants to navigable waters.

**Subpart B—Gum Rosin and Turpentine Subcategory**

**§ 454.20 Applicability; description of the manufacture of gum rosin and turpentine subcategory.**

The provisions of this subpart are applicable to discharges resulting from the manufacture of gum rosin and turpentine.

**§ 454.21 Specialized definitions.**

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean gum rosin and turpentine.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry sub-categorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment

or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of gum rosin and turpentine by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

[Metric units, kg/kg of product;  
English units, lb/1,000 lb of product]

Effluent characteristic	Effluent Limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD <sub>5</sub> .....	1.42.....	0.755
TSS.....	0.077.....	0.020
pH.....	Within the range 6.0 to 9.0.	

**Subpart C—Wood Rosin, Turpentine and Pine Oil Subcategory**

**§ 454.30 Applicability; description of the manufacture of wood rosin, turpentine and pine oil subcategory.**

The provisions of this subpart are applicable to discharges resulting from the manufacture of wood rosin, turpentine and pine oil subcategory.

**§ 454.31 Specialized definitions.**

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean products from wood rosin, turpentine and pine oil.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, de-

velop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry sub-categorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of wood rosin, turpentine and pine oil by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

[Metric units, kg/kg of product;  
English units, lb/1,000 lb of product]

Effluent characteristic	Effluent Limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD <sub>5</sub> .....	2.08.....	1.10
TSS.....	1.38.....	0.475
pH.....	Within the range 6.0 to 9.0.	

**Subpart D—Tall Oil Rosin, Pitch and Fatty Acids Subcategory**

**§ 454.40 Applicability; description of manufacture of tall oil rosin, pitch and fatty acids subcategory.**

The provisions of this subpart are applicable to discharges resulting from the manufacture of tall oil rosin, pitch and fatty acids.

§ 454.41 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean tall oil rosin, pitch and fatty acids.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of tall oil rosin, pitch and fatty acids by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

(Metric units, kg/kg of product;  
English units, lb/1,000 lb of product)

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD <sub>5</sub> .....	0.225.....	0.120
TSS.....	0.705.....	0.215
pH.....	Within the range 6.0 to 9.0.	

Subpart E—Essential Oils Subcategory

§ 454.50 Applicability; description of the essential oils subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of essential oils.

§ 454.51 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean essential oils.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the

discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of essential oils by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

(Metric units, kg/kg of product;  
English units, lb/1,000 lb of product)

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD <sub>5</sub> .....	22.7.....	12.0
TSS.....	9.01.....	3.11
pH.....	Within the range 6.0 to 9.0.	

Subpart F—Rosin-Based Derivatives Subcategory

§ 454.60 Applicability; description of manufacture of rosin-based derivatives subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of rosin-based derivatives.

§ 454.61 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean rosin-based derivatives.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result,

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these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Pro-

tection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of rosin-based derivatives by a point source subject to the provisions of this paragraph after application of the best practicable control technology currently available:

[Metric units, kg/kg; of product;  
English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
BOD <sub>5</sub> .....	1.41.....	0.748
TSS.....	0.045.....	0.015
pH.....	Within the range 6.0 to 9.0.	

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