any attitude of flight that might occur when the airplane is flown in accordance with either normal or emergency procedures.

(d) *Nonpressurized cabin airplanes with a built-in carbon dioxide fire extinguisher system in a fuselage compartment.* Each certificate holder operating a nonpressurized cabin airplane that has a built-in carbon dioxide fire extinguisher system in a fuselage compartment shall provide protective breathing equipment meeting the requirements of paragraphs (a) and (b) of this section for the flight crewmembers except where—

(1) Not more than 5 pounds of carbon dioxide would be discharged into any compartment in accordance with established fire control procedures; or

(2) The carbon dioxide concentration at each flight crewmember station has been determined in accordance with § 25.1197 of this chapter and has been found to be less than 3 percent by volume (corrected to standard sea level conditions).

(e) *Euipment preflight.* (1) Each item of protective breathing equipment having either a fixed or portable oxygen supply must be checked and determined to be operating properly before each flight crewmember takes off in that aircraft for his/her first flight of the day. The protective breathing equipment must be checked by the flight crewmember who will use the equipment to ensure that the equipment is functioning, fits properly, and is connected to appropriate oxygen supply terminals and that the oxygen supply and pressure are adequate for its use.

(2) Each item of protective breathing equipment located at other than flight crewmember duty stations having a portable oxygen supply must be checked by the responsible crewmember and determined to be operating properly before he/she takes off in that aircraft for his/her first flight of the day. The PBE must be checked by the crewmember designated by the certificate holder in its operations manual to ensure that the equipment is properly stowed and serviceable and the oxygen supply is fully charged.

3. By amending § 121.417 by revising paragraph (c), by redesignating paragraph (d) as (e), and by adding paragraphs (d) and (f) to read as follows:

§ 121.417 Crewmember emergency training.

* * * * *

(c) Each crewmember must accomplish the following emergency training during the following training periods, using those items of installed emergency equipment for each type of aircraft in which he/she is to serve (Alternate recurrent training required by § 121.433(c) may be accomplished by approved pictorial presentation or demonstration):

(1) *One-time emergency drill requirements to be accomplished during initial training.* Each crewmember must perform—

(i) At least one approved firefighting drill using at least one type of installed hand fire extinguisher, appropriate for the type of fire to be fought, while using the type of installed protective breathing equipment required by § 121.337; and

(ii) An emergency evacuation drill, with each person egressing the aircraft or approved training device using at least one type of installed emergency evacuation slide. The crewmember may either observe the aircraft exits being opened in the emergency mode and the associated exit slide/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions.

(2) *Additional emergency drill requirements to be accomplished during initial training and once each 24 calendar months during recurrent training.* Each crewmember must—

(i) Perform the following emergency drills and operate the following equipment:

(A) Each type of emergency exit in the normal and emergency modes, including the actions and forces required in the deployment of the emergency evacuation slides;

(B) Each type of installed hand fire extinguisher;

(C) Each type of emergency oxygen system to include protective breathing equipment;

(D) Donning, use, and inflation of individual flotation means, if applicable; and

(E) Ditching, if applicable, including but not limited to, as appropriate:

(*1*) Cockpit preparation and procedures;

(*2*) Crew coordination;

(*3*) Passenger briefings and cabin preparation;

(*4*) Donning and inflation of life preservers;

(*5*) Use of life-lines; and

(*6*) Boarding of passengers and crew into a raft or a slide/raft pack.

(ii) Observe the following drills:

(A) Removal from the airplane (or training device) and inflation of each type of life raft, if applicable;

(B) Transfer of each type of slide/raft pack from one door to another;

(C) Deployment, inflation, and detachment from the airplane (or training device) of each type of slide/raft pack; and

(D) Emergency evacuation including the use of slide.

(d) After (1 year after the effective date) no crewmember may serve in operations under this part unless that crewmember has performed the firefighting drill prescribed by paragraph (c)(1)(i) of this section.

* * * * *

(f) For the purposes of this section, "perform" means accomplishing a prescribed emergency drill using established procedures which stress the skill of those persons involved in the drill and "observe" means to watch without participating actively in the drill.

Issued in Washington, DC, on October 2, 1985.

William T. Brennan,

Acting Director of Flight Standards.

[FR Doc. 85-24234 Filed 10-9-85; 8:45 am]

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federal register

Thursday
October 10, 1985

Part IV

Postal Service

39 CFR Parts 310 and 320

Restrictions on Private Carriage of Letters; Proposed Clarification and Modification of Definition and of Regulations on Extremely Urgent Letters; Proposed Rule

POSTAL SERVICE

39 CFR Parts 310 and 320

Restrictions on Private Carriage of Letters; Proposed Clarification and Modification of Definition and of Regulations on Extremely Urgent Letters

AGENCY: Postal Service.

ACTION: Proposed rule.

SUMMARY: In October, 1979 the Postal Service adopted regulations suspending the operation of the Private Express Statutes for extremely urgent letters. 44 FR 61181. Experience since that time has shown that, for letters sent to other countries, the limitations on the suspension have not been observed in a fully satisfactory way.

Large numbers of international letters originated by American firms are being shipped privately to foreign countries for deposit in the mails of those countries. This carriage, which is typically performed for less than the amount of U.S. postage for international air mail, has the effect of diverting from the United States Mails letters which are not extremely urgent, thereby depriving the Postal Service of revenues in a manner not intended when the suspension was proposed and adopted. While this practice has developed ostensibly under the suspension, the Postal Service has interpreted those of its regulations which create the suspension as not allowing this practice. In order to provide further notice of its intention under this suspension, and to leave no room for question as to the circumstances under which extremely urgent letters may be carried outside the mails wholly within the United States and within the United States when being sent between the United States and a foreign country, the Postal Service is proposing and modifying language for certain sections of Parts 310 and 320.

DATE: Comments must be received on or before November 12, 1985.

ADDRESS: Written comments should be addressed to the General Counsel, Law Department, United States Postal Service, Washington, DC 20260–1113. Copies of all written comments will be available for inspection and photocopying between 9:00 a.m. and 4:00 p.m., Monday through Friday, in Room 5128, 955 L'Enfant Plaza, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Charles D. Hawley (202) 245–4584.

SUPPLEMENTARY INFORMATION: The Private Express Statutes are a revenue protection measure designed to make it possible for the United States to have a universal postal system charging uniform rates. The suspension of the Statutes for extremely urgent letters recognizes a public interest in the availability of a lawful alternative means for the private carriage of letters of extreme urgency on post routes without payment of postage. The regulations which create and define this narrowly-drawn suspension establish two tests for determining, for the purposes of the suspension, whether a letter is extremely urgent. One test, known as the "loss of value" test, provides that a letter is extremely urgent if it is delivered within a short, specified period of time after dispatch *and* if the value or usefulness of the letter would be lost or greatly diminished if not delivered within that period. 39 CFR 320.6(b)(1). The other test, called the "cost" test, provides that a letter will be conclusively presumed to be extremely urgent if the amount paid to the carrier for the carriage is $3.00 or is twice the amount of applicable U.S. postage for First-Class Mail, whichever is the greater. 39 CFR 320.6(c). We think it reasonable to conclude that if a person is willing to pay a premium price for private carriage, the letters are extremely urgent to him and that he is not employing the private carrier merely to obtain lower rates.

For letters carried wholly within the United States, these alternative tests have, for the most part, worked satisfactorily. But for international letters the experience has been less satisfactory. Since the adoption of the suspension for extremely urgent letters, private carriers have begun to offer to American firms that send substantial numbers of international letters a mailing service which makes use of foreign postal systems but altogether bypasses the United States Mails.

Although carriers offering this service purport to be acting under the authority of the suspension for extremely urgent letters, their activities are completely inconsistent with both its intent and its terms. Typically, the carrier transports those letters to a selected foreign country where the letters are entered into the mails, with the carrier making no effort to limit the service to letters of extreme urgency as required by the test of § 320.6(b), or to present it as a premium, expedited service with rates that satisfy the alternative test of § 320.6(c). Furthermore, it cannot reasonably be said of letters that are entered into the mail stream of a foreign postal administration for delivery as ordinary mail that, as a class, they are in fact extremely urgent: that term presupposes the taking of extraordinary steps to ensure particularly rapid delivery.

In order to ensure that the practices with respect to the private international shipment and carriage of letters are consistent with the Private Express Statutes and the Postal Service's implementing instructions, we wish to make clear the extent to which the Private Express Statutes apply to international shipments of letters, to eliminate special treatment under the "loss of value" test for shipments to and from United States locations outside the 48 contiguous States, to limit the suspension with respect to international shipments to those satisfying the "cost" test, and to clarify the meaning within the "cost" test of the provision permitting the aggregation of letters. Amendments to several provisions of parts 310 and 320 are therefore proposed.

The first of these amendments would clarify the territorial scope of the Statutes by adding the phrase "within the United States" to the definition in § 310.1(d) of "post routes," over which letters may not be carried except in compliance with the Private Express Statutes. It would also add a new paragraph to that subsection to provide explicit notice that carriage of letters over post routes within the United States in the course of a shipment to or from another country, as well as carriage that begins and ends within the United States, if governed by the Statutes. As used in this definition, United States has the same meaning as in 18 U.S.C. 5: "all places and waters, continental or insular, subject to the jurisdiction of the United States. . . ."

The Private Express Statutes have been consistently applied to the domestic segment of international shipments. In some instances of overseas carriage from cities on the borders of the United States this domestic segment may be for a short part of the total distance which the letters travel on their way to a foreign destination, as for example from downtown Los Angeles to Los Angeles International Airport and then by air to the territorial limit of the United States. For that segment, however, the shipment travels over post routes no less than if it began in the Midwest and were carried for a thousand miles within the United States. The revenue protection purpose of the Statutes, moreover, requires their application in each instance, since the private carriage in each instance diverts from the United States Mails letters which the Postal Service would otherwise carry.

The second of these amendments would eliminate the special treatment for letters sent to, from, or between States or territories of the United States other than the 48 contiguous States, under the "loss of value" test of extreme urgency, provided by § 320.6(b)(2) and (3). Since its adoption, the regulatory scheme has sought to accommodate all shipments of extremely urgent letters under this test to and from locations outside the 48 contiguous States by deeming as "delivered" and "dispatched" outgoing and incoming letters, respectively, at the last and first points of carriage within the 48 contiguous States. For example, under the present rule, a letter going overseas via a carrier leaving the country directly from Kennedy International Airport in New York, which is dispatched before noon within 50 miles of the Airport, must be in the hands of the overseas carrier within 6 hours or by the close of the carrier's business day and must also be of such a nature that its value is lost or substantially diminished if it is not "delivered" to the carrier within that time period. This provision was included because of concern that the time periods allowed for delivery within the 48 contiguous States would not realistically permit carriage under this test to more distant locations. The relationship, however, between the time of its "delivery" to, or "dispatch" by, the carrier and its value or usefulness to the real addressee, which is a key element of this test, has always been artificial and several years of experience with the suspension have not rendered it any more realistic. We are unaware, moreover, of any practice which has developed based upon this provision with respect to carriage either to areas of the United States other than the 48 contiguous States or to foreign countries. Nor are we aware of any instance in which the unavailability of the "loss of value" test would unduly prejudice international carriers and shippers seeking to come within the terms of the suspension. We consider that the time period for deliveries at a distance of more than 50 miles is not unreasonable for United States locations outside the 48 contiguous States, and so we are proposing to delete the existing provisions of (b)(2) and (3) which provide special treatment for these shipments.

For international shipments, we have concluded that the practical difficulty of monitoring compliance with any time period militates against continuing the availability of this "loss of value" test. We doubt, moreover, that many international shipments of letters which are in fact extremely urgent are carried at a charge which would not fully satisfy the "cost" test. We propose, therefore, to amend (b)(2) and (3) to provide that the "loss of value" test will not apply to shipments to foreign countries.

The final amendment would revise the text of subsection (c) which sets forth the elements of the "cost" test. We have found that, in the typical offerings of private overseas mailing services, the alternative "cost" test is not being met by the payment of a premium rate for private carriage. The United States postage which is made the standard of comparison for this "cost" test is that for First-Class Mail, a domestic mail category with rates that are substantially lower than those for international mail. For example, the rate of postage for the first half-ounce of most international air mail is 44¢ which is already twice the 22¢ charged for the first ounce of domestic First-Class Mail. If this standard of comparison were the only element of the "cost" test, it might allow letters to be carried to locations outside the United States at a discount from the truly comparable international rate, rather than at a premium. We have not found it is necessary, however, to use the international air mail rate as the standard for this element of the test, because the second element, the $3.00 per-letter minimum charge, when properly applied, appears to provide an adequate "floor," in this context as well as in the domestic mail context. It is our assessment that the $3.00 per-letter requirement, when clarified as we propose, will continue to serve as sufficient premium to assure that the letters are extremely urgent, or at least that they are so considered by the sender. We will continue to monitor the practices of persons engaged in international carriage, however, and will initiate changes in the basis for the cost comparison if this becomes necessary to protect postal revenues.

The $3.00 per-letter requirement, however, is being improperly applied because of a misinterpretation of the following provision in § 320.6(c):

> If a single shipment consists of a number of letters that are picked up together at a single origin and delivered together to a single destination, the applicable U.S. postage may be computed for purposes of this paragraph [320.6(c)] as though the shipment constituted a single letter of the weight of the shipment.

This provision is designed to permit the aggregation of letters under very limited circumstances for the purpose of applying the cost test. The limited character of its application is important, however, because the provision goes to the heart of the test's operation. By consolidating the separate letters being carried into a smaller number of "letters," aggregation has the practical effect of reducing the amount of postage that would be due.* [This is so because postage for First-Class Mail is based on one-ounce increments of weight. Few letters weigh exactly an once, and if several are weighed together, the total will be fewer ounces than the sum of the number of individual letters counted as one ounce each.] and so of reducing the amount that the carrier must charge to satisfy the twice-the-postage element of the test.

It also greatly erodes the effect of the other element. If the minimum charge per letter could be measured against one or a few consolidated "letters", rather than numerous individual letters, the $3.00 requirement would be rendered useless as a standard for determining urgency.

The aggregation provision is intended to apply only to a person or firm that sends a number of its letters to a group of ultimate or final recipients who are at a single address. The expansive interpretation that has been suggested, however, would apply the provision to any shipment of letters which have in common only that they are being carried together for that particular part of their journey. It would apply, for example, even to a shipment of letters addressed to individual ultimate recipients at numerous overseas locations, which an agent in the United States sends to a cooperating agent in a foreign country. In such an instance, the ultimate recipients of the letters do not reside or do business at one address, but may be located in dozens, perhaps even hundreds, of places.

If this interpretation were accepted, the exception would swallow the general rule: virtually any number of letters addressed to unrelated ultimate recipients at different locations could be aggregated for purposes of cost comparison. This would completely subvert the cost test. The Postal Service manifestly did not intend such a self-defeating provision and has consistently rejected this interpretation. Since the adoption of this suspension, it has written a number of advisory opinions, pursuant to 39 CFR 310.6, interpreting the provision as applicable only when the letters are ultimately intended for the same person or firm.

Even though the Postal Service considers that the interpretation of § 320.6(c) which it has followed is the only reasonable construction in light of the purpose of the suspension, it wishes, by amendment here proposed, to clarify the terms of the suspension so as to

leave no doubt as to the conditions which must be met if letters are to be carried, without payment of postage, whether wholly within the United States or within the United States in the course of shipment between the United States and a foreign country.

Because § 320.6(c) makes no distinction between international shipments of letters and wholly domestic shipments, the proposed amendment to the aggregation rule will, of course, apply to both in the same way. We think that the principle stated in the clarifying amendment is sound as applied to both.

Technically, the final amendment would subdivide § 320.6(c) into three paragraphs, although making only one change in the text of the present subsection (c). This change, in the second sentence, which is proposed subparagraph (c)(ii), would substitute the phrase, "letters that are sent together from the same point of origin for delivery together to the same ultimate destination", in place of the current phrase, "letters that are picked up together at a single origin and delivered together to a single destination". It would be followed by three examples, intended to illustrate the application of this provision and to establish, even more plainly than at present, that letters intended to be delivered to different persons at different locations may not be treated as a single letter for purposes of cost comparison when they are sent together for mailing or other intermediate handling. The Postal Service does not consider this as a change in the substance of the suspension but rather as a clarification of the rule which has been in effect since adoption of the suspension in 1979.

List of Subjects in 39 CFR Parts 310 and 320

Postal Service, Computer technology, Advertising.

In view of the above considerations, the Postal Service proposes to amend 39 CFR Parts 310 and 320 as follows:

PART 310—ENFORCEMENT OF THE PRIVATE EXPRESS STATUTES

1. The authority citation for Part 310 continues to read as follows:

Authority: 39 U.S.C. 401, 404, 601–606; 18 U.S.C. 1693–1699.

2. In § 310.1 paragraph (d) is revised to read as follows:

§ 301.1 Definitions.

* * * * *

(d)(1) "Post routes" are routes on which mail is carried by the Postal Service within the United States, and includes post roads as defined in 39 U.S.C. 5003, as follows:

(i) The waters, of the United States, during the time the mail is carried thereon;

(ii) Railroads or parts or railroads and air routes in operation;

(iii) Canals, during the time the mail is carried thereon;

(iv) Public roads, highways, and toll roads during the time mail is carried thereon; and

(v) Letter-carrier routes established for the collection and delivery of mail.

(2) The carriage of letters over post routes within the United States as a part of a shipment which begins or ends in another country is governed by the Private Express Statutes and these regulations in accordance with their terms.

PART 320—SUSPENSION OF THE PRIVATE EXPRESS STATUES

3. The authority citation for Part 320 is revised to read as set forth below, and the authority citations following all the sections in Part 320 are removed.

Authority: 39 U.S.C. 401, 404, 601–606; 18 U.S.C. 1693–1699.

4. In § 320.6 paragraphs (b) and (c) are revised to read as follows:

§ 320.6 Suspension for extremely urgent letters.

* * * * *

(b)(1) For letters dispatched within 50 miles of the intended destination, delivery of those dispatched by noon must be completed within 6 hours or by the close of the addressee's normal business hours that day, whichever is later, and delivery of those dispatched after noon and before midnight must be completed by 10 A.M. of the addressee's next business day. For other letters, delivery must be completed within 12 hours or by noon of the addressee's next business day. The suspension is available only if the value or usefulness of the letter would be lost or greatly diminished if it is not delivered within these time limits. For any part of a shipment of letters to qualify under this paragraph (b), each of the letters must be extremely urgent.

(2) The suspension under this paragraph (b) is not available for letters sent to or from locations in foreign countries.

(c)(1) It will be conclusively presumed that a letter is extremely urgent and is covered by the suspension if the amount paid for private carriage of the letter is at least three dollars or twice the applicable U.S. postage for First-Class Mail (including priority mail) whichever is the greater.

(2) If a single shipment consists of a number of letters that are sent together from the same point of origin for delivery together to the same ultimate destination, the applicable U.S. postage may be computed for purposes of this paragraph (c) as though the shipment constituted a single letter of the weight of the shipment.

Example (i) A regional office of a commercial firm sends a number of letters from its various departments together in a single envelope to various departments in the firm's home office. The regional and home offices are each located in a single building with a single address. This shipment may be treated as a single letter for purposes of this subparagraph (2).

Example (ii) A commercial firm sends in a single envelope a number of letters to an agent in a European country for deposit in the mails of that country. The letters are intended for persons at different addresses. This shipment may not be treated as a single letter because the agent is not the ultimate destination of the individual letters.

Example (iii) A commercial firm in one city sends a number of individually addressed letters in a single envelope to a branch office in another city for delivery by its own regular employees throughout the metropolitan area of that city. This shipment may not be treated as a single letter because, as in example (ii), the branch office is not the ultimate destination of the individual letters. The result is not changed by the fact that their carriage out of the mails from the branch office to the individual addressees is lawful under the *Letters of the carrier* exception. § 310.3(b).

(3) If not actually charged on a letter-by-letter or shipment-by-shipment basis, the amount paid may be computed for purposes of this paragraph on the basis of the carrier's actual charge divided by a *bona fide* estimate of the average number of letters or shipments during the period covered by the carrier's actual charge.

W. Allen Sanders,

Associate General Counsel, Office of General Law and Administration.

[FR Doc. 85–24244 Filed 10–9–85; 8:45 am]

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Federal Register

Thursday
October 10, 1985

Part V

Environmental Protection Agency

Assessment of 1,3-Butadiene as a Potentially Toxic Air Pollutant; Notice of Intent

ENVIRONMENTAL PROTECTION AGENCY

[ADL-FRL-2865-8]

Assessment of 1,3-Butadiene as a Potentially Toxic Air Pollutant

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of Intent to List Under section 112 of the Clean Air Act and Solicitation of Information.

SUMMARY: This notice describes the results of EPA's preliminary assessment of 1,3-butadiene as a potentially toxic air pollutant. Based on the health and preliminary risk assessment described in today's notice, EPA now intends to add 1,3-butadiene to the list of hazardous air pollutants for which it intends to establish emission standards under section 112(b)(1)(A) of the Clean Air Act (CAA). The EPA will decide whether to add 1,3-butadiene to the list only after studying possible techniques that might be used to control emissions of 1,3-butadiene and after further assessing the public health risks. The EPA will add 1,3-butadiene to the list if emission standards are warranted.

Through this notice, the Agency is also soliciting information on source and emissions data and potential health effects. This notice does not preclude any State or local air pollution control agency from specifically regulating emission sources of 1,3-butadiene nor does it have any effect on the regulation of 1,3-butadiene as a volatile organic compound in order to attain the national ambient air quality standards (NAAQS) for ozone.

ADDRESSES: Submit comments (duplicate copies are preferred) by December 9, 1985 to: Central Docket Section (A-130), Environmental Protection Agency, Attn: Docket No. A-85-14, 401 M Street SW., Washington, DC 20460. The Central Docket Section is located at the offices of the U.S. Environmental Protection Agency, West Tower Lobby, Gallery I, 401 M Street SW., Washington, DC. The docket may be inspected between 8:00 a.m. and 4:30 p.m. on weekdays, and a reasonable fee may be charged for copying.

Availability of Related Information

The Mutagenicity and Carcinogenicity Assessment for 1,3-butadiene document (MCAD) (EPA-600/8-85-004A) is available through the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. The cost is $28.00. Information on the availability of the MCAD is available from ORD Publications, CERI-FR, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268 (Telephone: 513-684-7562 commercial/684-7562 FTS).

FOR FURTHER INFORMATION CONTACT: Robert Schell, Pollutant Assessment Branch (MD-12), Strategies and Air Standards Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 (telephone: 919-541-5645 commercial/629-5645 FTS).

SUPPLEMENTARY INFORMATION:

Background

1,3-Butadiene (CAS No. 106-99-0) is a colorless gas produced as a coproduct in the production of ethylene by oxidative dehydrogenation of n-butenes, or by dehydrogenation of n-butanes. 1,3-Butadiene ranked 36th in U.S. domestic chemical production in 1984. It is used as an intermediate in the production of polymers, elastomers, and other chemicals. The major use of 1,3-butadiene is in the manufacture of styrene-butadiene rubber (synthetic rubber). Some 1,3-butadiene products are as follows: automobile tires, high impact plastic used in automobiles, appliance parts and pipes, and synthetic fibers. In addition, 1,3-butadiene is used as an intermediate to produce a variety of industrial chemicals. (C & EN, 1982, 1984, 1985 a,b). 1,3-Butadiene was considered for action under section 4(f) of the Toxic Substances Control Act (TSCA), (January 5, 1984, 49 FR 845) and the Agency initiated regulatory action by publishing an advance notice of proposed rulemaking (ANPR; May 15, 1984, 49 FR 20524). It was subsequently decided that appropriate regulatory action for workplace exposure could best be effected by the Occupational Safety and Health Administration (OSHA). The occupational standard is currently 1000 parts per million (ppm) (8-hour Time Weighted Average). Any action by OSHA will be evalucated for its potential impact on levels of 1,3-butadiene in the ambient air.

Due to its volatility 1,3-butadiene is primarily an air contaminant. It has been detected in cigarette smoke, incineration products of fossil fuels, gasoline vapor, and automotive exhaust (Miller, 1978). The atmospheric residence time is estimated to be approximately 4 hours (Cupitt, 1985). Because of potential adverse health effects associated with 1,3-butadiene exposure, EPA initiated a review to determine the potential impact on public health from exposure to 1,3-butadiene in the ambient air. The results of this review were used to determine if 1,3-butadiene should be regulated under the CAA. As an early step in this review, a comprehensive document was prepared that summarizes the scientific literature on mutagenic and carcinogenic effects of 1,3-butadiene exposure. It was reviewed at a public meeting of the Environmental Health Committee of the Science Advisory Board (SAB) on April 10, and 11, 1985. The SAB is an independent group of recognized scientists and technical experts that provide scientific advice to the Administrator. The SAB concurred with the major findings of the MCAD, including the finding that there is sufficient evidence from the animal data to consider that 1,3-butadiene is probably carcinogenic in humans. A transcript of the SAB meeting is available for inspection and copying at the U.S. Environmental Protection Agency, Committee Management Staff (contact Janet Workcuff), A-101, Room 2515, 401 M Street, SW, Washington, DC 20460 (telephone: 202-382-5036 commercial/382-5036 FTS).

Health Effects

Carcinogenicity: For regulatory purposes, the effect of greatest emphasis, both because of the seriousness of the effect and because of the strength of the evidence, is cancer. Epidemiologic studies of the potential health hazards associated with 1,3-butadiene exposure are limited. A few are suggestive of increased cancer risk, but overall the data are inconclusive. The assessment document concluded that the epidemiologic data were inadequate for assessing risk.

Two lifetime inhalation carcinogenicity studies have been carried out in mice and rats. There was a marked increase in the incidences of primary tumors in both species, both sexes, and at multiple organ sites. Tumor sites involved were different in mice and rats among exposed groups. In addition, the severity of the cancers was also widely different; in rats exposed to 1,000 and 8,000 ppm no increase in mortality secondary to cancer was observed, and there was no early termination of the experiment (Hazelton Laboratories Ltd., 1981). In contrast, the mouse study using 625 and 1250 ppm exposure levels had to be terminated at 60-61 weeks instead of the planned 104 weeks because of excessive deaths from cancer among the exposed mice (National Toxicology Program, 1984).

The MCAD concludes that the evidence for carcinogenicity would place 1,3-butadiene into Group B2, according to the proposed EPA classification scheme (November 23, 1984, 49 FR 46294). This indicates that there is inadequate evidence from epidemiologic studies and sufficient

evidence from animal studies for classification as a probable human carcinogen. The 95 percent upper limit unit risk for 1,3-butadiene is estimated from the mouse study to be 2.8×10^{-4} $(\mu g/m^3)$-1, meaning that if a person were exposed to 1 microgram per cubic meter $(\mu g/m^3)$ for 70 years, the increased probability of getting cancer is not likely to exceed 2.8 chances in 10,000.

Systemic Toxicity: Regarding acute and subchronic health effects, the available literature reports that the noncarcinogenic, nonmutagenic, nonteratogenic toxicity of 1,3-butadiene is relatively low. Symptoms resulting from exposures to 2000, 4000, and 8000 ppm for 6 to 8 hours are lethargy, drowsiness and irritation to mucous membranes. Little data are available for subchronic effects. Increased salivation and depressed weight gain have been reported in laboratory animals exposed to 4000, 6000, and 8000 ppm for several months (Cote, 1985a).

Limited data are available regarding systemic toxicity subsequent to chronic exposures. However systemic, nonteratogenic toxicity in the mouse and rat long-term cancer bioassays appears minimal. 1,3-Butadiene has been associated with birth defects in one study in laboratory animals at high dose exposures. Currently, the evidence for carcinogenicity is more substantial than for teratogenicity or systemic toxicity subsequent to chronic exposure (Cote, 1985a).

Sources and Emissions

The United States' design production capacity was approximately 1.8 million megagrams (Mg) in 1984. The actual production in 1984 was approximately 1.4 million megagrams. Total U.S. use was approximately 2.6 million megagrams. Substantial amounts are imported. The major uses of 1,3-butadiene include styrene-butadiene rubber (40%), polybutadiene rubber (20%), other rubber products (neoprene and nitrile) (10%), hexamethylenediamine (10%) and other miscellaneous products including resins (20%) (Miller, 1978; C & EN November 1982, May 1985). Annual emissions from all industrial 1,3-butadiene sources are estimated to be 5200 megagrams per year (Mg/Yr) (see Table 1). These emissions arise primarily from process vents and fugitive sources (e.g., pumps, valves, flanges).

Public Exposure

There are little ambient monitoring data available for 1,3-butadiene. Reported monitoring data range from 2.5 to 22.5 $\mu g/m^3$ in urban air (Neligan, 1962; Lonneman et al., 1979). Public exposure was estimated using two models. The Human Exposure Model (HEM) was used to estimate annual average ambient air concentrations. Input data for modeling were provided by industry subsequent to EPA's request for information under section 114 of the Clean Air Act. Approximately 52 million people are estimated to live within 50 kilometers of industrial 1,3-butadiene sources (Cote, 1985b). Modeling each plant separately, as was done here, may tend to underestimate maximum risk of the most exposed individuals and overestimate the total number of exposed individuals in areas where more than one plant exists. Also a preliminary analysis was conducted to screen for possible short-term exposures. This analysis used worst case meteorological conditions in a conservative screening model.

Risk to Public Health

Approximately 19 cancer cases nationwide are preliminarily estimated to result from exposure to ambient concentrations of 1,3-butadiene from industrial emissions. The preliminary estimate of lifetime risk to the most exposed person is 3.0 chances in 10 (see Table 2). These estimates are based on the 95% upper limit unit risk number and the results of the HEM exposure modeling analysis.

TABLE 1.—SUMMARY OF INDUSTRIAL 1,3-BUTADIENE EMISSIONS

Product	Percentage of production	Number of plants	Emissions (Mg/Yr)
1,3-Butadiene (producers)	NA	16	1,700
Styrene—butadiene rubber (SBR)	40	20	2,000
Polybutadiene rubber (PBR)	20	8	600
Nitrile and neoprene rubber	10	7	300
Others (e.g., adiponitrile production and acrylonitrile-butadiene-styrene products)	30	10	600
Total emissions			5,200

Sources.—Cote (1985b), C & EN (1982), Miller (1978).

TABLE 2.—EXPOSURE/RISK ASSESSMENT

Product	Maximum individual risk (concentration × unit risk)	Aggregate incidence (cases/yr.)
1,3-Butadiene (producers)	3.0×10^{-1}	5.2
Styrene-butadiene rubber	7.6×10^{-2}	10.0
Polybutadiene rubber	4.1×10^{-3}	0.5
Nitrile and neoprene rubber	2.4×10^{-2}	2.2
Others (e.g., adiponitrile production and acrylonitrile-butadiene-styrene products	$3.4^5 \times 10^{-3}$	0.6
Total		18.5

Source.—Cote (1985b).

The short-term exposure modeling indicated that ambient concentrations near 1,3-butadiene sources, resulting from continuous routine emissions, would not be expected to produce noncarcinogenic, nonteratogenic health effects. Short-term concentrations estimates are 130 ppm for 15 minutes and 69 ppm for 8 hours. Two thousand ppm for 7 hours was identified as a lowest observed effect level in humans and was used for comparison with modeled estimates (Cote, 1985b).

The preliminary risk assessment results, associating increased public health risk with the inhalation of 1,3-butadiene from the ambient air, suggest further study by the Agency is warranted. The Agency will continue to examine the potential for all health effects in its assessment of public health risks associated with exposure to 1,3-butadiene.

There are a number of assumptions underlying these estimates that can yield either over-or underestimates of the risk posed by 1,3-butadiene. Further study and assessment will not likely narrow the uncertainities associated with some of the inputs to the risk assessment or yield an improvement in some of these assumptions (e.g., the carcinogenic potency of a chemical estimated through the use of a mathematical model for extrapolating high-exposure animal studies to the much lower concentrations present in the ambient air). There are other inputs to the risk estimates which are very preliminary at the current stage of assessment and which will be substantially refined through further study. The primary example of this is the source information: number and types of sources, their locations, emission rates, stack parameters, variability of emissions, etc. Current source information is based on engineering estimates, data obtained under section 114 of the CAA and other readily available information in the literature. This information, in many cases, will be improved though plant visits and source tests. The Agency has concluded that the preliminary risk estimates presented here are sufficient to warrant further study for possible regulation. The Agency will improve these estimates, particularly with respect to emissions and exposure, before making a final decision on whether to add the pollutant to the list under section 112.

State of intent

Section 112(b)(1)(A) of the CAA defines hazardous air pollutants as air pollutants that contribute to morality or serious irreversible, or incapacitating reversible illness. Section 112(b)(1)(A)

provides that the Administrator shall maintain" . . . a list which includes each hazardous air pollutant for which he intends to establish an emission standard under this section." In deciding whether to establish such emission standards for carcinogens, EPA considers both public health risks and the feasibility and reasonableness of control techniques [e.g., June 6, 1984, 49 FR 23522; 23498; 23558) (emission standards for benzene)].

Based on the health and preliminary risk assessment described in today's notice, EPA now intends to add 1,3-butadiene to the section 112(b) (1)(AA) list. The EPA will decide whether to add 1,3–butadiene to the list only after studying possible techniques that might be used to control emissions and after further improving the assessment of the public health risks. The EPA will add 1,3-butadiene to the list if emission standards are warranted. The EPA will publish this decision in the **Federal Register.**

If standards are not warranted under section 112 of the Clean Air Act, the Agency will consider other options as described in EPA's report "A Strategy to Reduce Public Health Risks from Air Toxics," June 1985. For example, in that strategy EPA described other approaches for dealing with routine releases of toxic air pollutants from stationary sources such as working with State or local air pollution control agencies to address problems that do not warrant federal regulatory action but which account for elevated risks in some areas.

Standards Development Process

The following discussion has been prepared to provide the reader with an explanation of the standards development process and the timing of the process. The standards development process involves two phases, each taking about two years. The first phase is the identification of the emission sources and the need and ability to control those sources. The second phase involves Agency decisionmaking and public review prior to a final action.

During the first phase, EPA identifies the sources that are significant emitters of the pollutant and the specific emission points within each source and then determines the quantities of pollution emitted, the alternative control systems available, and their cost and effectiveness in reducing emissions and associated public health risks. A set of alternative regulations is developed and the environmental, economic, and energy impacts, as well as public health risks, are evaluated.

The first phase requires investigation of the many different ways in which a candidate pollutant can be emitted and controlled. Within a source category there is wide variation in designs, sizes, and processes. This variation affects the emission rates, the public health risks, and the cost and controllability of the pollutant. Assessment of source emissions and controls is further complicated by the fact that emissions are not necessarily contained in stacks or ducts (i.e., some are fugitive emissions), and emission test programs are technically difficult and costly.

The decisionmaking and review phase involves a series of EPA internal and external activities. Prior to publication of proposed rules, the Agency reviews all of the technical, cost, and exposure/risk data and makes decisions on the level of standards. The data and conclusions are reviewed publicly by an independent technical advisory committee. The standard is proposed for public comment. The comment period is open a minimum of two months and a public hearing is held, if requested. Following the comment period, Agency technical staff reviews the comments and resolves technical issues, an activity that often requires obtaining and analyzing new data.

Call for Information

Information is requested on source and emissions data, and potential health effects of 1,3-butadiene, as well as other compounds that may be emitted from 1,3-butadiene facilities. People with information to submit on a voluntary basis should either provide this information by December 9, 1985 or notify the Agency by December 9, 1985 that they will be providing this information. Information should be submitted in duplicate to the Central Docket Section (A–130), Environmental Protection Agency, Attn: Docket No. A–85–14, 401 M Street, SW., Washington, DC 20460.

Miscellaneous

1,3-Butadiene will be listed as a hazardous substance under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 101(14) if 1,3-butadiene is listed as a hazardous air pollutant. Pursuant to CERCLA section 102(b), the statutory Reportable Quantity (RQ) for 1,3-butadiene would be listed as one (1) pound until adjusted by regulation. For additional information on CERCLA hazardous substance reporting, (May 25, 1983, 48 FR 23552 and April 4, 1985, 50 FR 13456–13522).

Pursuant to CERCLA section 103(a), any person in charge of a vessel or an offshore or an onshore facility shall, as soon as he has knowledge of any release (other than a federally-permitted release or normal application of a pesticide) of a hazardous substance from such vessel or facility in a quantity equal to or exceeding the RQ determined in any 24-hour period, immediately notify the National Response Center (NRC); (800–424–8802; in the Washington, DC metropolitan area at 202–426–2675). Since this notice is only an Intent to List, it poses no additional burden on the regulated community.

Under Executive Order 12291, EPA must judge whether this action is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This action is not major because it imposes no additional regulatory requirements on States or sources. This proposal was submitted to the Office of Management and Budget (OMB) for review. Any written comments from OMB and any EPA responses are available in the docket. Pursuant to 5 U.S.C. 605(6), I hereby certify that this action will not have a significant economic impact on a substantial number of small entities because it imposes no new requirements. This action does not contain any information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980.

Dated: October 1, 1985.

Lee Thomas,

Administrator.

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