ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 261, 266, and 268

[FRL–6905–3]

RIN 2050–AE69

Requirements for Zinc Fertilizers Made From Recycled Hazardous Secondary Materials

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is today proposing to revise the existing regulations that apply to recycling of hazardous wastes to make zinc fertilizer products. This proposal would establish a more consistent regulatory framework for this practice, and establish conditions for excluding hazardous secondary materials that are used to make zinc fertilizers from the definition of solid waste under the Resource Conservation and Recovery Act (RCRA). Today's proposal also solicits comments on regulating mining wastes that are used to make fertilizers.

DATES: EPA will accept public comment on this proposed rule until February 26, 2001.

ADDRESSES: Commenters must send an original and two copies of their comments referencing docket number F–2000–RZFP–FFFFF to: RCRA Docket Information Center, Office of Solid Waste (5305W), Environmental Protection Agency Headquarters (EPA, HQ), 401 M Street, SW., Washington, DC 20460. Hand deliveries of comments should be made to the Arlington, VA, address below. EPA may conduct a public hearing on this proposed rule during the comment period, if there is sufficient interest on the part of commenters.

Comments may also be submitted electronically through the Internet to: *rcra-docket@epamail.epa.gov.* Comments in electronic format should also be identified by the docket number F–2000–RZFP–FFFFF. All electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption.

Commenters should not submit electronically any confidential business information (CBI). An original and two copies of CBI must be submitted under separate cover to: RCRA CBI Document Control Officer, Office of Solid Waste (5305W), U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

Public comments and supporting materials are available for viewing in the RCRA Docket Information Center (RIC), located at Crystal Gateway I, First Floor, 1235 Jefferson Davis Highway, Arlington, VA. The RIC is open from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. To review docket materials, it is recommended that the public make an appointment by calling (703) 603–9230. The public may copy a maximum of 100 pages from any regulatory docket at no charge. Additional copies cost $0.15/page. The index and some supporting materials are available electronically. See the **SUPPLEMENTARY INFORMATION** section for information on accessing them.

FOR FURTHER INFORMATION CONTACT: For general information, contact the RCRA Hotline at (800) 424–9346 or TDD (800) 553–7672 (hearing impaired). In the Washington, DC metropolitan area, call (703) 412–9810 or TDD (703) 412–3323. For more detailed information on specific aspects of this proposed rulemaking, contact Dave Fagan, U.S. EPA (5301W), 1200 Pennsylvania Ave. NW., Washington, DC 20460; (703) 308–0603, or e-mail: *fagan.david@epamail.epa.gov.*

SUPPLEMENTARY INFORMATION: The index and the following supporting materials are available from the RCRA Information Center:

The official record for this action will be kept in paper form. Accordingly, EPA will transfer all comments received electronically into paper form and place them in the official record, which will also include all comments submitted directly in writing. The official record is the paper record maintained at the address in **ADDRESSES** at the beginning of this document.

EPA responses to comments, whether the comments are written or electronic, will be published in a notice in the **Federal Register** or in a response to comments document placed in the official record for this proposed rulemaking. EPA will not immediately reply to commenters electronically other than to seek clarification of electronic comments that may be garbled in transmission or during conversion to paper form, as discussed above.

The contents of today's action are listed in the following outline:

I. Statutory Authority

These regulations are proposed under the authority of sections 3001, 3002, 3003, and 3004 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), 42 U.S.C. 6921, 6922, 6923 and 6924.

II. Background

A. What Is the Intent of Today's Regulatory Proposal?

Today's proposed rule is one component of the Environmental Protection Agency's ongoing assessment of contaminants in fertilizers. Prior to this proposed rulemaking the Agency studied available information on contaminants in a wide range of fertilizer products (including waste derived fertilizers), application rates for fertilizers, and how fertilizers are regulated in the United States and in foreign countries. See ''Background Document on Fertilizer Use, Contaminants and Regulation'' (EPA 747–R–98–003, January 1999). In addition, EPA developed a risk assessment of contaminants in fertilizers, which was released in August 1999. These documents are both available on EPA's website; their respective website addresses are http://www.epa.gov/opptintr/fertilizer.pdf, and http://www.epa.gov/epaoswer/hazwaste/recycle/fertiliz/risk/report.pdf.

Based on these and similar studies, such as those recently issued by the State of Washington (''Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State,'' April 1999) and the State of California (''Development of Risk Based Concentrations for Arsenic, Cadmium and Lead in Inorganic Commercial Fertilizers,'' California Department of Food and Agriculture, March 1998), EPA has tentatively decided that the relatively small risks associated with contaminants in fertilizers do not warrant a broad new federal regulatory effort in this area (such as under the authority of the Toxic Substances Control Act). However, as part of EPA's overall assessment of the fertilizer contaminant issue, the Agency reexamined the current RCRA regulatory requirements that apply specifically to recycling of hazardous wastes to make fertilizer products. This reexamination was based on the Agency's own experience with implementing the current RCRA regulations, as well as views expressed by regulated industry, public interest groups, state regulatory officials and others (see ''EPA Stakeholder Meetings on Hazardous Waste Derived Fertilizers, November 12–13, 1998, Meeting Summaries''). From this review EPA has decided to propose certain revisions to the current regulations for hazardous waste derived fertilizers, for the following reasons:

- The RCRA standards that now apply to most hazardous waste derived fertilizers, known as the ''land disposal restrictions'' (LDR) standards, were developed based on ''best demonstrated available technology'' for treating hazardous wastes prior to disposal in hazardous waste landfills. The LDR standards were thus not developed specifically for fertilizers.[1] A number of stakeholders have argued persuasively for contaminant standards that are more appropriate and specific to fertilizers. In today's action, EPA is proposing to set new standards for fertilizer contaminants based on the levels that can be readily achieved using demonstrated manufacturing practices.
- The current regulations are inconsistent. As discussed above, hazardous waste derived fertilizers must meet the applicable RCRA LDR treatment standards before they may be used as fertilizer products. There is one exception to this requirement, however: Fertilizers made from electric arc furnace dust (also known by its RCRA waste code as K061) are specifically exempted from having to meet the LDR standards. EPA believes that the original basis for exempting K061-derived fertilizers from these standards is no longer valid (for reasons explained further in section IV.A of this preamble), and that fertilizers made from K061 should be subject to the same standards that apply to other hazardous waste derived fertilizers.
- Regulating fertilizer feedstocks as hazardous wastes creates unnecessary disincentives to legitimate and beneficial recycling practices. Currently, hazardous waste feedstocks that are used in fertilizer manufacture are subject to full hazardous waste management requirements, which include generator requirements, manifests (when such wastes are transported), and permits for manufacturers who store such materials prior to incorporation into fertilizer. However, fertilizer manufacturers and their suppliers often have strong incentives to avoid being subject to such RCRA requirements, for reasons explained later in this preamble. The net effect is that many such companies simply avoid the use of zinc-rich secondary materials to make fertilizer if they carry the label of RCRA ''hazardous waste.'' EPA believes that the regulations that govern this recycling practice should be revised so that appropriate environmental safeguards are maintained, while removing unnecessary regulatory constraints on legitimate and beneficial recycling practices.

[1] The purpose of the RCRA LDR standards is to assure that threats posed by disposal of hazardous wastes are minimized before disposal. RCRA section 3004(m). However, EPA has long acknowledged that these standards are not ideal for hazardous waste derived products used in a manner constituting disposal, but rather are the minimum needed to satisfy section 3004(m). 53 FR 17578, 17605 (May 17, 1988): see also *Association of Battery Recyclers* v. *EPA,* 208 F. 3d 1047 (D.C. Cir. 2000) (acknowledging special risks posed by uses constituting disposal justifying stricter LDR Standards).

B. What Is the Scope of This Proposed Rule?

Today's proposed regulatory amendments address only one type of fertilizer that is made from recycled hazardous wastes; specifically, zinc micronutrient fertilizer. According to the information that EPA has reviewed, zinc fertilizers account for the great majority of fertilizers that are made from recycled hazardous wastes. Another reason for limiting the scope of this proposal to zinc fertilizers is the Agency's judgment that developing recycling standards for this one type of fertilizer product should be relatively straightforward from a technical standpoint, and it may thus be possible to promulgate final rules for such products in a relatively short time frame. The Agency is aware, however, that some manufacturing of other types of fertilizers from hazardous industrial wastes may be taking place, and that regulatory revisions to address these other recycling practices may also be in order. However, developing appropriate regulations that could apply to virtually any fertilizer made from recycled hazardous wastes would be a more complex, longer-term effort. The Agency has chosen to avoid regulatory delays for zinc fertilizers by proceeding with today's limited-scope rulemaking proposal. Comment is invited on this aspect of today's proposal. EPA may address other types of hazardous waste derived fertilizers in a follow-up rulemaking. Until then, the current RCRA regulatory framework will continue to apply to recycling of hazardous wastes to make fertilizers other than zinc micronutrient fertilizers. These regulations are described in detail in following sections of this preamble.

The Agency is also aware that at least one iron fertilizer product is currently being produced from a mining waste that is exempted from hazardous waste regulation, despite evidence that the product exhibits a hazardous waste characteristic when tested according to the Toxicity Characteristic Leaching Procedure (TCLP) (Oregon Department of Environmental Quality Laboratory, Case Number 980474, July 31, 1998). Today's proposal invites comment on whether this type of waste recycling practice should be regulated under RCRA.

C. How Is Recycling of Hazardous Wastes To Make Fertilizers Currently Regulated?

EPA's longstanding policy is to encourage legitimate recycling of hazardous wastes, as a means of recovering valuable resources (for example, zinc), and lessening the need for extraction of virgin materials to make products. The Agency continues to believe that recycling of hazardous wastes in fertilizer manufacture can be (and is) a safe and beneficial practice, when proper environmental safeguards are observed.

With regard to recycling hazardous wastes to make fertilizer, current RCRA regulations place controls on the management of the hazardous wastes prior to incorporation of the waste into a fertilizer, and define when fertilizers made from recycled hazardous wastes are legitimate products. These regulatory requirements are specified in 40 CFR Part 266, Subpart C.

Under RCRA, placement of hazardous wastes on the land is generally regulated as a disposal practice, and thus the regulations that apply to this type of recycling practice are generally referred to as the ''use constituting disposal'' (UCD) regulations. Fertilizers produced from hazardous waste (i.e., incorporating hazardous wastes as one of their ingredients) are one example of a use constituting disposal. Hazardous waste derived asphalt is another example of such a product. See 63 FR at 28609–610 (May 26, 1998); *Association of Battery Recyclers*, 208 F.3d 1047 (DC Cir. 2000), upholding LDR rules applied to hazardous waste derived asphalt.

Products made from recycled hazardous wastes whose intended use involves placement on the land may create risks that are potentially higher than for other types of recycled products (actual risk potential depends, of course, on concentrations of toxic constituents in the products and a number of other factors). Regulating these products as hazardous wastes, however, would have the effect of prohibiting their use altogether. See 50 FR at 628 (January 4, 1985). Rather than prohibiting their use, current regulations require that these products meet the same treatment standards they would have to meet if they were disposed in a landfill.

In the final rule on the definition of solid waste (50 FR 614, Jan. 4, 1985), EPA asserted jurisdiction over all hazardous secondary materials, and over products that contain these wastes, when they are applied to the land. However, in the preamble to that rule, the Agency noted that we hoped eventually to develop standards or specification levels for toxic constituents in waste-derived products whose use on the land may cause substantial harm (50 FR 628). Based on the information described elsewhere in this preamble, we have decided to propose specific levels (discussed elsewhere in this preamble) at which waste-derived zinc fertilizers should be considered products, rather than wastes.

Under the current UCD regulations, hazardous wastes that are going to be recycled to make fertilizers must be managed in accordance with all applicable hazardous waste management requirements, until they are incorporated into a fertilizer. Generators of the hazardous wastes must comply with the RCRA generator requirements (see 40 CFR Part 262), off-site shipments of the wastes must be manifested (Subpart B of Part 262), and storage of these materials by fertilizer manufacturers generally requires a RCRA permit. In addition, the fertilizers produced from hazardous wastes must meet the LDR treatment standards prior to being land disposed.

The requirements for hazardous waste derived fertilizers to meet LDR treatment standards were first promulgated in the ''First Third'' LDR rule (August 17, 1988, 53 FR 31138). The standards were revised in the ''Third Third'' LDR rule, which established treatment standards for metals in characteristic hazardous wastes (June 1, 1990, 55 FR 22520). In the Third Third rule the treatment standards for hazardous waste derived fertilizers were specified as the toxicity characteristic levels (*i.e.,* the levels that identified when wastes are considered ''hazardous'' according to the TCLP). The Agency changed those standards in the ''Phase IV'' LDR rule (May 26, 1998, 63 FR 28556), which set new (and for most constituents, more stringent) treatment standards for metals in toxicity characteristic wastes.

In response to the Phase IV LDR rule, affected fertilizer manufacturers submitted information to the Agency arguing that the Phase IV standards could actually have negative environmental consequences by eliminating relatively ''clean'' zinc fertilizers from the market, and encouraging the use of fertilizers with higher levels of contaminants (*e.g.,* K061 derived fertilizers) that were not subject to the LDR standards. In response, the Agency administratively stayed the effectiveness of the Phase IV rule as it applied to zinc micronutrient fertilizers (63 FR 46332, August 31, 1998).

In that notice EPA announced its intent to address more broadly the requirements for recycling of hazardous wastes into fertilizer through a rulemaking process, as manifested by today's proposal. The effect of the Phase IV administrative stay was that the Third Third treatment standards (*i.e.,* the characteristic levels) continue to apply to zinc fertilizers made from recycled hazardous wastes. A petition for review of this part of the final Phase IV rule, which challenged the stay, was subsequently filed in the D.C. Circuit Court of Appeals by several petitioners. Further discussion of this petition and its resolution is presented in section III of this preamble.

As mentioned previously, fertilizer products made from one particular type of hazardous waste (K061, or electric arc furnace dust) are exempt from having to meet the LDR treatment standards. However, management of the K061 feedstocks prior to recycling is subject to the same hazardous waste management standards described above for other hazardous wastes used as components of fertilizers. Further discussion of the regulatory exemption for K061 derived fertilizers is contained in section IV.A. of this preamble.

D. What Are EPA's Goals for This Rulemaking?

EPA hopes to achieve the following through this rulemaking effort:

- More regulatory consistency. Today's proposal is intended to create a ''level playing field'' with regard to how the recycling of hazardous waste into zinc fertilizers is regulated. Removing the current exemption for K061 derived fertilizers is one aspect of today's proposal that should result in a more comprehensive and more consistent regulatory framework for hazardous waste derived zinc fertilizers. In this same vein, today's proposal requests comments on eliminating the current exemption from the definition of solid waste for mining wastes that exhibit a hazardous characteristic and that are used to make fertilizer products.
- Limits on contaminants in recycled zinc fertilizers that are based on

demonstrated manufacturing practices. Today's proposed limits on metals in recycled zinc fertilizers are based on levels that have been demonstrated to be technically and economically achievable by the industry, are protective of human health and the environment, and will result in overall reductions in the volumes of heavy metals that are applied to the nation's farmlands from hazardous waste derived zinc fertilizers.

• More appropriate controls on management of hazardous secondary materials used in legitimate zinc fertilizer recycling practices. Today's proposal should serve to better define ''legitimate recycling'' for zinc fertilizers, and streamline current regulatory restrictions on management of hazardous secondary materials used as feedstocks in zinc fertilizer manufacturing.

E. How Would Today's Proposal Affect Producers and Consumers of Zinc Fertilizer?

We believe that today's regulatory proposal should have very few negative impacts on fertilizer manufacturers, the waste generators who supply them, or on farmers who use zinc fertilizers. In fact, many elements of today's proposal are expected to have a positive effect on the zinc fertilizer market. However, the Agency is interested in any further information that commenters may be able to provide on such impacts, either positive or negative. A more detailed discussion of the economic impact analysis prepared in support of this rulemaking is presented in section VIII.A. of this preamble.

RCRA regulations affect only a portion of the overall zinc fertilizer industry. It is estimated that roughly one half of the total zinc fertilizer produced in the United States is made from hazardous secondary materials, such as K061, brass fume dust and other zinc oxide materials. (*Land Application of Hazardous Waste Derived Micronutruent Fertilizers*, Bay Zinc Company and Tetra Technologies, Inc.; November 19, 1999) The balance of zinc fertilizer production is made from secondary materials (or in some cases, ''virgin'' mineral concentrates) that are not hazardous wastes, and thus are not subject to RCRA controls. An example of a non-hazardous waste that is commonly used to make zinc fertilizer is zinc oxide ''skimmings,'' a by-product from galvanizing of various steel products. Manufacturers of high-purity zinc fertilizers (such as zinc sulfate monohydrate, or ZSM) typically can use either hazardous or non-hazardous secondary materials; the resultant fertilizer products are essentially identical (Ibid.).

EPA recognizes that regulating one half of the industry while the other half is essentially unregulated has the potential for creating distortions in the zinc fertilizer market. One of the Agency's concerns in this regard is that imposing stringent regulations on recycling of hazardous material feedstocks can create a strong economic incentive for manufacturers to use feedstock materials that carry no RCRA regulatory ''baggage.'' This can be detrimental environmentally, if unregulated fertilizers with higher concentrations of toxic constituents have a market advantage. This partial regulation could also lead to greater reliance on non-RCRA regulated feedstock materials from foreign sources. Ultimately, such distortions in the market would likely result in lower volumes of zinc-bearing wastes being beneficially recycled.

EPA believes that the regulatory amendments proposed today could greatly reduce these deleterious effects on the industry and its customers, and may encourage beneficial recycling by zinc fertilizer producers and their suppliers, while ensuring appropriate environmental protections.

III. Settlement Agreement for the Phase IV Administrative Stay

On December 18, 1998, a petition for review of the Phase IV administrative stay (described in Section II.C above) was filed by the Washington Toxics Coalition, the Sierra Club and the Environmental Technology Council. Since the objectives of the petitioners to ensure protection of human health and the environment are generally consistent with EPA's, and in order to avoid protracted litigation on this matter, a settlement agreement was reached on June 20, 2000, in which the Agency committed to address several issues relating to hazardous waste derived fertilizers in this rulemaking effort. In summary, in the settlement agreement the Agency agreed to:

- Sign a notice of proposed rulemaking (NPRM) by November 15, 2000;
- Propose in the NPRM:
  - —Technology-based standards for certain metal contaminants in hazardous waste derived zinc fertilizers;
  - —Elimination of the current exemption from LDR treatment standards for K061 derived zinc fertilizers;
  - —Standards for dioxins in hazardous waste derived zinc fertilizers; and
  - —Record keeping and reporting requirements.
- In the NPRM, solicit comments on a regulatory option that would establish a comprehensive reporting and record keeping system for generators, transporters and manufacturers involved with production of any fertilizer made from hazardous waste, based on the RCRA Biennial Reporting system.
- In the NPRM, solicit comment on eliminating the current exemption from Subtitle C regulation for fertilizers made from mining wastes;
- In the NPRM, discuss the option of retaining the current generator, transportation and storage requirements, if the Agency proposes to modify those requirements;
- Sign a Notice of Final Rulemaking that addresses the above provisions no later than May 15, 2002.

Today's proposed rule is consistent with the terms of this agreement. Pursuant to Administrative Procedures Act regulations, the Agency has not committed to promulgating any specific regulatory action in the final fertilizer rulemaking. The final rulemaking will reflect the comments and data submitted during the public comment period on this proposal, as well as any new analyses conducted by the Agency. A copy of the settlement agreement is included in the docket for today's proposed rule.

IV. Detailed Description of Today's Proposal

A. Removal of Exemption for K061-Derived Fertilizers

1. Background

Electric arc furnace dust, known by its RCRA waste code as K061, is a zinc-rich waste collected in air emission control baghouses and scrubbers at electric arc steel making plants. K061 was listed by EPA as a hazardous waste in 1980, due to relatively high concentrations of heavy metals such as lead, cadmium and chromium. More recent data indicate that the levels of heavy metal contaminants in K061 have generally declined, as generators have made advances in removing such contaminants from the scrap metal feedstocks used in this type of steelmaking process. However, concentrations of lead in excess of one percent (by weight) are still reported to be relatively common in K061 used by the fertilizer industry (''Land Application of Hazardous Waste Derived Micronutrient Fertilizers, Bay Zinc Company and Tetra Technologies Inc., November 19, 1999, Appendix A).

Measurable levels of dioxin contaminants have also been reported in a limited number of K061 samples: Data from the State of Washington's recent study of fertilizer contaminants (''Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State,'' April 1999) indicated dioxin levels in one sample of raw K061 at over 800 ppt, and a sample of K061-derived fertilizers at approximately 340 ppt. Other types of zinc fertilizers that were tested showed far lower (in many cases, non-detect) levels of dioxins.

Manufacturing zinc fertilizer from K061 typically involves treating the material with sulfuric acid to form a granular zinc ''oxy-sulfate'' fertilizer product. Thus, the manufacturing process does not involve any processing to remove heavy metal contaminants. K061 fertilizers are only partially soluble in water, since much of the zinc remains in an oxide or ferrite (a zinc-iron compound) form, which is less water soluble than zinc sulfate. Recent trends in the zinc fertilizer industry indicate a shift away from K061 oxy-sulfate products, and increased production of zinc sulfate monohydrate (ZSM) products, which typically have much lower levels of heavy metal contaminants (Ibid). Further discussion of zinc fertilizer manufacturing processes, and ZSM fertilizer products in particular, is presented in section IV.B. of today's preamble.

It should be noted that K061 can be processed thermally (*e.g.*, in multiple hearth furnaces) to reclaim iron and produce a zinc oxide material that is amenable to further processing to manufacture high-purity zinc fertilizer such as ZSM. Although this is not yet a widespread practice, it further illustrates that the purity of zinc fertilizer is largely a function of how feedstock materials are processed, rather than the type of feedstock itself.

In 1988, as part of the ''First Third'' land disposal restrictions final rule, EPA exempted fertilizers made from K061 from having to meet the LDR treatment standards applicable to other types of hazardous waste derived fertilizers. EPA's decision to promulgate this exemption was based on an analysis of then-available data that indicated heavy metal contaminant levels in K061-derived fertilizer were comparable to (and in some cases were lower than) contaminant levels in zinc fertilizers made from non-hazardous waste feedstocks. Thus, it was concluded that eliminating K061 fertilizers from the market (as would have been likely absent the regulatory exemption) would not have had any net environmental benefit. EPA also concluded at that time that, based on available information, agricultural application of K061 fertilizers did not appear to pose significant risks for either ground water or food chain contamination pathways (*see* 53 FR 31164, August 17, 1988).

2. Today's Proposed Action

Today's proposed rule would amend the current regulations at § 266.20, by removing the provision that exempts fertilizers made from K061 from having to meet applicable land disposal restrictions standards. In effect, this proposal would require all zinc fertilizers made from recycled hazardous secondary materials to meet the same set of contaminant standards. This aspect of today's proposal is in accord with the Agency's objective of creating a more consistent regulatory framework for this particular recycling practice.

EPA's rationale for eliminating the current regulatory exemption for K061 derived fertilizers also rests on the fact that the composition of zinc fertilizers on the market has changed significantly since the exemption was granted in 1988. Current data on zinc fertilizer composition clearly indicate that levels of certain heavy metal contaminants in K061 fertilizers are considerably higher than those in other types of zinc fertilizers that are now widely marketed. For example, total concentrations of lead in K061 fertilizers commonly exceed one percent (10,000 mg/kg) by weight, while available data suggest that lead levels in zinc sulfate monohydrate fertilizers (which are also widely marketed) rarely exceed 100 mg/kg in dry product (see, for example, ''Land Application of Hazardous Waste Derived Micronutrient Fertilizers,'' Bay Zinc Company and Tetra Technologies, Inc., November 19, 1999).

Such higher purity zinc fertilizers were not widely available as substitutes for K061-derived fertilizers in 1988. Today's proposal to eliminate the exemption for K061 derived fertilizers has also been made in consideration of the levels of dioxins in K061 fertilizers that were identified in the State of Washington's report ''Screening Survey of Metals and Dioxins in Fertilizer Products and Soils in Washington State,'' (April 1999).

As discussed further in Section VII.A. of this preamble and in the Regulatory Impact Analysis (RIA) prepared in support of today's proposal, EPA believes that subjecting K061 zinc fertilizers to the same regulatory controls as other types of hazardous waste derived fertilizers will have the benefit of creating a more consistent regulatory framework for this type of zinc fertilizer manufacturing, and will not create undue hardships for the zinc fertilizer industry.

At the present time EPA is aware of only one manufacturer (Frit Industries of Ozark, AL) currently using K061 to produce zinc oxy-sulfate fertilizer. Although this company would need to modify its manufacturing practices to comply with this regulatory change, EPA believes that this should not cause undue economic hardship for either the company or for zinc fertilizer consumers. In any case, we do not believe that it is sensible to exempt this type of fertilizer from having to meet contaminant limits, while other zinc fertilizers of greater purity would be required to meet them. In addition, the provisions in today's proposal that would streamline regulatory controls on management of hazardous feedstocks in zinc fertilizer manufacture should benefit the industry by increasing the availability of alternative hazardous feedstock materials (*e.g.*, brass foundry dusts).

Some stakeholders have advocated a total ban on the use of K061 to make zinc fertilizer, largely because of concerns about measured concentrations of dioxin contaminants in two samples of these fertilizers, which were analyzed as part of the State of Washington's previously cited screening study. The Agency considered this option, but is not proposing it. EPA believes that K061 can be a suitable feedstock for manufacturing zinc fertilizer, provided that it is processed sufficiently to address metal and dioxin contaminants. In fact, at least one steel manufacturer in the United States is currently thermally processing K061 to recover its iron content and to produce a zinc oxide material that can be further refined to make high-quality zinc fertilizer (Illinois Pollution Control Board, AS99–3, May 5, 1999). The Agency does not believe that there is any environmental reason to discourage recycling of K061 to make fertilizer; in fact, we hope that this rulemaking may serve to encourage beneficial metals recovery from K061 that might otherwise be landfilled.

In summary, given the relatively high contaminant levels in K061 fertilizers, and the availability to the industry of alternative hazardous waste (and other) feedstock materials, EPA sees no compelling reason to continue subjecting K061 fertilizers to less stringent regulatory controls than other types of hazardous waste derived zinc fertilizers. The Agency requests comment on this provision of today's proposal.

B. Conditional Exclusion for Recycled Zinc-Bearing Hazardous Secondary Materials

1. Background

a. *General.* As discussed in Section II.C. of this preamble, the ''use constituting disposal'' (UCD) requirements of § 266.20 currently apply to management of any RCRA hazardous waste that is recycled to make fertilizer. This in effect requires the wastes to be managed according to all applicable hazardous waste regulations, including requirements for generation, transportation and storage of the wastes prior to recycling. The recycling processes themselves are generally not subject to RCRA regulation.

EPA's rationale for regulating these materials as hazardous wastes is that the end disposition of the waste closely resembles uncontrolled land disposal, which is the classic type of discard under RCRA. (January 4, 1985, 50 FR at 627–28; August 17, 1988, 53 FR at 31198). At the time these regulations were promulgated, however, EPA was unsure as to how to regulate the end disposition of the waste-derived products, since full Subtitle C regulation would essentially prohibit their use as products (January 4, 1985; 50 FR at 646). The original regulatory scheme consequently applied RCRA Subtitle C regulation only to persons generating, transporting and storing hazardous wastes before they were incorporated into the waste-derived products. Id. At 646–47. As explained earlier, because the use of waste-derived products on the land is a type of land disposal, EPA in 1988 amended these regulations to require all such waste-derived products (with the exception of K061 derived fertilizers) to meet LDR treatment standards [2].

As mentioned previously, zinc fertilizers can be manufactured from a variety of different feedstock materials—some are ''virgin'' materials such as refined ores, while others are secondary materials generated from emission control devices or other industrial processes. While their origins may differ, the physical and chemical characteristics of these materials are generally quite similar—for the most part they are dry, powdery solid materials containing a high percentage of zinc in oxide or chloride form, along with lower levels of non-nutritive contaminants such as lead, cadmium and other heavy metals. The zinc content of these materials typically ranges from 50% to 80% by weight.

Levels of metal contaminants in these feedstocks vary considerably, even from batch to batch; on average, contaminant levels in non-hazardous feedstocks are slightly lower than those in hazardous feedstocks. Levels of lead (for example) in non-hazardous galvanizer ash typically range between one and two percent, while levels in hazardous brass foundry dust can be as high as six percent (letter from George M. Obeldobel, March 6, 2000). As a general matter, however, we believe that any potential risks posed by hazardous and non-hazardous zinc feedstock materials would be substantially similar, which argues for more consistent regulation of these materials under RCRA.

In EPA's view, more consistent regulation of zinc fertilizer feedstocks is also appropriate since the current regulatory structure tends to discourage legitimate and beneficial recycling of those materials that are now classified as hazardous wastes. As mentioned previously, the current UCD regulations that apply to this recycling practice were originally promulgated in 1985. A thorough, prospective examination of the potential impacts of the UCD regulations specifically on the zinc fertilizer industry was beyond the scope of that original rulemaking.

Since 1985 the Agency has gained considerable insight as to how the UCD regulations have affected manufacturers of zinc fertilizers and their suppliers. Based on this experience with implementing the UCD requirements, EPA has concluded that the existing UCD regulatory structure unnecessarily constrains legitimate recycling in the zinc fertilizer industry, as discussed in more detail below.

Under the current regulations, companies that use hazardous wastes to make fertilizers typically will need a RCRA permit for storage of the material prior to recycling. This can have important implications for zinc fertilizer manufacturers. Obtaining a RCRA permit can be costly and time consuming. In addition, a RCRA permit carries with it other obligations, such as the requirement for facility-wide corrective action, which can incur further substantial costs. Most companies (and fertilizer manufacturers are no exception) thus have a strong incentive to avoid the RCRA permit requirement for their facilities whenever possible.

One way for a zinc fertilizer manufacturer to avoid the RCRA permit requirement is to simply use non-hazardous feedstock materials. These materials are generally more expensive than hazardous waste feedstocks, which increases the price of zinc fertilizer products. For manufacturers who do accept hazardous feedstock materials, the RCRA permit requirement can also be avoided by selling the end product for purposes other than fertilizer. ZSM, for example, can also be used as an animal feed supplement, which does not trigger the UCD regulatory requirements. This creates the anomalous situation in which a manufacturer of ZSM would be subject to full regulation under RCRA if the product is sold as fertilizer, but is not regulated at all if the identical product is sold as animal feed. EPA does not believe that there is a convincing environmental rationale for perpetuating this somewhat artificial regulatory distinction between zinc products that trigger the UCD requirements and those that do not, particularly when the composition of the products may be identical.

The current UCD regulations create similar disincentives for generators of hazardous zinc secondary materials. Such generators typically prefer not to have such materials classified as hazardous waste, since they are then less valuable as a commodity, are subject to stringent hazardous waste management requirements, and in many states are assessed hazardous waste generation fees. These generators therefore tend to avoid selling their material to companies that make fertilizer products. However, fertilizer is by far the largest market for ZSM. Since this market is effectively closed for many generators, and alternative recycling options are limited, generators of zinc-bearing secondary materials can often be forced to dispose of the material as hazardous waste, rather than sell it to fertilizer manufacturers. In EPA's view, such distortions in the market for recyclable hazardous secondary materials are both environmentally and economically non-productive.

b. *Reporting and Recordkeeping.* As discussed above, under current regulations hazardous wastes that are used to make fertilizers are subject to the RCRA ''cradle to grave'' requirements for tracking and recordkeeping prior to being recycled. The following is a summary of these requirements:

- Generators of such hazardous wastes must:
—Manifest off-site shipments of hazardous waste (§ 262.20–23);
—Submit exception reports for any unconfirmed deliveries of waste shipments (§ 262.42);

[2] EPA is reciting this history as an aid to readers; EPA is not accepting comment on these past determinations; or otherwise reopening these issues.

—Maintain copies of manifests, exception reports, biennial reports and any data used to make hazardous waste determinations, for at least three years (§ 262.40); and
—Submit a biennial report describing all hazardous wastes generated and the facilities they were shipped to every other year (§ 262.41).

- Manufacturers of hazardous waste derived fertilizers must:
—Maintain copies of manifests for at least three years [§ 264.71(b)(5)];
—Submit a report for each shipment of hazardous waste received without a manifest (§ 264.76) and each shipment with significant manifest discrepancies (§ 264.72); and
—Submit a biennial report for each odd-numbered year describing all hazardous wastes received from any off-site generators, and who the generators were.

These RCRA requirements were designed to be a ''cradle to grave'' tracking system, to document and ensure that hazardous wastes shipped from a generator's facility actually arrive at their intended destination (*e.g.,* a hazardous waste disposal facility), and do not become ''lost'' or dumped indiscriminately. The biennial reporting requirement is intended to provide information to the public on hazardous waste generation and movement, and to enable EPA to report to Congress with national profiles of these activities. While these requirements apply when the recycled end product is subject to the UCD regulations, such cradle-to-grave requirements generally do not apply if such wastes are used to make other types of products. Thus, the RCRA tracking system does not apply to many hazardous waste streams that are recycled but are exempt or excluded from regulation because the end products are not used on the land.

With regard to monitoring and tracking hazardous wastes that are used to make fertilizers (and other recycled products), the current RCRA regulations have certain limitations. For example, hazardous waste generators who supply fertilizer manufacturers are not required to notify regulatory agencies of the practice, so identifying the sources of hazardous waste feedstock materials involves reviewing individual manifests, which are typically maintained at the fertilizer manufacturer's facility. Tracking such waste movements may be especially difficult in cases where there is a middleman (*e.g.,* a waste broker or processor) involved, who may aggregate or blend wastes from various sources before shipping them to a fertilizer manufacturer.

In addition, generators are required to identify only the facility to which their wastes are shipped, but do not need to identify what their wastes may be used for. Many facilities that receive such wastes make a variety of products in addition to fertilizers, which makes it difficult for regulators (and others) to determine whether or not a particular waste shipment was used specifically for fertilizer manufacture. The biennial reporting system has similar limitations for much the same reasons, and in addition only applies to hazardous waste management activities that occur every other year.

In summary, the existing regulatory framework provides regulators and others with only limited means of identifying and monitoring generators who supply manufacturers of hazardous waste derived fertilizers, or what they are supplying. Furthermore, the current biennial reporting system is admittedly only marginally useful for identifying at an aggregate national level who is engaged in these practices, what wastes are being used, or what products are being produced. EPA believes that the current recordkeeping, reporting and tracking system (as it applies to recycling of hazardous wastes in zinc fertilizers) can be streamlined and greatly improved with relatively minor modifications.

To this end, EPA is today proposing (as discussed below) a new set of reporting and recordkeeping requirements specifically for this industry that should enhance oversight capabilities of regulatory agencies, and provide more complete, more accurate and more accessible information to regulators and others on this particular type of hazardous waste recycling. In addition, as discussed in section VIII.C. of this preamble, we believe that the proposed new requirements would actually result in less overall paperwork burden on industry than the current system. EPA requests comments on whether the new set of reporting and recordkeeping requirements in today's proposal is necessary, and on the potential impacts of such requirements.

2. Proposed Conditional Exclusion

EPA is today proposing in § 261.4(a)(20) a conditional exclusion from the definition of solid waste for hazardous secondary materials—that is, spent materials, sludges and byproducts—that are recycled to make zinc fertilizers or zinc fertilizer ingredients. We believe excluding these materials from being classified as wastes is appropriate, for the reasons outlined above. However, we do not believe that a total exclusion (which would allow unrestricted management of these materials) is appropriate, given the Agency's recent experience with at least three cases of environmental damage caused by improper management of such materials by zinc product manufacturers (these cases are discussed further in the economic impact analysis prepared for this proposed rule).

As mentioned previously, these materials are typically dry zinc oxide dusts that contain significant levels of non-nutritive metals such as lead, cadmium and arsenic, often in soluble form. They are thus susceptible to wind and water dispersion if not managed properly. The damage cases that the Agency has dealt with have primarily involved situations where the secondary material feedstocks and/or wastes generated from fertilizer manufacturing processes have been stored outdoors, usually in uncovered, unlined piles. These cases have resulted in contamination of soils, sediments and ground water via uncontrolled dispersal, a form of ''throwing away'' inconsistent with the notion that these zinc-containing materials were valuable feedstocks (''Report of RCRA Compliance Inspection at American Microtrace Corporation,'' US EPA Region VII, December 4, 1996). In summary, today's proposal would replace the current Subtitle C regulatory controls on these materials with conditions designed to ensure that the unprocessed materials do not become discarded.

EPA is not aware of any damage cases that may have occurred from mismanagement of hazardous waste derived zinc fertilizers themselves. EPA requests information on any other proven damage cases due to mismanagement of secondary material feedstocks and/or wastes generated from fertilizer manufacturing processes, or proven damage cases involving mismanagement of hazardous waste derived zinc fertilizers.

a. *Applicability of Conditional Exclusion.* The conditional exclusion proposed today would be an exclusion only from the RCRA Subtitle C regulations, and not from the emergency, remediation and information-gathering sections of the RCRA statute (sections 3004(u), 3007, 3013, and 7003). This restates the principle already codified for other excluded secondary materials—that the exclusion is only from RCRA regulatory provisions, and not from these statutory authorities. See section 261.1(b).

EPA is repeating that principle here in the interests of clarity, not to reopen the issue. The legal basis for the distinction of the Agency's authority under these provisions is that they use the broader statutory definition of solid waste (and hazardous waste as well) and so need not (and should not) be read as being limited by the regulatory definition. *See,* for example, 50 FR 627; January 4, 1985.

b. *Reporting and Recordkeeping.* Today's proposed rule includes conditions for reporting and recordkeeping by generators and manufacturers that are designed to ensure that government oversight over the handlers of excluded materials (*e.g.,* generators and manufacturers) is not compromised. These conditions would replace the current hazardous waste regulatory requirements for reporting and recordkeeping. As discussed below, the proposed conditions are in fact designed to improve the accountability system, and government oversight capabilities, over the handling of secondary materials used to make zinc fertilizers.

Today's proposal would replace the existing tracking system with a set of reporting and recordkeeping requirements (*i.e.,* conditions to the exclusion) to specifically identify zinc fertilizer manufacturers who receive excluded hazardous secondary materials and the generators who supply them, to track shipments of these materials, and to provide a much more detailed accounting of the types and volumes of hazardous secondary materials that are actually used to make zinc fertilizer products. The proposal also specifies recordkeeping requirements for finished zinc fertilizer products that are made from excluded materials, as discussed below in section IV.C.2.

The proposed conditions on reporting and recordkeeping are not expected to impose substantial new paperwork burdens on affected companies, since we believe they rely primarily on standard business record keeping practices. At the same time, however, it should be understood that the proposed requirements would be unique, in that no other RCRA-regulated recycling practice is subject to such an expanded, industry-specific accountability system. EPA solicits comments on whether such an accountability system is warranted, whether it would necessitate substantial changes to current business practices, and on any other potential impacts of such a system.

c. *Conditions of the Exclusion.*

i. *Speculative Accumulation.* Today's proposal would prohibit speculative accumulation (as defined in existing § 261.1(c)(8)), which generally requires an annual recycling rate of 75% of all hazardous secondary materials accumulated as of the first day of each calendar year. This proposed provision is mainly for emphasis and clarity; a general provision classifying secondary materials accumulated speculatively as solid wastes already appears at § 261.2(c)(4). See generally 50 FR at 634–37; January 4, 1985.

ii. *Conditions Applicable to Generators of Excluded Hazardous Secondary Materials.*

Overview. As discussed above, under today's proposal generators would no longer be subject to current hazardous waste management regulations, provided that the generator met the specified conditions relating to accumulation, storage, transportation, reporting and recordkeeping of excluded materials. The following is a general, simplified reiteration of how requirements for generators would change under these proposed rules, followed by a more detailed explanation of each of the proposed conditions.

Accumulation/Generation. Currently, generators of hazardous wastes used to make zinc fertilizers may accumulate the wastes on-site for no more than 90 days without triggering the need for a RCRA permit. In addition, a number of states levy fees on all such generated wastes, which are typically based on the volumes generated in a given year. Under today's proposal, these requirements would no longer apply to generators (unless a state chose to adopt more stringent requirements).

Storage. On-site storage (*e.g.,* in tanks or containers) of hazardous waste accumulations is currently allowed if the generator meets the management requirements for such units at interim status facilities. Under today's proposal, these storage requirements would be replaced by a set of more general, performance-based conditions intended to ensure that excluded materials are stored safely at generator facilities.

Transportation. Off-site shipments of hazardous wastes (e.g., from a generator to a fertilizer manufacturer) currently must be manifested according to the requirements of 40 CFR Part 262, Subparts B and C. These requirements include provisions for packaging, labeling, marking, and placarding of waste shipments, as well as procedural requirements such as those for dealing with manifest discrepancies. Under today's proposal hazardous waste manifests and the requirements associated with their use would not apply. The generator would, however, need to document shipments of excluded materials and maintain copies of shipping papers, analogous to the current manifesting requirements.

Reporting and Recordkeeping. Under current regulations, generators of hazardous wastes used to make zinc fertilizers must provide notice to the authorized agency of their hazardous waste management activity (§ 262.12), submit biennial report information every other year (§ 262.41), and maintain manifest records for at least three years (§ 262.40). These requirements would no longer apply under today's proposal. Instead, generators would need to: (a) Submit a one-time notice of their intent to manage (now excluded) materials according to the proposed conditions; and (b) maintain shipping records (containing information analogous to that in manifests) for at least three years.

The following is a more detailed explanation of today's proposed conditions for generators.

Storage. Under today's proposal (§ 261.4(a)(20)(ii)(A)), storage of excluded hazardous secondary materials at a generator's facility would, as a condition of the exclusion, only be allowed in tanks, containers or in buildings. These units would have to be constructed and maintained in a way intended to prevent releases of the material into the environment from occurring. This is in effect a general performance standard for such units, coupled with a few broad design conditions.

EPA expects that in most cases generators will choose to store their feedstock materials inside buildings, either in bulk (i.e., in piles) or in ''supersack'' containers. Supersacks are reusable woven resin bags that can contain approximately one ton of dry material, and are typically handled with forklifts, cranes or other heavy machinery. As mentioned previously, the damage cases known to the Agency that involved hazardous zinc feedstock materials have all resulted from outside storage, typically in uncovered, unlined piles. Storage of these materials inside well-designed and maintained buildings should adequately prevent against releases of such materials into the environment. Thus, the proposed storage condition is that any such building be engineered to have a floor, walls and a roof made of non-earthen materials, such that dispersal or contact by rainwater are prevented. These buildings may, however, have doors or removable sections to enable access by trucks or machinery.

Excluded secondary materials could also be stored in tanks that are not located inside buildings. Such tanks are often used for receiving shipments of

bulk material from trucks or rail cars. A tank (as defined in § 260.10) subject to this exclusion would have to be structurally sound, and have a roof or cover that prevents wind or water dispersal.

Outside storage of secondary materials in containers at generating facilities would also be allowed, with some restrictions. Such containers would have to have lids or covers to prevent dispersal of the contents, and be constructed of metal or other rigid materials. This last requirement is intended to prevent the use of supersacks or similar types of containers for outside storage. This is because supersacks are to some extent porous, and do not have sealed openings. They are not waterproof or airtight, and can rupture if mishandled. EPA believes that this type of container does not offer secure enough storage under outside conditions, and so is proposing not to allow their use for outdoor storage of excluded materials.

EPA believes that the proposed conditions on storage of excluded hazardous secondary materials at generator facilities would be protective of human health and the environment. However, we recognize that the proposed conditions do not address every possible circumstance that could lead to releases of these materials at a generator's facility. The same can be said, of course, for permitted hazardous waste management facilities. An example might be an accident during loading or unloading of material that causes spillage or wind dispersal, and (at least potentially) contamination of soils. In all cases, unless the owner/operator of the facility responds immediately to clean up the released material, these situations would be considered an act of discard under RCRA. Such materials would then be considered waste (i.e., the conditional exclusion would not longer apply), and the owner/operator would potentially be subject to enforcement action for illegal disposal of hazardous waste. EPA invites comment on all aspects of today's proposed storage requirements for generators.

One-time notification. The proposed rule would require generators of excluded hazardous secondary materials to submit a one-time notice (§ 261.(4)(a)(20)(ii)(B)) to the EPA Regional Administrator (or the state Director in an authorized state) identifying the name, location and EPA ID number of the generating facility, and the type (e.g., brass foundry dust) and estimated annual volume of material that is expected to be excluded under these fertilizer recycling regulations. This condition is intended to enable regulatory agencies to readily identify the generators who supply (or intend to supply) excluded secondary materials to zinc fertilizer producers. If the generator anticipates shipping excluded materials off-site, the generator would also have to certify in the notice that he will only ship excluded materials to states that are authorized to administer these regulations (*i.e.,* if that state were not authorized, the material would not be excluded in that state and would have to be managed as hazardous waste in that state).

With regard to off-site shipments, the DOT requirements for transportation of hazardous materials (which generally involve proper identification of such materials in case of emergency incidents) could potentially apply. The shipments would not be subject to RCRA manifest requirements (since the materials would not be hazardous wastes), although similar shipping papers would be required for tracking purposes, as discussed below.

This proposed reporting requirement is generally analogous to the current requirement for generators of excluded secondary materials that are placed on the land (see § 268.7(a)(7)), which requires the generator to place a similar one-time notice in the generator facility's on-site files. However, the proposed requirement should have the effect of enhancing regulatory agencies' tracking and oversight capabilities, since the information would be submitted directly to the overseeing agency, rather than being maintained in the facility's files.

EPA considered alternatives to this one-time notice requirement, such as requiring periodic (*e.g.,* yearly, or once every five years) notices, or a new notice whenever a significant change occurs, such as process changes that could change the product's composition. The one-time notice is consistent, however, with similar conditional exclusions (*e.g.,* for comparable fuels—see § 261.38(c)(1)(i)(A)), and it is not clear that additional notices from generators would be necessary for regulatory oversight purposes. We solicit comment on the need for a one-time notice to the regulating agency, as well as the content and frequency of this reporting condition.

Recordkeeping. Today's proposal would require generators to maintain records of all shipments of excluded hazardous secondary materials for a minimum of three years. These proposed recordkeeping conditions should enable regulatory agencies to more easily investigate shipments of excluded materials for compliance and enforcement purposes. We believe that these recordkeeping conditions should be generally consistent with normal business recordkeeping practices, and thus would not be expected to impose significant additional paperwork burdens on generators. We invite comment on this issue.

As specified in § 261.4(a)(20)(ii)(C), these records would have to identify for each shipment the name of the transporter, date of the shipment, the quantity shipped and a brief description of the excluded material in the shipment, name and location of the fertilizer manufacturer who received the shipment, a notice to the receiving manufacturer that the shipped materials are subject to the conditions specified in this rule, and documentation confirming receipt of the shipment by the manufacturer. These conditions are analogous to the current requirements for shipping hazardous wastes under manifests and maintenance of manifest records. Copies of manifests are typically kept at the generator's facility, though some states require copies of manifests to be submitted to the state agency.

The proposed recordkeeping conditions would require generators of excluded hazardous secondary materials to verify that each off-site shipment of excluded material was received as intended at the destination fertilizer manufacturing facility. This is intended to ensure a clear, documented chain of custody between the generator and the fertilizer manufacturer. In addition, under the proposed conditions generators would need to provide for each shipment a notice to the receiving manufacturer that the material is a hazardous secondary material excluded from hazardous waste regulations only as long as certain conditions are met. This is intended to ensure that manufacturers are fully aware of the regulatory status of each shipment of material, the obligations associated with receiving it, and the consequences of failing to meet the exclusion conditions.

These conditions may have particular implications for generators who ship their wastes to or through middlemen, such as waste brokers or transfer facilities. The conditions are not intended to prevent this practice—the use of a middleman to facilitate shipments from generator to fertilizer manufacturer would be allowed, provided that the manufacturer receives the same wastes that the generator shipped. If excluded wastes were to be mixed with other materials, all of the mixed materials would need to be managed in accordance with the exclusion conditions (or in accordance

with Subtitle C requirements, if they were mixed with hazardous wastes).

Other issues could arise with regard to shipments of material through middlemen. For example, a generator of zinc fume dust might send secondary material to a treatment facility that recovers lead, with the treated material then sent to a manufacturer of zinc micronutrient fertilizer. As explained below, under today's proposal the intermediate processor in this scenario would be considered a manufacturer of fertilizer ingredients, and would need to meet the conditions applicable to manufacturers in order to maintain the excluded status of the secondary material. If the processed secondary material was still hazardous after the intermediate processing (*i.e.,* if it exhibited a hazardous characteristic, or if it would be considered a listed hazardous waste were it not excluded), the processor would be considered both a manufacturer and a generator, and would need to meet both sets of conditions in order to maintain the material's excluded status. If the processor rendered the material non-hazardous, however, the conditions for generators would not apply to the processor, since there would be no need to further exclude the material.

Although we believe that a clear chain of custody between generator and fertilizer manufacturer is important to maintaining the integrity and effectiveness of today's conditional exclusion, we recognize that the conditions described above could have consequences for generators and other entities that we have not yet fully evaluated. For example, it is possible that some intermediate handlers could blend excluded hazardous secondary materials with other bulk materials before they are shipped to a fertilizer manufacturer. In such a case the blended material would all be subject to the conditions in today's proposal in order to maintain the excluded status of the material. This could create problems for the intermediate handler (and perhaps the manufacturer) in accurately tracking the shipments of excluded materials and maintaining the excluded status of all such blended materials. We therefore invite comment on this aspect of today's proposal having to do with intermediate processors, as well as on the other proposed conditions (described above) that generators would have to comply with to maintain the excluded status of their secondary materials.

iii. *Conditions Applicable to Manufacturers of Zinc Fertilizers and Zinc Fertilizer Ingredients Made From Excluded Hazardous Secondary Materials.* Today's proposal specifies certain conditions that manufacturers of zinc fertilizers and zinc fertilizer ingredients would need to meet in order for hazardous secondary materials that they handle at their facilities to be excluded from regulation as hazardous wastes. The following is a general, simplified discussion of how requirements for fertilizer manufacturers would change under these proposed rules, followed by a more detailed explanation of each proposed condition.

Permits. Currently, zinc fertilizer manufacturers typically need RCRA permits for storage of hazardous wastes prior to recycling. Under today's proposal, a manufacturer would not be subject to RCRA permitting requirements, provided that the manufacturer met the proposed conditions.

Storage. Manufacturers who are subject to RCRA permit requirements under the current regulations need to comply with specific requirements for storage (*e.g.,* in tanks or containers) at permitted facilities. Under today's proposal, these storage requirements would not apply; storage of excluded hazardous secondary materials prior to recycling would instead need to be conducted according to the more general, performance-based conditions proposed today.

Transportation. Manufacturers must now comply with manifest requirements for shipments of hazardous wastes from off-site, including procedural requirements and those pertaining to retention of manifest records. Under today's proposal, these transportation requirements would be replaced with less prescriptive conditions for documenting and maintaining records of shipments of excluded materials.

Reporting and Recordkeeping. Under current regulations, manufacturers of hazardous waste derived fertilizers must: (a) Submit a notice of waste management activity and obtain an ID number (§ 262.11); (b) submit a one-time notice and certification relating to compliance with land disposal restrictions (LDRs) standards (§ 268.7); (c) notify the authorized agency of each shipment of product made from recycled hazardous waste (§ 268.7(b)(6)); and (d) submit biennial report information (§ 264.75).

Under today's proposal the manufacturer would instead need to: (a) submit a one-time notice to the authorized agency; (b) maintain shipping records; and (c) Submit an annual report of recycling activity to the authorized agency.

Applicability of conditional exclusion. The proposed conditions would apply to both manufacturers of finished zinc fertilizer products, as well as manufacturers of chemicals or materials that are in turn used as ingredients in zinc fertilizers. The distinction between fertilizer manufacturers and those who manufacture fertilizer ingredients may in this context be important for some companies. In some cases, zinc refiners or zinc metal producers that are not in the business of making fertilizers may manufacture chemicals (*e.g.,* ZSM) that are then sold to fertilizer manufacturers as ingredients. Such producers are currently subject to the UCD regulations in the same way as zinc fertilizer manufacturers, since they make a product from hazardous waste that ultimately is used on the land. Similarly, some facilities may process or reclaim hazardous secondary materials (*e.g.,* K061) to make them amenable for recycling into zinc fertilizers; these would also be considered manufacturing facilities for the purpose of this conditional exclusion. Note that if the same processed or reclaimed materials are used for other purposes than to make zinc fertilizer, the conditional exclusion would not apply (and would probably not be needed unless the materials are used for some other purpose subject to UCD regulatory requirements).

In the situations described above involving manufacturers of zinc fertilizer ingredients, it is possible that in some cases the manufacturer of the ingredient may sell the product to another company, unaware that it will be used to make fertilizer. We believe that such cases will be rare, given the relatively small size of the industry and the limited number of uses for such zinc products. We invite comment, however, as to how common this scenario might be and what impacts today's proposed regulations might have on business transactions such as these.

For the reasons outlined above, EPA believes today's proposal should extend to manufacturers of zinc fertilizer ingredients, as well as to manufacturers of finished fertilizer products. We invite comment on this aspect of the proposed rule, including the need for such a provision, as well as information on which companies or facilities might be affected by such a provision, and any implementation issues that might occur as a result.

Storage. Under today's proposal, manufacturers of zinc fertilizers or ingredients would need to meet the same storage requirements for excluded hazardous secondary materials that

would apply to the generators of such materials (described above), as a condition of the exclusion. Again, the general intent of these storage conditions is to ensure that the materials are managed securely at fertilizer manufacturing facilities, and that releases of the materials into the environment are avoided. EPA solicits comments on the need for and approach to these proposed storage conditions, and specifically whether additional conditions (*e.g.,* controls on fugitive dust emissions from production buildings) may be necessary to ensure adequate protections.

One-time notification. As a condition of the exclusion, manufacturers would also need to submit a one-time notice to the authorized agency that identifies the name and location of the manufacturing facility, and estimated annual quantities and types (*e.g.,* generating industrial processes) of excluded materials that are expected to be used in zinc fertilizer production. The intent of this one-time notice is to provide regulators with general knowledge of which manufacturers intend to make use of the conditional exemption, as well as background information on the nature and scale of their intended recycling operations. This notice would in effect replace and streamline the current notification requirements for hazardous waste recyclers who make products used in a manner constituting disposal, as specified in § 268.7(b)(6).

Under those requirements manufacturers of hazardous waste derived fertilizers must submit to the overseeing agency an LDR certification statement (*see* § 268.7(b)(4)), and certain other information relating to compliance with LDR treatment standards, for each shipment of fertilizer products. While we believe that it is reasonable and desirable for regulatory agencies to be informed as to which companies are making zinc fertilizer from excluded secondary materials and what materials they intend to use, we do not believe that it is necessary to require reporting on every shipment of fertilizer products, especially in light of the proposed annual reporting requirement for manufacturers (see following discussion).

EPA considered alternatives to this proposed one-time notice requirement, similar to the alternatives described above for the proposed one-time notice requirement for generators. We solicit comment on the need for a one-time notice to the regulating agency, as well as the content and frequency of this reporting requirement.

Recordkeeping. Under today's proposal manufacturers would need to retain for a minimum of three years records of all shipments of excluded hazardous secondary materials that were received by the zinc fertilizer manufacturer during that period (§ 261.4(a)(20)(iii)(C)). These records would need to include information identifying the names and addresses of the generators and transporters of excluded wastes received by the manufacturer, the date each shipment was received, and information on the types and quantities of excluded materials in each received shipment. This recordkeeping condition is also intended to enhance the capability of regulatory agencies to (when necessary) account for shipments of excluded secondary materials. We believe that the condition is consistent with standard business practices, and thus should not be burdensome to fertilizer manufacturers. We request comment as to whether such a recordkeeping provision is needed, on the impacts of such a requirement, and on the alternatives that might be available.

Annual report. Under proposed § 261.4(a)(20)(iii)(D), each zinc fertilizer manufacturer who uses excluded hazardous secondary materials would need to submit to the appropriate regulatory agency an annual report that identifies the types, quantities and origins of all such excluded materials that were received by the manufacturer in the preceding year. This would also be a new type of report, intended to ensure an adequate tracking and accountability system for these excluded materials. EPA requests comment on this proposed condition, particularly with regard to whether such a requirement is necessary, and/or whether additional information (*e.g.,* material composition data) should be required.

d. Alternatives Considered. EPA considered several regulatory approaches as alternatives to the conditional exclusion approach outlined in today's proposed rule. For each of the alternatives, EPA is interested in the views of potentially regulated entities and the public regarding the costs, benefits and other impacts of such alternatives. The following is a description of the alternatives considered:

• *Maintain current regulatory structure.* EPA considered retaining the current UCD regulatory approach for zinc fertilizer recycling, as an alternative to today's proposed conditional exclusion. As explained previously, under the current regulations hazardous secondary materials that are recycled to make zinc fertilizer are considered hazardous wastes, and thus must be managed in accordance with all applicable RCRA Subtitle C regulations. Note that under this regulatory option the LDR standards for product contaminants could be retained, or other product contaminant limits (such as those proposed today) could be applied, in which case the limits would be regulatory standards, rather than conditions for exclusion.

The main advantage of retaining Subtitle C controls over these materials prior to recycling into zinc fertilizer is presumably the greater certainty that they will be managed properly. The RCRA permit requirement for off-site storage (*i.e.,* at the manufacturing facility) additionally imposes facility-wide corrective action obligations on the owner/operators of such facilities.

EPA believes that the disadvantages of retaining the current UCD regulatory structure for zinc fertilizer recycling outweigh the potential advantages. The Agency is persuaded that the current UCD regulations have created unnecessary impediments to safe and legitimate recycling, as discussed previously in this preamble. We also believe that the conditional exclusion proposed today would be protective and would result in greater volumes of hazardous secondary materials legitimately and beneficially recycled into valuable products. It must be remembered that encouraging ''properly conducted recycling and reuse'' is a statutory objective. RCRA section 1003(a)(5).[3] Further, today's proposal is expected to enhance government oversight capabilities over these practices through more complete reporting and recordkeeping by generators and fertilizer manufacturers.

EPA requests comment on the alternative of retaining the current UCD regulatory structure for hazardous wastes that are used to make zinc fertilizers.

• *Maintain current UCD requirements, with additional reporting, recordkeeping and testing requirements for all hazardous waste derived fertilizers.* Under this option the current UCD regulatory framework would be retained (*i.e.,* management of hazardous waste fertilizer feedstocks prior to

[3] This objective is tempered by the specific goals that such properly conducted recycling is expected to achieve: increased waste minimization and decreased land disposal. It could be argued that because these fertilizers are placed on the land (land disposal under section 3004(k)), the policy of encouraging this type of recycling carries less weight. Nonetheless, EPA believes the conditional exclusion approach available to both secondary material generators and fertilizer manufacturers will encourage safe and legitimate use of these zinc-containing secondary materials, and that this result is therefore in keeping with RCRA's recycling goals.

recycling would be subject to RCRA regulation), the K061 exemption would be removed, and today's proposed fertilizer contaminant limits would apply. More importantly, under this regulatory alternative, expanded biennial reporting requirements (*see* § 262.41) would be required for all manufacturers of hazardous waste derived fertilizers (not just zinc fertilizer manufacturers), and the hazardous waste generators that supply them. The main objective of such expanded requirements would be to collect much more detailed information on zinc fertilizer recycling practices, and provide greater public access (as well as access by regulatory agencies) to that information. The following is an outline of the expanded biennial reporting requirements that would be required:

1. *Applicability.* Generators of hazardous wastes being sent to fertilizer manufacturers, waste brokers and receivers [*i.e.,* hazardous waste treatment, storage or disposal (TSD) facility owner/operators] who use hazardous wastes to make fertilizers would be subject to the enhanced reporting, recordkeeping and testing requirements.

2. *General reporting requirements.* Generators and facility owner/operators who are currently required to submit biennial reports (*see* § 262.41) would be required to submit additional information in those reports, in electronic format (consistent with electronic reporting procedures that are currently being developed by EPA). Such information would include (asterisk indicates items already required):

—EPA ID Number *
—Company Name *
—Street Address *
—Mailing Address
—City, State, Zip *
—County
—Tax ID
—Contact Name and Title and Telephone #, ext.*
—Dunn and Bradstreet Number
—Industry SIC Codes * (one code for the overall production of the site and one code for the specific industrial process that generated the waste)
—Parent Company Name
—Parent Company Dunn and Bradstreet Number
—Latitude and Longitude
—Regulatory Status (under what laws reports are made)

3. *Additional requirements for generators (only):*

—Type of waste (waste code) and amount of total hazardous waste generated and shipped for use in fertilizer manufacture. If the waste is made into fertilizer on-site by the same company, this information would be reported under the ''receiver'' section. If the facility does not know how much might be used for fertilizer (*e.g.,* if they send it to a waste broker) they would have to report the total amount shipped that could be made into fertilizer.
—EPA ID # of facility waste is shipped to —Chemical specific information (CAS code):
—Chemical composition data for shipped wastes, including data on concentrations as well as the total weight of each contaminant in each shipment of waste (see testing requirements)

4. *Additional requirements for receivers (only):*

—Type (waste code) and amount of hazardous waste received from any source (*i.e.,* including waste brokers) for use as fertilizer, and amount that was actually used to manufacture fertilizer.
—EPA ID # of waste generator facility
—Total amount of fertilizer produced from hazardous waste
—Chemical specific information (CAS code):
—Chemical composition data for hazardous waste received, and for finished fertilizer products made from hazardous wastes (see testing requirements)
—Fertilizer specific information: Brand name, guaranteed analysis, type of fertilizer, batch number and date received.

5. *Testing requirements.* Chemical analyses would have to be performed by the generator and the facility owner/operator on the types and amounts of chemicals in hazardous wastes before they are made into fertilizers, as well as the finished fertilizer products. Chemicals to be tested for would include: arsenic, beryllium, cadmium, cobalt, chromium-6, lead, manganese, molybdenum, zinc, boron, antimony, barium, nickel, copper, aluminum, iron, selenium, sodium, silver, magnesium, strontium, thallium, titanium, vanadium, cyanide, chloride, benzene, toluene, xylene, styrene, ethylene glycol, phenol, aldehydes (formaldehyde), vinyl chloride, chlorinated hydrocarbons (including trichloroethylene, perchlorethylene, 1,1,1 trichloroethane, methylene chloride, and chloroform), phthalates, dioxins and furans, PACs, PCBs, hexachlorobenzene, radioactivity, fluoride, and ketones.

6. *Data management.* The data would be accessible to the public in hard copy form and maintained in a searchable database accessible through the EPA Web Site. This database would also need to be accessible and available in electronic form (*i.e.,* on diskette or CD).

7. *Labeling.* Labels (*i.e.,* on consumer product packaging) or product disclosure documents (*i.e.,* for farmers) would identify that the fertilizer is made from hazardous waste. The labels and documents would also identify the chemical composition of the fertilizer, including concentrations of plant nutrient chemicals and regulated contaminants.

EPA requests comment on this regulatory alternative. Specifically, EPA is interested in the views of affected entities and the public on the need for, potential impacts of, and incremental benefits of each requirement in this alternative compared with the other options discussed in the preamble.

• *Exclusion without conditions.* EPA also considered the option of simply excluding from the definition of solid waste hazardous secondary materials that are recycled to make zinc fertilizer. Recycling such materials to make zinc fertilizer would then be regulated the same as recycling them to make other types of zinc products, such as animal feed or zinc metal for galvanizing. This option would not include regulatory contaminant limits for fertilizers, since other recycled zinc products do not have such limits.

One rationale for this regulatory option would be that hazardous wastes used to make zinc fertilizers do not need to be regulated under RCRA Subtitle C, since they have commodity value and are essentially the same as alternative, non-hazardous feedstock materials. It could be further argued that restrictions on managing hazardous feedstock materials are unnecessary, since the original concern behind the UCD regulations had more to do with uncontrolled use of contaminated products on the land than management of feedstock materials prior to recycling.

EPA does not prefer this regulatory option, for several reasons. Damage cases involving mismanagement of hazardous zinc fertilizer feedstocks are evidence of the need for some system of controls over these materials. In addition, eliminating all reporting, recordkeeping or storage requirements would compromise the ability of regulatory agencies (and others) to monitor these recycling practices. EPA does not believe that eliminating virtually all controls and accountability over hazardous waste fertilizer feedstocks would serve the public's (and regulators') interest in ensuring proper management of these materials. These

factors argue convincingly, in our opinion, for maintaining enforceable conditions over hazardous secondary materials prior to recycling into fertilizers. Nevertheless, we request comments on this alternative, including information on tradeoffs between the level of regulation and the potential for risks.

e. *Implementation and Enforcement.*

Implementation. If finalized, today's proposed conditional exclusion for hazardous secondary materials could have important implications for facilities that are currently in this business and are subject to the UCD hazardous waste regulatory requirements. As a general matter, once the regulatory changes become effective and facilities begin complying with the exclusion conditions, the affected activities of those facilities (some facilities might be managing hazardous wastes that are not affected by this rule) would no longer be subject to hazardous waste management regulations.

Under this proposal, a RCRA-permitted facility that is now managing hazardous waste, but which under the new rules would be managing only excluded hazardous secondary materials, would not be required to maintain the operating portion of its permit, since it would no longer be engaged in hazardous waste management. In these cases the permit should be modified to reflect the changes in the facility's hazardous waste management operations. The type of modification necessary will depend upon facility-specific circumstances, as described below.

For permitted facilities that manage excluded secondary materials in addition to regulated hazardous wastes, changes to the facility's permit would be relatively minor. These facilities would still need operating permits—only those units used solely to manage excluded materials would be relieved of permitting requirements. In this case, the facility owner/operator might seek a permit modification to remove the formerly subject unit(s) from the permit.

As mentioned above, a permitted facility that would no longer be considered a hazardous waste management facility (*e.g.,* a facility that now managed only excluded hazardous secondary materials) would no longer need a hazardous waste operating permit. However, where such a facility has not yet completed facility-wide corrective action (see 40 CFR 264.101), the obligation to conduct such cleanup continues. Therefore, one approach would be to modify the permit to remove the requirements applicable to hazardous waste storage, but not to eliminate the corrective action portion of the facility's permit. In such a case, the facility would thereafter have a corrective action-only-permit that would expire only when facility-wide corrective action is determined to be complete.

A similar situation could occur in the case of permits that have long-term ''post-closure'' requirements for monitoring or remediating groundwater contamination from RCRA-regulated units such as landfills. In cases like these the authorized agency would also have the option of eliminating only the provisions of the permit relating to the affected storage units holding excluded materials at the facility, while leaving in effect the permit conditions for post-closure care.

EPA recognizes that there may be practical issues associated with transitioning a RCRA-permitted facility to a facility that no longer would be subject to hazardous waste regulations under the provisions of today's conditional exclusion. One issue in particular could be that the terms of the facility's permit (a legally enforceable document) would technically remain in effect until the authorized agency took action to modify or terminate the permit. Such permit conditions could include unit-specific requirements (*e.g.,* design, operating and closure requirements for storage tanks), as well as general facility requirements such as financial assurance, security and personnel training. This could potentially put the owner/operator (and the authorized agency) in the awkward situation of being subject to two sets of overlapping and inconsistent regulatory requirements, that is, the hazardous waste permit requirements and the conditions of today's proposed rule.

Current RCRA regulations do not provide an explicit mechanism for automatically eliminating permit conditions in these situations. We expect that such situations would be temporary and relatively rare, and an authorized agency should be able to deal with them in a common-sense manner, without legal difficulties. It is possible, however, that some problems could arise under some circumstances. EPA is therefore considering (and solicits comment on) whether a more explicit regulatory provision is necessary to address these potential transition issues.

One approach to more explicitly deal with this issue might involve amending the current permit requirements in 40 CFR Part 270 to specify that permit conditions pertaining to any active hazardous waste management activity at a facility in this type of situation would automatically be eliminated, without the need for any action on the part of the authorized agency. Such a regulatory amendment would not relieve owner/operators of permit obligations that do not pertain to active hazardous waste management in the unit in question, such as corrective action requirements. Alternatively, permit termination could be accomplished through the Class I permit modification process (§ 270.42(a)).

A facility that is operating under RCRA interim status would be affected by promulgation of today's proposed rule in much the same way as permitted facilities, and the issue of corrective action would be addressed in a similar manner. In this case, Part 265 interim status standards that apply to the affected unit and the general facility standards would be moot and no longer in effect. Under RCRA regulations, however, cessation of hazardous waste operations alone does not eliminate a facility's interim status. See 40 CFR 270.73. A facility that wishes to no longer be in ''interim status'' could seek a denial of its pending permit application. Since the Agency believes it appropriate to ensure that corrective action is addressed prior to denying a permit under these circumstances, we would expect to grant the denial only when we concluded that corrective action obligations have been satisfied [4].

In addition to the above described issues relating to permits and corrective action, today's proposed rule may also have implications with regard to closure of hazardous waste storage units at affected facilities. If today's rule were finalized, wastes currently managed as hazardous wastes would no longer be so classified as long as the facility complies with the proposed exclusion conditions. Such a conditional exemption could be read as triggering the existing closure requirements, since owners/operators of non-land based hazardous waste units (e.g., tanks, containers, containment buildings) must begin closure within 90 days of receiving the unit's final volume of hazardous wastes. 40 CFR 264.113(a) and 265.113(a).

[4] EPA notes that, in a recent **Federal Register** preamble, the Agency may have implied that RCRA section 3008(h) authority ceases whenever a facility's application for a permit has been denied. *See*, 63 FR 56712 & 56716 (October 22, 1998). The Agency, however, did not intend by that notice to opine on the scope of the Agency's authority under section 3008(h). The statements reflect the Agency's general practice of ensuring that any necessary corrective action has been completed prior to denying a permit application. Where cleanup has been completed prior to permit denial, further action under section 3008(h) is obviously unnecessary.

EPA is concerned that requiring closure of units in these situations would serve little environmental purpose since, after closure, the unit would be immediately reopened and be used to store the same (now excluded) material. It should also be noted that, under today's proposal, units storing excluded materials would be considered essentially the same as similar units used to store products. Thus, we do not believe that requiring these particular units to close through RCRA Subtitle C procedures is necessary to protect human health and the environment.

For these reasons, EPA is considering an explicit regulatory exemption from RCRA closure requirements for units that store hazardous wastes that subsequently become conditionally excluded under this rule. EPA's closure regulations fit into the broader RCRA hazardous waste ''cradle-to-grave'' management system by minimizing or eliminating potential threats to human health and the environment and the need for future corrective action at the site after active hazardous waste management activities cease. *See* 52 FR 8712, 8713. The Agency is today proposing that hazardous secondary materials do not warrant classification as hazardous waste when managed in compliance with the specified conditions of today's rule, and that storage units containing excluded materials do not warrant regulation under the closure standards when they cease storing hazardous wastes. We therefore request comment as to whether a more explicit regulatory exemption from RCRA closure requirements may be appropriate for units that once stored hazardous wastes but now store only conditionally excluded materials.

Another option would be to treat such units comparably to those at generator facilities that cease managing hazardous wastes. When this occurs such storage units are subject to unit-specific removal and decontamination standards (40 CFR 262.34(a)). Under this option, a hazardous waste storage unit that subsequently is used to store only excluded material would have to meet the removal and decontamination standards at the point when the unit no longer is used to manage excluded materials. EPA does not favor this approach, however, since we do not believe it necessary or appropriate for such RCRA regulatory requirements to remain in effect (for what could be a long period of time) after such a unit ceases managing hazardous wastes. In addition, any concerns about hazardous waste spills and contamination from these units would be dealt with through corrective action requirements. Therefore, EPA is not proposing this approach.

Finally, EPA is also considering revising the ''delay of closure'' rules, set forth at 40 CFR 265.133(d) and (e), to allow units storing only conditionally exempt wastes to postpone closure until the unit is taken out of service. Such an approach would involve certain procedural steps built into the delay-of-closure rule, but it would avoid triggering closure for units that are managing now conditionally exempt waste, while at the same time requiring that such units eventually undergo formal RCRA closure under Subtitle C. EPA questions the need for this approach, however, especially since the delay of closure regulations are based on the assumption that hazardous waste remains in the closing unit, which is not the case here.

EPA requests comment on all of the implementation issues described above.

Enforcement. With regard to generators and fertilizer manufacturers who would be interested in making use of the conditional exclusion provisions of today's proposed rule, it should be understood that failure to meet one or more of the conditions specified in the rule could have serious consequences. Each condition must be met in order to maintain the excluded status of the hazardous secondary materials used to make zinc fertilizers. Thus, failure to meet any of the conditions would have the effect of removing the exclusion, and the secondary materials would be considered hazardous wastes subject to regulation under RCRA Subtitle C. If, for example, a fertilizer manufacturer failed to store hazardous secondary materials according to the conditions in the rule, the manufacturer could be required to obtain a RCRA permit, and begin managing the waste materials according to applicable hazardous waste regulations. As a general matter, if a facility's conditional exclusion were to be revoked under circumstances like these such an action would typically not affect the excluded status of the material before it was received at the manufacturer's facility. In other words, in the above example the generator of the material would typically be allowed to retain the excluded status of the material at the generating facility, provided that the generator continued to meet the applicable conditions.

An owner/operator of a generating or manufacturing facility who chooses to use the exclusion would need to be able to demonstrate to the appropriate regulatory agency that the conditions are being met. Thus, for the purpose of clarity, proposed § 261.4(a)(21)(iv) specifies that in an enforcement action the facility owner/operators claiming the exclusion would bear the burden of proof with regard to demonstrating conformance with the conditions specified in the rule.

It should be noted that for fertilizer manufacturers the proposed exclusions in today's rule would apply only to the secondary materials being recycled and to the finished fertilizer products. Manufacturers (or intermediate processors) would not be relieved of the existing obligation to make a hazardous waste determination for all wastes generated from the fertilizer manufacturing process. Under current regulations, any such wastes that exhibit a hazardous waste characteristic would have to be managed in accordance with all applicable hazardous waste regulations.

EPA requests comment on these enforcement issues.

C. Conditional Exclusion for Zinc Fertilizers Made From Hazardous Wastes or Excluded Hazardous Secondary Materials

As mentioned previously, under current regulations manufacturers of zinc fertilizers made from recycled hazardous wastes must comply with the following requirements for the manufactured fertilizer products: (a) The fertilizer must meet the applicable LDR treatment standards before they may be used (§ 268.40), and (b) notice of each shipment of product must be submitted to the authorized agency (§ 268.7(b)(6)). Under today's proposal manufacturers would need to: (a) meet the proposed technology-based contaminant limits, and (b) maintain analytical data and analyses demonstrating compliance with the limits. The following is a more detailed discussion of today's proposed conditions.

1. Contaminant Limits

As discussed previously in this preamble, the current regulations require fertilizers made from recycled hazardous wastes to meet the LDR treatment standards applicable to the hazardous wastes which they contain. This applies to hazardous waste-derived products made from characteristic hazardous waste, even if the product no longer exhibits a hazardous waste characteristic. *Chemical Waste Management* v. *EPA,* 976 F.2d2, 12–14. The LDR standards also apply to fertilizers made from listed hazardous wastes, with the exception of those made from K061, as discussed elsewhere in this preamble. Under today's proposal, these LDR treatment

standards would be replaced with a new set of product specification contaminant limits for metals and dioxins. These contaminant limits would apply to zinc fertilizer products in their ''pure'' or manufactured form; in other words, before they are blended with other types of fertilizers prior to application. Thus, compliance with the standards could not be achieved simply by diluting a conditionally excluded zinc fertilizer with other products, such as primary nutrient (nitrogen, phosphorous or potassium) fertilizers.

It should also be noted that the proposed product specification limits would apply to manufacturers of zinc fertilizer products, but would not apply to manufacturers of fertilizer ingredients. The reason for this is that ingredient manufacturers who use excluded hazardous secondary materials would likely not be able to control the content of the end product that is sold as fertilizer. We believe that meeting the proposed product specifications should be the responsibility of the product manufacturer; requiring manufacturers of fertilizer ingredients to meet the specification limits would likely be duplicative and unnecessary. We understand, however, that in some cases fertilizer ''manufacturers'' may buy ZSM (or other zinc compounds) in bulk from zinc chemical suppliers, and simply package it and market it as fertilizer. In these situations it might make sense to require the company that actually manufactured the product to demonstrate compliance with the proposed exclusion conditions. We invite comment on this issue.

a. *Product Specifications for Non-Nutritive Metals in Conditionally Excluded Zinc Fertilizers.* Today's proposal would establish product specifications (*i.e.,* contaminant concentration limits) for non-nutritive metals as a condition for excluding from the RCRA definition of solid waste zinc fertilizers that are made from excluded hazardous secondary materials. The proposed specifications are based on contaminant levels that have been demonstrated to be technically (and economically) achievable, that will reduce the volumes of heavy metals applied to agricultural lands from these products, and that are protective of human health and the environment. The approach used to develop these proposed contaminant limits is described in detail below.

The proposed standards for metal constituents in conditionally excluded zinc fertilizers are:

Metal constituent	Maximum allowable total concentration in fertilizer, per unit (1%) of zinc (ppm)[5]
Lead	2.8
Cadmium	1.4
Arsenic	0.6
Mercury	0.3
Nickel	1.4
Chromium	0.6

[5] A zinc unit in this context represents one percent (by weight) of zinc in the fertilizer product that is applied to the land. Thus, for example, an excluded fertilizer containing 10% zinc could contain no more than 28 ppm of lead.

These contaminant limits are expressed as total concentrations of the metal in the zinc fertilizer product. This is in contrast to the current LDR standards, which are expressed as levels in a leachate extract, using the ''toxicity characteristic leaching procedure (TCLP).'' See 63 FR at 28609 (May 26, 1998) (noting that total concentration limits are often the more appropriate measure for minimizing threats posed by uses constituting disposal, in light of exposure pathways other than leaching to groundwater); *Association of Battery Recyclers* v. *EPA,* 208 F.3d, 1047, D.C. Circuit 2000 (noting special risks posed by use constituting disposal situations). We believe that establishing these limits as total concentrations, rather than as concentrations in leachate, is more appropriate for the purpose of today's rulemaking.

For wastes containing hazardous metal constituents, compliance with LDR standards typically requires adding some type of stabilizing material to the waste (such as concrete), thereby reducing the leachability of the metal contaminants once the waste is disposed in a landfill. Stabilization is obviously an impractical way to limit contaminants in zinc fertilizers, since the zinc content of the fertilizer would also be stabilized, and thus would be useless as fertilizer. In addition, the TCLP was intended to simulate the fate and transport of hazardous constituents in a municipal landfill, a scenario quite unlike fertilizer application to agricultural land. For these reasons, the Agency believes that standards for total concentrations of contaminants in fertilizers are more appropriate for this rule than standards based on a leachate test. Comments are solicited on this aspect of today's proposal.

The product specifications in today's proposal specify maximum allowable concentrations in conditionally excluded zinc fertilizer for six metals: lead, cadmium, arsenic, mercury, nickel, and chromium. Although the Agency considered setting standards for other metals (*e.g.,* selenium, beryllium and vanadium), we did not have sufficient data on levels of such metals in ZSM fertilizers to establish numerical standards for them, nor are we aware of evidence of such metals in any appreciable amounts in zinc fertilizers. The Agency solicits additional data on metals concentrations in ZSM fertilizers, including metals for which we are not proposing standards, and on the associated risks that such metals pose in fertilizers under typical application scenarios.

At this time, we believe that establishing standards for the six metals listed above should be sufficient for the purpose of this rulemaking. Several recent studies report that the primary metals of concern for fertilizers are lead, cadmium and arsenic. In fact, a recent screening study done by the State of California concluded that only those three metals are found in fertilizer products at levels that merit regulation under California law. (''Development of Risk Based Concentrations for Arsenic, Cadmium and Lead in Inorganic Commercial Fertilizers''; California Department of Food and Agriculture, March 1998). Today's proposal addresses the three additional metals generally because they were specifically highlighted in the settlement agreement discussed earlier in this preamble. In any case, because of the chemical purification processes that are used to manufacture ZSM, it is highly likely that fertilizers which meet the specifications for lead, cadmium and arsenic would also meet the specifications for these additional metals, without the need for additional processing.

Since the current RCRA standards for metal contaminants in fertilizers are expressed as concentrations in leachate (measured according to the TCLP), and today's proposed constituent limits are expressed as total concentrations in the fertilizer product, comparing the two sets of limits with regard to their ''stringency'' is not entirely straightforward. The main reason for this is that, using the TCLP, not all of the metals in a given test sample are actually extracted or leached, especially those that are relatively non-soluble. Perhaps the simplest way to compare the numbers, however, is to assume that 100% of the metals in a TCLP sample become dissolved in the tested leachate. Since the acidic test medium used in the TCLP dilutes the concentration of the metals by a factor of twenty, the maximum total concentration of metals

in a given sample can be assumed to be twenty times the TCLP leachate concentration.

Thus, under the assumption that 100% of the metals are leached, the maximum contaminant level for a toxic metal in fertilizer would be twenty times the toxicity characteristic limit. For lead, for example, this would be 100 ppm (5 ppm × 20) total concentration. In reality, of course, the concentration of lead in an actual tested fertilizer sample would likely be considerably higher than 100 ppm, since it is likely that not all of the lead in the sample would leach. The following is a comparison of today's proposed conditional limits for metals in 35.5% zinc fertilizer (the typical zinc content of most dry ZSM fertilizers [6]), and the highest levels that would be allowed under the current regulations using this very conservative approach to comparing leachate levels to total concentration levels [7].

Metal	Proposed exclusion levels (35.5% zinc), mg/kg dry wt.	20 × TCLP limit, mg/kg dry weight
Arsenic	21.3	100.0
Cadmium	49.7	20.0
Chromium	21.3	100.0
Lead	99.4	100.0
Mercury	10.7	4.0
Nickel	49.7	([1])

[1] No limit.

Using this simplistic comparison method, most of the proposed exclusion levels are at or below the maximum levels allowed by the current regulations. The proposed levels for cadmium and mercury exceed the worst-case TCLP standards, but are well within the same order of magnitude, and could be lower than what is actually allowed under the current standards, depending on the leachability of the metals in the tested fertilizers. Thus, EPA considers the exclusion levels proposed today to be more stringent than the existing standards, for the purpose of state authorization (see discussion in Section VII of this preamble). EPA requests comments on the incremental benefits to having more stringent standards, as well as the costs of such an approach. Note that fertilizer manufacturers would always have the opportunity to continue using current standards.

The proposed product specifications are expressed as concentrations of metals in product, per unit of zinc. In this case one unit of zinc equals one percent. The primary reason for expressing the standards in this way is that the zinc content of fertilizers varies widely. If the standards were not tied to the percentage of zinc in the product, fertilizers with low zinc content could much more easily comply with the standards due to the dilution effect of the other materials in the fertilizer. EPA requests comments on the relative merits of basing exclusion levels on zinc concentrations versus the total product content.

For reasons explained below, the Agency has decided to base today's proposed product specifications for metals in conditionally excluded zinc fertilizers on the levels that have been demonstrated as technically (and economically) achievable in ZSM fertilizers. See § 261.38 (specifications for toxic constituents in fuels based on levels in commercial fossil fuels). ZSM is a common, commercially available product manufactured by several companies in the United States and elsewhere. It can be made from hazardous waste feedstocks, as well as a variety of non-hazardous raw material or secondary material feedstocks. ZSM fertilizers are marketed in solid (granular or powdered) form or in a liquid solution. Since zinc fertilizer is applied sparingly to agricultural land (*i.e.,* a few pounds per acre per year), it is almost always blended with other fertilizers before application, either by manufacturers or in the field by fertilizer applicators. It should be noted that ZSM is also widely used as an animal feed supplement, and can be used as an ingredient in a variety of consumer products as well.

In recent years there has been a marked increase in manufacturing capacity of ZSM fertilizers, combined with a downward trend in production of oxy-sulfates made from K061 and other materials. For example, one major manufacturer (Bay Zinc of Moxee, WA), citing changing market conditions, recently changed its manufacturing process to begin producing a line of ZSM products, and is phasing out its production of other types of zinc fertilizers. The manufacturing process for ZSM involves a series of chemical purification steps that remove the great majority of non-nutritive metals. This is generally not the case for other types of zinc fertilizers, such as oxy-sulfates made from recycled K061. Thus, the concentrations of non-nutritive metals in ZSM are typically much lower than in other types of zinc fertilizers. To illustrate, several manufacturers guarantee a lead content in ZSM fertilizers (35.5% zinc content) of less than 50 ppm, while lead concentrations in K061-derived fertilizers (which often have lower zinc content) are often above 10,000 ppm.

The proposed concentration limits for metals in conditionally excluded zinc fertilizers are based on the Agency's analysis of ZSM contaminant data from a number of different sources, and represent products marketed at the time of sampling by at least nine different companies. The concentration limits were calculated to include a small margin to account for variabilities in the manufacturing process. A summary of available data on contaminant levels in ZSM products is included in the record for today's proposal.

By basing today's product specifications on contaminant levels that can be routinely and reliably achieved in ZSM fertilizer products, the Agency in effect is using a technology-based approach to setting specifications for these products. The proposed specifications are not intended to represent the very lowest levels of contaminants that could technically be achieved. Rather, they are intended as a reasonable measure of fertilizer product quality from both a commercial and environmental standpoint. It is entirely possible that some manufacturers could achieve significantly lower levels than those proposed today—for example, the average lead levels in ZSM (35.5% zinc) made by at least two different manufacturers typically do not exceed 10 ppm, while the proposed standard would be approximately 100 ppm of lead. For the purpose of this rulemaking, however, the Agency does not believe that it is necessary from an environmental perspective to set standards based on the very lowest levels that may technically be achieved. We do not believe that levels below those proposed would result in any significant gain in environmental protection. In addition, establishing more stringent standards for metal contaminants could force some manufacturers to make substantial additional investments to ensure that the standards were met. As discussed further in section VIII.A of this preamble, this could result in unnecessary dislocations in the zinc fertilizer market, and could raise the prices that farmers must pay for zinc fertilizer, with virtually no commensurate environmental benefit.

EPA also acknowledges the possibility that the proposed product specifications

[6] Other zinc fertilizers have lower zinc contents and would, therefore, have proportionally lower exclusion levels.

[7] Note that the exclusion levels listed in the table would be lower for a fertilizer that contained less than 35.5% zinc. For example, the limit for lead in a 20% zinc fertilizer would be 56 ppm (*i.e.,* 2.8 × 20).

for metal contaminants may not sufficiently account for process variabilities, and could thus be unnecessarily stringent. The proposed specifications were based on a qualitative assessment of the variability of contaminant levels in ZSM fertilizers; for each metal the specification was set at slightly above the ''high end'' range of concentration levels, based on available data. For example, the distribution of lead levels in ZSM (35.5% zinc) indicates that most samples contained well below 50 ppm lead, with a few samples in the 80 to 90 ppm range. The proposed specification for lead in such products would be approximately 100 ppm, to account for such variabilities.

Some ZSM manufacturers have argued that significantly higher limits (*e.g.,* 500 ppm lead) should be established to account for these variabilities (''Land Application of Hazardous Waste Derived Micronutrient Fertilizer,'' Bay Zinc Company and Tetra Technologies, Inc., November 19, 1999). The Agency solicits comment (and supporting data) as to whether the proposed product specification limits for metals are unnecessarily stringent, and what alternative contaminant concentration limits may be more appropriate for this rulemaking.

Alternatives Considered. The Agency examined several different approaches to setting limits on metals in conditionally excluded zinc fertilizers. These included: (a) Developing new risk-based limits specifically for fertilizers; (b) using the EPA standards for biosolids applied to agricultural land under section 405 (d) of the Clean Water Act (codified at 40 CFR Part 503); (c) using the proposed standards for contaminants in cement kiln dust used as a liming agent; (d) using the Canadian fertilizer standards; and (e) developing contaminant limits based on background soil concentrations. These alternatives are discussed in more detail below.

• *Risk-based standards.* Risk assessment is a tool often used by the Agency to set standards aimed at limiting the adverse effects of chemicals that are (or may potentially be) introduced into the environment. One benefit of such an approach is that it is subject to a rigorous peer review process. However, risk assessments to support regulatory standard setting can be time and resource intensive.

As mentioned in Section II.A of this preamble, in response to public concerns about possible risks from contaminants in fertilizers, EPA developed a risk assessment for contaminants in a wide range of different types of fertilizers. This assessment was released in August, 1999. A major finding of that assessment was that, with a few exceptions, the contaminant levels found in fertilizer products are not expected to cause risks of concern. However, this risk assessment was not intended to support development of risk-based fertilizer standards, and there are a number of uncertainties in the analysis that would need to be addressed if it were to withstand the rigorous technical scrutiny involved in supporting national regulatory standards. For this proposed rule the Agency has chosen not to conduct the additional data gathering and analyses that would be needed to augment the fertilizer risk assessment in this way, given the time and resources that would be required to complete such an effort. Moreover, we do not think it necessary, given the conclusion from several different analyses (see section II.A. of this preamble) that hazardous contaminants in fertilizers generally do not pose unacceptable risks to human health and the environment, even at relatively high rates of application.[8]

EPA believes that risk-based contaminant limits for this rulemaking could potentially allow substantially higher levels of contaminants in excluded zinc fertilizers than are currently found in such fertlizers. To illustrate, proposed guidelines recently considered by the Association of American Plant Food Control Officials (AAPFCO), which have since been withdrawn, specified risk-based limits for toxic metals in fertilizers that would have allowed, for example, up to 26,000 ppm lead in zinc (35.5%) fertilizer (draft SUIP #25, AAPFCO, January 2000). In contrast, levels of lead in ZSM fertilizers rarely exceed 100 ppm. For the purpose of this proposed rulemaking, EPA does not believe that regulatory standards for fertilizers should allow higher risk-based contaminant levels in these products over current levels, when much lower standards can be easily achieved by ZSM fertilizers. EPA requests comment on this issue.

[8] It is possible, of course, that excessively high rates of fertilizer application could result in risks of concern. We do not believe, however, that this is a realistic scenario, since zinc fertilizers are purchased as a commodity, and that is thus a strong incentive not to overuse such products. A massive over-application of such fertilizers could in some circumstances be considered a type of ''sham recycling'' since it could be inferred that such use is more akin to disposal than beneficial use of fertilizer. See *Marine Shale Processors* v. *U.S.,* 81 F 3d 1371, 1381–83 (5th Cir. 1996) (sham recycling when material is used in excess of what is needed, or where hazardous constituents are present in concentrations unrelated to ostensible recycling purpose).

• *EPA standards for biosolids used in agriculture.* The Agency also considered using the standards that have been established by EPA for contaminants in biosolids (*e.g.,* sewage sludge) that are applied to agricultural land (58 FR 9248). Consistent with the discussion above, the use of such risk-based standards for this rulemaking could theoretically allow zinc fertilizers to have much higher levels of metal contaminants than are currently found in most, if not all zinc fertilizers currently on the market. As discussed further below, EPA believes that the § 503 standards are fully protective of human health and the environment as they apply to biosolids applied to the land. However, for the reasons outlined in the preceding discussion of risk-based standards, EPA believes that the technology-based standards proposed today are more appropriate than the § 503 standards for the purpose of this rulemaking. EPA requests comment on this issue.

There are also a number of technical reasons as to why standards for metal contaminants developed for land-applied biosolids are inappropriate for commercial fertilizers. Biosolids and commercial or manmade fertilizers are fundamentally different materials. The key difference between these two materials is organic matter content. Fertilizers can be classified into one of two categories: organic or inorganic. Biosolids are organic fertilizers, composed of biodegradable organic matter from waste products of living organisms or decay products of once living organisms. Most commercial fertilizers are inorganic. Inorganic fertilizers are derived from non-living sources and are essentially devoid of organic matter content. Organic and inorganic fertilizers exhibit different physical and chemical properties. Consequently, they effect the fate and mobility of chemical constituents (especially metals) in different ways.

In general, biosolids exhibit greater metals adsorption capacity than inorganic fertilizers because organic matter provides reactive sites that bind metals. This binding capacity limits metals mobility in the fertilized soil and makes metals less available for uptake by plants. Organic binding sites are absent in inorganic fertilizers. Therefore, metals applied as a component of inorganic fertilizers tend to be more mobile and more readily taken up by plants. Organic and inorganic fertilizers also differ in chemical composition. Both contain varying levels of metals (*e.g.,* As, Cd, Pb) and agricultural nutrients (*e.g.,* phosphate, nitrogen). However,

biosolids also contain hydrous metal oxides which tend to bind metals and further increase the capacity of biosolids to limit metals mobility. In addition, biosolids are usually applied at much higher rates than fertilizers. Given the significant difference in composition and use between these materials, EPA believes that the pollutant loading limits established for biosolids are inappropriate for use as health based standards for inorganic fertilizers. EPA requests comment on this issue.

• *Proposed standards for contaminants in cement kiln dust used in agriculture.* On August 20, 1999 EPA proposed standards for management of cement kiln dust, or CKD (64 FR 45631). CKD can be used as a substitute for agricultural lime to maintain proper soil pH for crop production, and is typically applied at a rate of several tons per acre. The proposal included limits on four metal contaminants (thallium, lead, arsenic and cadmium) in CKD that is applied to agricultural land. These contaminant limits were based on a risk assessment conducted in support of the proposed rule.

CKD is typically used agriculturally only under certain types of agronomic conditions. Thus, EPA's risk assessment evaluated risks from applying CKD only to acidic, sandy loam soils in a limited number of geographic areas and for a limited number of crop types. In contrast, zinc fertilizers are applied to a wide variety of different soil types to supply nutrient to many different types of crops in virtually every area of the country. Because of these limitations, EPA believes that the proposed CKD standards are not appropriate for establishing contaminant limits for metals in zinc fertilizers. In addition, the Agency has received numerous comments on the CKD risk assessment that have not yet been thoroughly evaluated, and that analysis has not yet been revised to reflect those comments. Until these uncertainties are resolved, we do not think it would be appropriate to propose in today's rule contaminant limits based on the CKD proposal. We invite comment on this regulatory option.

• *Canadian standards.* EPA examined the option of using the Canadian fertilizer standards for this rulemaking (''Standards for Metals in Fertilizers and Supplements,'' Trade Memorandum T–4–93; Canadian Food Inspection Agency, August 1996). These standards, which apply to all fertilizers marketed in Canada, have been in effect since 1993, and were recently adopted (with somewhat modified assumptions for application rates) by the State of Washington. The Canadian standards are not risk-based; instead, they are based on a ''no significant degradation'' goal for fertilizer amended soils, assuming 45 years of fertilizer application. The RCRA statute does not have an analogous, explicit ''no significant degradation'' goal.

The Canadian fertilizer standards are based on a number of assumptions regarding application rates, crop types, background levels of metals in Canadian agricultural soils, and other factors. In fact, the standards are not expressed as maximum concentrations allowed in fertilizer products, but rather as limits on the total amounts of metals that can be added to farmland over time from fertilizer applications. Although it would be possible to make simplifying assumptions (*i.e.*, regarding application rates) to derive product concentration standards, translating the Canadian standards into RCRA-style limits on product contaminants might not be entirely straightforward. This has, in fact, been part of the State of Washington's experience with implementing regulatory restrictions on fertilizer contaminants based on the Canadian standards. Since the application rate of a fertilizer is a major variable in determining the amount of contaminants that are deposited on farmland, it is possible for manufacturers to simply lower the recommended application rate for a product in order to meet the standards. In EPA's view this complexity, and the potential for manipulating application rates to meet contaminant standards, is inconsistent with the objective of establishing contaminant limits in this rule that are straightforward and easily enforced.

Another issue that has been raised regarding the Canadian standards is that they do not reflect the highly variable agricultural practices and environmental conditions in the United States. Though it might be possible to modify the Canadian standards to fit conditions prevalent in the United States, doing so would be a major undertaking that would exceed the scope and purpose of this RCRA rulemaking. In any case, to date there has been little support expressed by stakeholders for using the Canadian standards (or some version of them) in this rulemaking effort (''EPA Stakeholder Meetings on Hazardous Waste Derived Fertilizers,'' US EPA, November 12–13, 1998). This may be due to the fact that there has been some controversy regarding the lack of a clear scientific basis for the Canadian standards. The standards were originally developed through an expert panel process that involved both qualitative and quantitative evaluations by a group of agronomists, soil scientists and other experts. The standards therefore are based at least in part on expert judgment, rather than a specific, replicable scientific methodology.

Despite these potential complications, EPA requests comment on whether the Canadian standards for the purpose of this RCRA rulemaking could be a feasible alternative, and justified on the basis of incremental benefits and costs. The standards are closer to the levels that have been demonstrated as achievable by fertilizer manufacturers, and EPA is not aware of any studies suggesting that the Canadian standards are less than protective of human health or the environment. Such standards have been in effect for more than seven years in Canada, and for two years in the State of Washington. The State of Washington reports that its experience with implementing Canadian-based standards has been generally positive, as evidenced in a recent summary of results from the state's fertilizer review process (''Transparent Results of Ecology's Review Process in the 1999–2000 Fertilizer Registration Cycle,'' Washington Dept. of Ecology, August 2000). However, EPA chose not to propose the Canadian fertilizer standards as RCRA standards, largely because we believe that the technology-based approach outlined in today's proposal is simpler and more straightforward, and would result in lower volumes of toxic metals in zinc fertilizers.

• *Background standards.* The option of setting contaminant limits for conditionally excluded zinc fertilizers based on naturally occurring (*i.e.*, ''background'') levels of metals in agricultural soils has been advocated by some stakeholder groups, and was also considered by EPA in the development of this proposal. In effect, this approach would require that fertilizers contain contaminants at concentrations no greater than soil background levels. This would ensure that no increase in soil metal concentrations could occur due to fertilizer use, regardless of how much or how often the fertilizers were applied, and regardless of the attendant risks.

The Agency chose not to propose this approach, for several reasons. Achieving these standards might be technically feasible, but would likely require major investments in new capital equipment by manufacturers, which would likely result in increased prices of zinc fertilizers. Alternatively (and perhaps more likely), manufacturers could simply use non-hazardous feedstock materials to make zinc fertilizer, thus avoiding RCRA regulation altogether. It

should also be noted that the standards being proposed today may not be dramatically different from levels that might be developed using a standard based on background. EPA does not think that it is necessary or appropriate in this rulemaking to place new economic burdens on industry, or to discourage legitimate recycling practices, without clear evidence of any resulting environmental benefits.

EPA solicits comments on today's proposed standards, and on the regulatory options outlined above.

b. *Product Specifications for Dioxins in Conditionally Excluded Zinc Fertilizers.*

Background. Dioxins are persistent environmental pollutants that are formed as byproducts during combustion of chlorinated organic compounds. Of the more than two hundred dioxin compounds, 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) is the most toxic. Given the number of different dioxin compounds and their different health effects, dioxins are typically measured according to the ''toxicity equivalence'' method. This method assigns a ''toxicity equivalence factor'' (TEF) of one (1) to 2,3,7,8-TCDD, while the less toxic dioxin congeners are assigned values of less than one. In calculating a TEQ value, the concentration of each congener in the measured sample is multiplied by its TEF, and the products of all the congeners are summed. Thus, TEQ values essentially represent the total toxicity of dioxins in a given sample, rather than the actual concentrations of dioxins in the sample. The methodology for calculating TEFs for dioxin congeners is presented in the 1994 EPA publication entitled ''Estimating Exposures to Dioxin-like Compounds'' (EPA publication #600/6–88/005 Ca).

Although dioxin toxicity has been studied extensively, most studies have used animal test data to extrapolate adverse health effects in humans; uncertainty remains with regard to the actual human health effects of dioxins. Once EPA completes its ongoing reassessment of dioxin health effects, the dioxin reassessment will serve as the scientific and technical basis for EPA dioxin policy and programs. However, until the reassessment has completed scientific peer review, and is issued as a final EPA document, the Agency will rely on the existing dioxin assessment as a basis for its actions.

The presence of dioxins in waste-derived fertilizers first came to light in a sampling study done by the State of Washington Department of Ecology (''Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State,'' Washington Department of Ecology Publication #99–309, April 1999). In that study, test results from two samples of K061-derived fertilizers indicated the highest levels of dioxins of all fertilizers tested, with one product measured at 240 parts per trillion (TEQ). The source of dioxins in K061 is not definitively known, but may be formed from incomplete combustion of chlorine-containing contaminants in the scrap metals used as feedstocks in electric arc steelmaking. EPA requests data and analytical results regarding the possible sources of such dioxin contamination.

Proposed product specification for dioxins. EPA is today proposing a product specification of eight parts per trillion (8 ppt) TEQ as a condition for excluding hazardous waste derived zinc fertilizers from regulation. Eight parts per trillion is an estimate of the national average background concentration of dioxins in soils in the United States, as presented in the EPA report ''Estimating Exposure to Dioxin-Like Compounds, Review Draft'' (EPA/600/6–88/000Ca; June 1994). More detailed and more recent data indicate that rural background soil concentrations are somewhat lower than 8 ppt, while urban background soil concentrations are somewhat higher. For purposes of this rulemaking, the Agency believes that 8 ppt may be a reasonable, nationally-representative background level for dioxins in soils. We request comment on the validity of the 8 ppt level as a background level for the purpose of this rulemaking, and any data that would support an alternative national background level for dioxins.

Today's proposed exclusion level for dioxins based on background soil levels reflects a somewhat different approach than the proposed exclusion levels for metals, which are in essence technology-based. We do not believe we currently have sufficient data on dioxin levels in ZSM products to establish a technology-based limit on dioxins. The Agency specifically solicits such data. In the absence of additional data, we believe that a background standard, as proposed today, should be readily achievable and would ensure no net increase in national average dioxin background levels. Other regulatory alternatives are presented later in this preamble. EPA requests comments, data and analytical results that address the proposed standard and the alternative options (including the option of not setting a standard).

The State of Washington's dioxin study included analyses of two samples from one ZSM product, which indicated dioxin levels of approximately one part per trillion (TEQ) or less. More recent analyses conducted by fertilizer manufacturers on a small number of ZSM product samples produced similar results (letter from Lester Sotsky to David Fagan, May 16, 2000). These very low dioxin levels are not surprising, since available data suggest that the levels in ZSM feedstocks are typically very low, and the manufacturing process involves several chemical refining processes. EPA assumes that zinc fertilizers which meet the proposed conditional limits on metals (which will most likely be ZSM products) would be expected to have only negligible amounts of dioxin contaminants. We believe, therefore, that the proposed dioxin standard should be easily met by fertilizers that meet the proposed limits for metals, and should not impose significant incremental economic burdens on the industry. EPA invites comment on today's proposed limit for dioxins, and its derivation.

Alternatives considered.

- *No dioxin limits.* EPA considered the option of not setting a limit for dioxins in this proposed rulemaking, since the available evidence reviewed by the Agency to date does not indicate a compelling need to do so. We decided, however, to propose a limit on dioxins because of the two samples of K061-derived fertilizer that showed high levels of dioxins relative to other fertilizers, the public's high level of concern generally over dioxins in the environment, and the uncertainties inherent in existing risk assessments. EPA solicits comments as to whether a limit on dioxins in excluded zinc fertilizers is necessary and appropriate, and whether any such limit on dioxins should be included in the final rule.
- *Risk-based limits for dioxins in fertilizers.* Another option was to develop risk-based limits specifically for zinc fertilizers, similar to the standards that have been proposed by EPA for dioxins in cement kiln dust (64 FR 45631, August 20, 1999) and in biosolids (64 FR 72045, December 23, 1999) used in agriculture. Based on admittedly limited data, it appears that a typical dioxin TEQ level in ZSM is approximately one part per trillion or less. It is probable that a risk-based dioxin standard for zinc fertilizers would be considerably higher than the actual levels of dioxins currently present in high-quality zinc fertilizers. We do not believe that the regulatory standards in this proposed rule should reflect substantially higher risk-based levels than the levels commonly found in ZSM fertilizers. In addition, developing risk-based dioxin standard

for this rulemaking would likely require considerable additional risk assessment studies. We question the need for such an investment in time and resources without a compelling need to pursue this regulatory alternative. Nevertheless, we are interested in comments and supporting information relating to this issue.

• *Limits based on the proposed dioxin standard for land-applied biosolids.* EPA currently regulates the land application of biosolids (*e.g.,* sewage sludge) under the authority of the Clean Water Act (Section 405(d) of the Clean Water Act codified at 40 CFR Part 503). These regulations have established concentration limits for metals in biosolids. In 1999, EPA also proposed a rule that included a numerical standard of 300 parts per trillion TEQ for dioxins and dioxin-like compounds for land-applied biosolids. The numerical standard includes seven 2,3,7,8-substituted dioxins, ten 2,3,7,8-substituted dibenzofurans, and 12 co-planar polychlorinated biphenyl (PCB) congeners. The proposed standard was based on a multi-pathway risk assessment which evaluates human health impacts and the fate and transport of these compounds through the environment. The proposed rule also included monitoring requirements for these compounds to ensure that the numerical standard is met. The proposed rule excluded certain small size categories of biosolids generators.

EPA believes that the proposed standards for dioxins and the existing standards for metals in land-applied biosolids are protective of human health and the environment. The standards have been developed based on statutory direction given under section 405(d) of the Clean Water Act, and obligations imposed under the terms of a Consent Decree, which also established December 15, 2001 as the date by which the Agency must promulgate a final rule. EPA is currently evaluating the comments submitted on the proposed rule for dioxins in biosolids, in preparing the final rulemaking action.

EPA chose not to base today's proposed fertilizer dioxin limits on the proposed biosolids standard for dioxins, for several reasons. The Agency received a number of comments on the proposed biosolids that are still being evaluated, and some additional assessment work is being conducted to support development of the final standard. Given the uncertainty about the final outcome of the proposed standard, we do not think it appropriate to use it as the basis for a dioxin standard in today's rule.

In addition, the proposed 300 ppt biosolids standard for dioxin is considerably higher than today's proposed limit of 8 ppt for fertilizers. We believe that the 8 ppt limit for zinc fertilizers should be easily achievable, and are concerned about establishing much higher limits than are in current fertilizers. EPA requests comment on this issue.

• *Limits based on proposed dioxin standards for cement kiln dust.* EPA's proposed rule for cement kiln dust proposed a dioxin standard of 40 ppt for agriculturally applied CKD. The CKD standard was also based on a risk assessment, analogous to the study done to support the proposed dioxin standard for land-applied biosolids. EPA chose not to develop a dioxin limit for fertilizers based on the proposed CKD standard, for essentially the same reasons (discussed above) that we chose not to set limits on metals based on that proposed rule. We request comment on the appropriateness of setting a dioxin limit for fertilizers based on the proposed CKD standard.

• *Complete ban on dioxins in fertilizers.* Some stakeholders have argued for a complete ban on making fertilizer from any hazardous waste that is generated from an industrial process known to create or release dioxin. The Agency is not proposing such a ban, primarily because we do not believe that there is a convincing environmental rationale for doing so. A complete ban would likely eliminate, for example, the use of K061 as a fertilizer feedstock material. As explained previously, we believe that K061 can be legitimately processed and recycled to make high quality zinc fertilizer. We are not aware of any evidence that (for example) ZSM products made from recycled K061 contain higher levels of dioxin than other ZSM products.

A complete ban would also require some means of determining which industrial processes create or release dioxins. This could become a highly complex technical issue involving the detection limits of various dioxin test methods, and resolving it would be beyond the scope of this rulemaking effort. In addition, it is possible, if not likely, that a complete ban would eliminate all recycling of hazardous wastes to make zinc fertilizer. The Washington dioxin study detected levels of dioxin in the low parts per trillion for many of the fertilizers tested, most of which were not waste-derived. It is therefore possible that almost all zinc fertilizer feedstocks could have detectable levels of dioxins, especially given the extraordinarily sensitive analytical methods available today. A complete ban in this rulemaking might thus prohibit the use of any hazardous secondary material as a zinc fertilizer feedstock, even if their dioxin levels were no higher than those in other available feedstock materials. This would be an arbitrary result, and would serve no real environmental purpose. EPA solicits comments and relevant data on the option of a complete ban on the use of hazardous secondary materials generated from industrial processes known to create or release dioxins, and on the other regulatory options discussed above.

2. Testing and Recordkeeping

Testing. Under today's proposal, manufacturers of conditionally excluded zinc fertilizer products would need to periodically sample and analyze their products to determine whether or not they meet the exclusion contaminant limits. If analyses show that one or more contaminants in the fertilizer exceeds an exclusion limit, the manufacturer could choose to reprocess the fertilizer so that it meets the limits. An alternative would be to manage the manufactured material as a hazardous waste, in compliance with all applicable management standards.

EPA is proposing that manufacturers test their fertilizer products for metals at least once every six months, and at least once per year for dioxins. As a practical matter, EPA believes that fertilizer manufacturers typically sample and analyze their products for metal contaminants on more or less an ongoing basis, as a means of monitoring quality control. Thus, we believe that twice-yearly testing for metal contaminants in excluded zinc fertilizers is reasonable, and would likely impose few, if any, additional testing burdens on manufacturers. We solicit comment on whether twice yearly testing of fertilizer products is appropriate in the context of this rule, or if more frequent or less frequent testing should be required.

For dioxins, less frequent (once-per-year) testing of excluded fertilizers is proposed today, for several reasons. For one thing, zinc fertilizer manufacturers do not routinely test for dioxins, so any such testing requirement would impose an additional burden on industry. Dioxin testing is relatively expensive ($2,000 or more per sample), so the costs would not be inconsequential. Further, we believe more frequent testing for dioxins in excluded zinc fertilizers may not be necessary, since (as explained earlier) it is likely that fertilizers meeting the proposed metals standards would easily meet the 8 ppt limit for dioxins.

With regard to the frequency of required dioxin testing, we considered several options. One option was to not require testing for dioxins as long as the limits for metal contaminants were not exceeded, based on the assumption that meeting the limits for metals would ensure that the dioxin limit is met. Other options could be to specify a one-time only test to verify that the excluded zinc fertilizer product meets the dioxin standard, to allow less frequent dioxin testing (*e.g.,* once every five years), or testing only when there is a manufacturing process change that could affect dioxin levels. We solicit comment on the proposed once-per-year testing condition for dioxins in excluded fertilizers, the alternative regulatory options outlined above, and other potential options.

Test methods. Today's proposal would not require manufacturers to use any specific sampling and analytical procedures in demonstrating compliance with product specification limits for metals or dioxins. The proposal would instead set a performance standard for sampling and analysis-manufacturers would have the flexibility to select appropriate methods and procedures, provided they can demonstrate that they are unbiased, precise and representative of their products. Examples of EPA-recommended testing methods and procedures are contained in the EPA publication (''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA publication SW–846, 1986). EPA solicits comment and supporting data as to whether the final rule should specify the analytical procedures to be used (such as one or more of those in SW–846, cited above), the methods used to ensure that fertilizer samples are representative, or otherwise specify in more detail methods for compliance sampling and analysis of fertilizer products.

V. Mining Wastes Used To Make Fertilizer: Request for Comments

Although zinc fertilizers are the primary focus of today's proposed rule, EPA is aware of one iron micro nutrient fertilizer product that is made from mining wastes and has been the subject of some concern by state regulators and others. This material, which is marketed under the brand name ''Aeronaut,'' is an iron micro nutrient fertilizer made from wastes generated from beneficiation zinc ores at a mine (now inactive) located in Humboldt, Arizona. The mining waste material that is used is exempt from regulation as hazardous waste, under the so-called ''Belville exemption.''

The primary reason for requesting comment on the use of mining wastes to make fertilizers has to do with the very high levels of contaminants such as arsenic in Ironite, relative to other fertilizers. Data compiled by EPA on fertilizer contaminants indicates that Ironite contains, by a wide margin, the highest levels of arsenic of all fertilizer products surveyed. A 1998 study by the Arizona Department of Health Services indicated mean arsenic concentrations in Ironite of 4400 ppm, and mean lead concentrations of 2850 ppm (''Human Health Risk Assessment for Long-Term Residential Use of Ironite Lawn and Garden Nutrient Supplement,'' Arizona Department of Health Services, October 8, 1998). In comparison, the California Department of Food and Agriculture's 1997 study indicated average arsenic concentrations in zinc micronutrient fertilizers (many of which are also waste derived) of approximately 30 ppm.

In 1998, a TCLP analysis done by the Oregon Department of Environmental Quality found that Ironite exhibited the hazardous characteristic of toxicity for arsenic (Oregon Department of Environmental Quality Laboratory, Case Number 980474, July 31, 1998). Subsequent TCLP testing of Ironite performed by Washington State's Department of Ecology generated the same result, indicating at least the potential for arsenic to leach into groundwater at levels of concern.

Arsenic is a highly toxic metal, and is also classified as a probable human carcinogen by EPA. Recent information indicates that arsenic may be of concern at levels below existing regulatory standards. A 1999 report by the National Research Council of the National Academy of Sciences, entitled *Arsenic in Drinking Water* concluded that EPA's drinking water standard of 50 ppb was not protective of human health, and should be revised downward. Subsequently, the Agency has proposed to revise the arsenic standard, to 5 ppb (65 FR 38887, June 22, 2000), although this standard has not been finalized.

In May 1998 Washington State's Department of Ecology and Department of Health commissioned *in vitro* bioavailability tests on Ironite. The results of these tests indicated an up to 36% and 81% bioavailability of arsenic and lead, respectively. These results were similar to the data initially supplied by the company to the State of Washington. From these results, the State of Washington's Department of Health concluded that this level of bioavailability could pose an acute risk from direct ingestion of the product by children. In view of this conclusion, and the fact that no warning labels were on the product at the time, the State of Washington Department of Health issued a news release advising the public that Ironite ''could be dangerous to health'' under certain circumstances (Washington Department of Ecology press release, June 5, 1998). The product is now labeled in accordance with the State of Washington's requirements.

Arsenic concentrations such as those in Ironite clearly have the potential to substantially increase soil arsenic levels, especially if the product is improperly applied (the average background level of arsenic in soils in the United States is less than 10 ppm). Ingestion of Ironite-amended soils (or worse, ingestion of the product itself) by children is also a possible concern, and could potentially cause serious adverse health effects. As mentioned above, contamination of ground water from contaminants in Ironite may be another potential exposure pathway.

Ironite is marketed nationally, primarily as a home and garden fertilizer. The company has defended the safety of the product, citing several studies that generally support its contention. The Arizona Department of Health Services report cited above concluded that '' * * * the accumulation of metals that may occur following prolonged use of Ironite does not appear to represent a health risk to child or adult residents of homes where it is used if the product is applied in accordance with the recommendations on the label.'' A separate analysis prepared for the Ironite Products Company reached a similar conclusion (''Product Safety Risk Assessment of Ironite, a Nutritional Lawn Supplement,'' RUST Environment and Infrastructure, June 1998). These studies, and other studies commissioned by the company based their findings in large part on the fact that much of the arsenic and lead in the product are present in naturally occurring arsenopyrite and galena mineral forms, respectively, which (according to the company and its supporting studies) are relatively non-bioavailable and non-toxic to humans. EPA has not studied this particular issue in depth, and has not reached any scientific conclusions as to the potential health effects of Ironite use.

EPA is not currently aware of any fertilizers other than Ironite that are being made from zinc extraction/beneficiation wastes; it is possible, however, that other fertilizers that exhibit a hazardous characteristic could be made from other exempted extraction/beneficiation wastes. In any case, at issue in this matter is that Ironite is made from mining wastes that

are currently exempt from regulation as hazardous wastes.

The Bevill exemption (RCRA section 3001(b)(3)(A)(ii)) is codified in regulations at § 261.4(b)(7), and applies generally to solid wastes from extraction and beneficiation of minerals, as well as the so-called ''special twenty'' mineral processing wastes. These types of wastes are therefore not regulated as hazardous under RCRA, even if they exhibit a hazardous waste characteristic (*e.g.,* are toxic as measured by the TCLP). However, under RCRA section 3001(b)(2)(C), such exempted wastes may be subjected to RCRA regulation, based on a finding by EPA that such regulation is warranted.

In making determinations as to whether Bevill-exempt wastes (which would include these types of fertilizers) should be regulated under RCRA Subtitle C, the RCRA statute specifies in section 8002(f) certain criteria that EPA must evaluate:

(1) The sources and volume of discarded material generated per year from mining;

(2) Present disposal practices;

(3) Potential dangers to human health and the environment from surface runoff of leachate and air pollution by dust;

(4) Alternatives to current disposal methods;

(5) The cost of those alternatives in terms of the impact on mine product costs; and

(6) Potential for use of discarded material as a secondary source of the mine product.

After extensive study, on July 3, 1986, EPA published its final regulatory determination for mining wastes, according to RCRA section 3001(b)(2)(C) (51 FR 24496). This determination concluded that extraction/beneficiation wastes should be regulated as non-hazardous solid wastes under RCRA Subtitle D. However, the Agency noted that if a Subtitle D program with appropriate federal enforcement and oversight authority is not developed for these wastes, the Agency may find it necessary to reexamine use of Subtitle C authority, with modified mining waste standards (51 FR 24501). EPA did not specifically address the practice of manufacturing fertilizers from these wastes in the 1986 regulatory determination, nor was the issue examined as part of the study prepared in support of the determination.

It should be understood that if EPA were to determine that removing the § 261.4(b)(7) exemption for these types of fertilizer products is warranted, such a decision would affect only a very small portion of the universe of Bevill-exempt mining wastes. Removing the exemption in this case would apply only to the micronutrient fertilizer products that are made from extraction/beneficiation wastes; it would not affect the regulatory status of any exempted mining wastes prior to being recycled into fertilizers.

EPA has not at this time reached any definitive conclusions as to whether Ironite and similar fertilizer products (if any) merit regulation under RCRA Subtitle C. We believe, however, that concerns over potential adverse health effects from exposure to fertilizers with extremely high arsenic levels, such as Ironite, are worthy of serious consideration. We therefore are requesting comments and additional information that may assist the Agency in making such a determination, either positive or negative. Comments and information that directly address the criteria listed above would be particularly useful, as would specific information on related issues, such as the following:

- Additional information on potential human health or ecological effects from exposure to Ironite.
- Exposure pathways that may be particularly relevant to assessing risks associated with the use and handling of this type of product.
- Information on any actual damage cases arising from use or misuse of Ironite or similar products.
- Information on any other fertilizers (including primary nutrient fertilizers containing potassium, nitrogen or phosphorous) that are made from Bevill-exempt hazardous extraction, beneficiation or mineral processing wastes.
- Information on how and where Ironite or other iron fertilizers are actually used, and by whom.
- Other relevant information.

The Agency will consider all relevant comments and information submitted on these issues. At the time EPA finalizes today's proposal, we may also issue a proposed determination as to whether or not micronutrient fertilizer products that exhibit a hazardous characteristic, and that are made from Bevill-exempt extraction/beneficiation wastes, should be subject to regulation as hazardous wastes under RCRA Subtitle C, as provided under section 3001(b)(3). Alternatively, the Agency may decide that further data and/or analysis is required before such a determination can be made.

VI. Relationship With Other Regulatory Programs

A. Cement Kiln Dust Regulatory Proposal

On August 20, 1999, EPA proposed Standards for the Management of Cement Kiln Dust (CKD) (64 FR 45631). As part of that rulemaking we proposed to exclude from regulation under RCRA CKD that is used as a liming agent on agricultural fields, provided that such CKD meet specified levels for concentrations of certain hazardous constituents. CKD is currently used as a substitute for agricultural lime. Liming materials are added to agricultural soils to maintain optimum pH for crop production and offset the effects of fertilizers that lower soil pH. CKD used for pH control is applied in high volumes relative to fertilizers and other soil nutrients. The application rate needed to maintain the desired increase in soil pH is 2 to 5 tons of CKD per acre every 2 to 3 years. EPA has a relatively large amount of data on the chemical composition of CKD. This data was collected and used as part of EPA's Report to Congress (RTC) on CKD (59 FR 709, January 6, 1994), its 1994 Notice of Data Availability (NODA) (59 FR 47133, September 14, 1994), and its 1995 Regulatory Determination on CKD (60 FR 7366, February 7, 1995).

While EPA encourages environmentally sound beneficial use of production process waste streams, including CKD, we believe that the benefits from recycling CKD must be balanced against the potential hazards which agricultural use of CKD may present. Consequently, we conducted a screening level analysis of agricultural use as part of the RTC and NODA. That analysis suggested that some CKD, when used at plausible application rates, might contain sufficiently high concentrations of metals and dioxins to cause food chain risks. Based on these initial findings, EPA conducted a more detailed analysis of potential risks from use of CKD as an agricultural liming agent. Given our data on the chemical composition of CKD, and the preliminary results of the risk assessment, we concluded that use of a risk assessment conducted to identify protective levels of potentially hazardous constituents in CKD used as a liming agent provided the most appropriate way to allow for safe beneficial use of CKD.

Results of EPA's more detailed risk assessment suggest that concentrations of arsenic, thallium, lead, cadmium and chlorinated dioxins and furans may be present in CKD above levels that pose potential risk to human health. Based on

these findings, EPA proposed to limit the concentrations of these compounds that can be present in CKD used to adjust soil pH. In other words, EPA proposed standards to limit concentrations of these constituents in CKD used as agricultural lime because our risk analysis indicated that these compounds are present in CKD in excess of levels that may pose risk to human health when CKD is applied at rates necessary to attain desired soil pH. Based on these risk findings, EPA expressed concern in the proposal that unregulated use of CKD as an agricultural liming agent may cause adverse effects on human health.

EPA received substantial comments on this aspect of the 1999 CKD proposal, and is now evaluating them.

B. EPA Standards for Biosolids

EPA currently regulates the land application of biosolids (*e.g.*, sewage sludge) under the authority of the Clean Water Act (Section 405(d) of the Clean Water Act codified at 40 CFR Part 503). These regulations have established concentration limits for metals in biosolids. In 1999, EPA also proposed a rule that included a numerical standard of 300 parts per trillion TEQ for dioxins and dioxin-like compounds for land-applied biosolids. The numerical standard includes seven 2,3,7,8-substituted dioxins, ten 2,3,7,8-substituted dibenzofurans, and 12 co-planar polychlorinated biphenyl (PCB) congeners. The proposed standard was based on a multi-pathway risk assessment which evaluates human health impacts and the fate and transport of these compounds through the environment. The proposed rule also included monitoring requirements for these compounds to ensure that the numerical standard is met. The proposed rule excluded certain small size categories of biosolids generators.

EPA believes that the proposed standards for dioxins and the existing standards for metals in land-applied biosolids are protective of human health and the environment. The standards have been developed based on statutory direction given under section 405 (d) of the Clean Water Act, and obligations imposed under the terms of a Consent Decree, which also established December 15, 2001 as the date by which the Agency must promulgate a final rule. EPA is currently evaluating the comments submitted on the proposed rule for dioxins in biosolids, in preparing the final rulemaking action.

C. State Fertilizer Regulations

Virtually all States have regulatory programs for fertilizers, which are usually administered by state agricultural agencies. Traditionally, the primary focus of these regulatory programs has been to ensure that fertilizers are accurately classified and labeled, and meet manufacturers' plant nutrient claims. Until quite recently, state regulatory programs did not explicitly address the issue of controlling contaminants such as heavy metals in fertilizer products. In 1998 the State of Washington enacted legislation to create this country's first comprehensive system for regulating fertilizer contaminants, to include limits on metal contaminants in fertilizers, labeling requirements, and a mandate for several research projects to study the effects of metal contaminants on food crop plants. The specific standards for metals in fertilizers were adapted from the Canadian standards. The Washington regulations, which apply to all fertilizers marketed in the state, also mandate that waste-derived fertilizers receive additional scrutiny as to their content and origin, as part of the fertilizer registration process. Washington also now maintains a publicly accessible internet website containing data on all fertilizers registered in the State of Washington, including data on levels of non-nutrient metals in each registered product. This database can be accessed at *hhtp://www.wa.gov/80/ecology/hwtr/fertilizer/reports/products.html*.

The State of Texas has enacted similar regulations based on the federal standards for biosolids. The State of California has also done extensive research into fertilizer contaminants, and is currently developing a California regulatory program. A number of other states are likewise considering regulatory initiatives in this area.

EPA supports State efforts to regulate contaminants in fertilizers. EPA regulates only a small percentage of the fertilizers currently on the market (perhaps as little as one percent or less of all fertilizers are derived from hazardous wastes, subject to RCRA requirements), and the potential certainly exists for contaminant problems in other types of fertilizers. For example, cadmium levels in certain phosphate fertilizers (which typically are not waste derived) have been the subject of some concern recently by researchers, state regulators and others. We believe that the State of Washington's fertilizer regulatory program has been highly successful in controlling, and in a number of cases reducing, contaminants in fertilizer products sold in that state. Washington has also successfully pioneered the idea of making fertilizer contaminant data available to the public, farmers and others through the internet.

As more states develop comprehensive regulatory programs for fertilizers, the consistency between RCRA standards and more broadly applicable state standards is expected to become more and more at issue. We do not believe that such regulatory inconsistency makes sense environmentally or from a public policy perspective, and the Agency urges states at a minimum to adopt consistent regulatory standards for all zinc fertilizers.

VII. State Authority

A. Statutory Authority

Under section 3006 of RCRA, EPA may authorize qualified States to administer the RCRA hazardous waste program within the State. See 40 CFR part 271 for the overall standards and requirements for authorization. Following authorization, the State requirements authorized by EPA apply in lieu of equivalent Federal requirements and become Federally enforceable as requirements of RCRA. EPA maintains independent authority to bring enforcement actions under RCRA sections 3007, 3008, 3013, and 7003. Authorized States also have independent authority to bring enforcement actions under State law. A State may receive authorization by following the approval process described under 40 CFR 271.

After a State receives initial authorization, new Federal requirements promulgated under RCRA authority existing prior to the 1984 Hazardous and Solid Waste Amendments (HSWA) do not apply in that State until the State adopts and receives authorization for equivalent State requirements. The State must adopt such requirements to maintain authorization.

In contrast, under RCRA section 3006(g) (42 U.S.C. 6926(g)), new Federal requirements and prohibitions imposed pursuant to HSWA provisions take effect in authorized States at the same time that they take effect in unauthorized States. Although authorized States are still required to update their hazardous waste programs to remain equivalent to the Federal program, EPA carries out HSWA requirements and prohibitions in authorized States, including the issuance of new permits implementing those requirements, until EPA authorizes the State to do so. Authorized States are required to modify their programs only when EPA promulgates Federal requirements that

are more stringent or broader in scope than existing Federal requirements. RCRA section 3009 allows the States to impose standards more stringent than those in the Federal program. See also 40 CFR 271.1(i). Therefore, authorized States are not required to adopt Federal regulations, both HSWA and non-HSWA, that are considered less stringent.

B. Effect on State Authorization

Today's proposal would be promulgated pursuant to non-HSWA authority, and contains provisions that are both more stringent and less stringent than the current Federal program. The elimination of the exemption for K061 derived fertilizers and the proposed product specification limits are more stringent provisions which the States would have to adopt if promulgated. The conditional exclusion for hazardous waste used in zinc fertilizers is less stringent. EPA strongly encourages States to adopt all of the provisions of the rule once they are finalized.

VIII. Administrative Assessments

A. Executive Order 12866

Under Executive Order 12866, (58 FR 51735 October 4, 1993) the Agency must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may: (1) Have an annual effect on the economy of $100 million or more or adversely affect, in a material way, the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The economic analysis suggest that this rule is not economically significant under Executive Order 12866. OMB has deemed this rule to be significant for novel legal or policy issues. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.''

Detailed discussions of the methodology used for estimating the costs, economic impacts and the benefits attributable to today's proposed rule for regulatory modifications to the definition of solid waste for zinc-containing hazardous waste-derived fertilizers, followed by a presentation of the cost, economic impact and benefit results, may be found in the background document: ''Economic Analysis for Regulatory Modifications to the Definition of Solid Waste For Zinc-Containing Hazardous Waste-Derived Fertilizers, Notice of Proposed Rulemaking,'' which was placed in the docket for today's proposed rule.

1. Methodology Section

To estimate the cost, economic impacts to potentially affected firms and benefits to society from this proposed rulemaking, we analyzed data from zinc micronutrient producers, firm financial reports, trade associations and chemical production data. The Agency has used both model facilities and actual facilities in analyzing the effects of this proposed regulation.

To estimate the incremental cost of this rule making, we reviewed baseline management practices and costs of potentially affected firms. The Agency has modeled the most likely post-regulatory scenario resulting from the listing (*e.g.,* shifts to non-hazardous fertilizer feedstocks, shifting from zinc oxysulfate to zinc sulfate monohydrate production) and the estimated the cost of complying with it. The difference between the baseline management cost and the post-regulatory cost is the incremental cost of the rulemaking.

To estimate the economic impact of today's proposed rulemaking, we compared the incremental cost of the rulemaking with model firm sales. The Agency has also considered the ability of potentially affected firms to pass compliance costs on in the form of higher prices.

To characterize the benefits of today's proposal, we evaluated available data and presented a qualitative assessment of benefits including ecological benefits and protection of natural resources such as groundwater.

2. Results

a. *Volume Results.* Data reviewed by the Agency indicates that there are 3 to 4 zinc micronutrient producers, one zinc producer, one steel mill, one waste-to-energy facility and 23 brass fume dust generators (ingot makers, mills, and foundries) potentially affected by today's proposed rule. Although the exact amount of hazardous waste used in zinc micronutrient fertilizer production an annual basis varies from year to year, in 1997, data indicate that approximately 46,000 tons of hazardous waste were used in the production of zinc micronutrient fertilizer. The principal hazardous waste feedstocks were tire ash, electric arc furnace dust (K061) and brass fume dust from ingot makers, mills and foundries.

b. *Cost Results.* For the part of today's proposed rule pertaining to zinc micronutrient fertilizers, we estimate the total annual cost savings from today's proposal to be $3.24 million for all facilities. Costs savings for different groups are summarized in Table 1.

TABLE 1.—ESTIMATED INCREMENTAL COSTS AND COST SAVINGS BY FACILITY CATEGORY

Potentially Affected Facility	Incremental Annual Costs (Cost Savings) (1999$)
Zinc Oxysulfate Producers	($0.29 million)
Zinc Sulfate Monohydrate Producers	($0.75 million)
Primary Zinc Products	($1.0 million)
Tire Ash Generators	($0.2 million)
Brass Fume Dust Generators	($1.4 million)
Total	($3.24 million)

Costs and cost savings to zinc oxysulfate producers are estimated from either shifting production to zinc sulfate monohydrate or shifting to nonhazardous sources of oxysulfate feedstocks. Zinc sulfate monohydrate producers and primary zinc producers are estimated to realize cost savings from shifting brass fume dust currently used in animal feed production to fertilizer production. Under current zinc sulfate markets, fertilizers are sold at a higher price than animal feed. Waste-to-Energy facilities that generate tire ash are expected to incur additional cost from having to shift their ash from fertilizer production to zinc oxide reclamation. And brass fume dust generators (mills, ingot makers, foundries) are estimated to incur cost savings from shifting their dust from zinc reclamation and animal feed to fertilizer production.

c. *Economic Impact Results.* To estimate potential economic impacts resulting from today's proposed rule, we use a first order economic impacts measure: the estimated incremental costs or cost savings of today's proposed rule as a percentage of affected firms sales. Because of data limitations, EPA was unable to obtain profit information for potentially affected firms. EPA solicits comment about the availability and usefulness of profit data in

evaluating the economic impact of this proposal on these entities. For two zinc oxysulfate producers the estimated impact of the rule is 1.42 percent in incremental costs for one firm and 0.64 percent in cost savings for the other. Two zinc sulfate monohydrate producers are estimated to realize cost savings of 0.1 and 15 percent of revenue. For the primary zinc producer, the rule is estimated to result in cost savings equal to 1 percent of firm sales. The waste-to-energy facility is estimated to incur costs of 1.22 percent of annual revenues. More detailed information on this estimate can be found in the economic analysis placed into today's docket.

d. *Benefits Assessment.* Because EPA did not use any risk assessments of current or projected metals and dioxin concentrations in zinc fertilizers in the development of this rulemaking, the Agency cannot make any quantitative conclusions about the risk reduction from today's proposal. To estimate the benefits resulting from today's rule, EPA looked at available literature and records regarding hazardous waste feedstocks used to make zinc micronutrient fertilizers. The data suggest that today's rule will reduce loading of toxic non-nutritive constituents to the soil. Two zinc oxysulfate samples produced from hazardous waste and analyzed by the State of Washington had dioxin concentrations between 17 and 42 times background level (''Final Report Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State,'' Washington State Department of Ecology, April 1999, Figures 1–1 and 1–2). In addition, the zinc oxysulfate manufacturing process does not remove any of the lead or cadmium from the feedstock material. If promulgated, today's proposal would reduce annual loadings of these metals to the soil.

In addition, today's proposal may reduce natural resource damage and contamination to groundwater. EPA is aware of at least two damage incidents caused by land placement of hazardous waste prior to fertilizer production that resulted in contamination of either groundwater or surrounding surface water bodies adjacent to the site. (''Report of RCRA Compliance Inspection at American Microtrace Corporation,'' US EPA Region VII, December 4, 1996, Editorial, The Atlanta Journal/Constitution, April 11, 1993). Today's proposal may increase non-use values for these environmental amenities as well.

The Agency also believes that this rule has the potential for reducing what may be considered low probability but high consequence adverse human health or environmental impact if contamination from hazardous secondary material used in fertilizer production should, because of geological conditions such as karst terrain, reach a major population drinking water source or sensitive environmental location. This proposed rule should lessen the chances of this type of event even though the probabilities of such occurrences and the magnitude of any impacts are not known.

B. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business that has fewer than 1000, 750, or 500 employees per firm depending upon the SIC code the firm is primarily classified in; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, we have determined that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives ''which minimize any significant economic impact of the proposed rule on small entities'' (5 U.S.C. Sections 603 and 604). Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

There are three small entities incurring incremental costs resulting from this rulemaking. This first firm is Exeter Energy, a waste-to-energy facility that burns tires. It is estimated to incur annual costs of $220,000 which is slightly more than one percent of its annual sales. Exeter Energy is only one of two waste-to-energy facilities in the United States that burns tires for energy. It is therefore likely that this firm will be able to pass on much of this cost through price increases for its services. EPA does not believe that this firm will be significantly impacted. The second firm, Bay Zinc, is a zinc sulfate/zinc oxysulfate producer. The firm is estimated to realize costs equal to slightly more than one percent of revenues for its zinc oxysulfate line. However, EPA does not believe that Bay Zinc will be significantly impacted because its increased costs will be offset to some extent by the increased availability of less expensive (previously hazardous waste) feedstocks such as brass fume dust for its zinc sulfate monohydrate line. EPA has only analyzed the impact of the rule on this firm's zinc oxysulfate line. However the rule will affect both zinc fertilizer lines. The net economic impact of the rule on Bay Zinc is likely to be far less than 1 percent of the firm's sales notwithstanding the cost to its oxysulfate line. EPA also notes that there is currently a market trend away from zinc oxysulfate in favor of zinc sulfate monohydrate due to the former's higher heavy metal content (see www.chemexpo.com/news/newsframe.cfm?framebody=/news/profile.cfm as obtained August 27, 2000 for zinc sulfate). Therefore, it is likely that even in the absence of this proposed rulemaking, the marketability of zinc oxysulfate is declining in favor of zinc sulfate monohydrate production.

For the reasons discussed above, I hereby certify that this rule will not have a significant adverse economic impact on a substantial number of small entities. This rule, therefore, does not require a regulatory flexibility analysis.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1189.08) and a copy may be obtained from Sandy Farmer by mail at OPPE Regulatory Information Division;

U.S. Environmental Protection Agency, Office of Environmental Information, Collection Strategies Division (2822), 1200 Pennsylvania Avenue, NW., Washington, DC 20460; by email at *farmer.sandy@epa.epa.gov,* or by calling (202) 260–2740. A copy may also be downloaded off the internet at *http://www.epa.gov/icr.*

EPA is proposing the following conditions for reporting and recordkeeping by generators and manufacturers: The proposed rule would require generators to submit a one-time notice to the EPA Regional Administrator (or the state Director in an authorized state) and to maintain all records of all shipments of excluded hazardous secondary materials for a minimum of three years.

As a condition of the exclusion, manufacturers would be required to submit a one-time notice, retain for a minimum of three years records of all shipments of excluded hazardous secondary materials that were received by the zinc fertilizer manufacturer during that period, and submit an annual report identifying the types, quantities and origins of all such excluded materials that were received by the manufacturer in the preceding year. The manufacturer would also be required to perform sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every six months, and for dioxins no less than every twelve months. These conditions would replace the current hazardous waste regulatory requirements for reporting and recordkeeping and are designed to improve the accountability system, and government oversight capabilities over the handling of secondary materials used to make zinc fertilizers.

EPA estimates that the total annual respondent burden for the new paperwork requirements in the rule is approximately 45 hours per year and the annual respondent cost for the new paperwork requirements in the rule is approximately $9,875. However, in addition to the new paperwork requirements in the proposed rule, EPA also estimated the burden and cost savings that generators and manufacturers could expect as a result of no longer needing to comply with the existing RCRA information collection requirements for the excluded materials. This cost savings of $21,149 minus the $9,875 cost for the new paperwork requirements would result in an overall cost savings $11,275 from the proposed rule. The net cost to EPA of administering the rule was estimated at approximately $244 per year.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the U.S. Environmental Protection Agency, Office of Environmental Information, Collection Strategies Division (2822), 1200 Pennsylvania Avenue, NW., Washington, DC 20460 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., NW., Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after November 28, 2000, a comment to OMB is best assured of having its full effect if OMB receives it by December 28, 2000. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal Agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA must prepare a written analysis, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials to have meaningful and timely input in the development of regulatory proposals, and informing, educating, and advising small governments on compliance with the regulatory requirements.

This rule does not include a Federal mandate that may result in expenditures of $100 million or more to State, local, or tribal governments in the aggregate, because this rule imposes no enforceable duty on any State, local, or tribal governments. EPA also has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. In addition, as discussed above, the private sector is not expected to incur costs exceeding $100 million. Therefore, today's proposed rule is not subject to the requirements of sections 202, 203, and 205 of UMRA.

E. Federalism—Applicability of Executive Order 13132

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides

the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

Section 4 of the Executive Order contains additional requirements for rules that preempt State or local law, even if those rules do not have federalism implications (*i.e.*, the rules will not have substantial direct effects on the States, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government). Those requirements include providing all affected State and local officials notice and an opportunity for appropriate participation in the development of the regulation. If the preemption is not based on express or implied statutory authority, EPA also must consult, to the extent practicable, with appropriate State and local officials regarding the conflict between State law and Federally protected interests within the agency's area of regulatory responsibility.

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This proposed rule directly affects primarily zinc micronutrient producers and generators of hazardous wastes used in zinc fertilizer production. There are no State and local government bodies that incur direct compliance costs by this rulemaking. And State and local government implementation expenditures are expected to be less than $500,000 in any one year (for more information, please refer to the background document entitled ''Federalism Analysis (Executive Order 13132) for Zinc-Containing Hazardous Waste-Derived Fertilizers, Notice of Proposed Rulemaking: Substantial Direct Effects'', August 2000). Thus, the requirements of section 6 of the Executive Order do not apply to this rule.

This proposed rule would preempt State and local law that is less stringent for these zinc-bearing hazardous wastes. Under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 to 6992k, the relationship between the States and the national government with respect to hazardous waste management is established for authorized State hazardous waste programs, 42 U.S.C. 6926 (§ 3006), and retention of State authority, 42 U.S.C. 6929 (section 3009). Under section 3009 of RCRA, States and their political subdivisions may not impose requirements less stringent for hazardous waste management than the national government. By publishing and inviting comment on this proposed rule, we hereby provide State and local officials notice and an opportunity for appropriate participation. Thus, we have complied with the requirements of section 4 of the Executive Order.

F. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian Tribal governments, and that imposes substantial direct compliance costs on those communities of Indian Tribal governments, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's proposal would not significantly or uniquely affect the communities of Indian tribal governments, nor would it impose substantial direct compliance costs on them.

G. Executive Order 13045: Protection of Children From Environmental Risks and Safety Risks

The Executive Order 13045, entitled ''Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997) applies to any rule that EPA determines: (1) Is ''economically significant'' as defined under Executive Order 12866; and (2) the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children; and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered. This proposal is not economically significant under Executive Order 12866.

H. National Technology Transfer and Advancement Act of 1995

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law No. 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. EPA has proposed to condition exclusion on the fertilizer material based on contaminant levels for metals and dioxins. And after considering alternatives, EPA has determined that it would be impractical to use voluntary consensus standards for the reasons stated in Section C above.

I. Executive Order 12898

EPA is committed to addressing environmental justice concerns and is assuming a leadership role in environmental justice initiatives to enhance environmental quality for all populations in the United States. The Agency's goals are to ensure that no segment of the population, regardless of race, color, national origin, or income bears disproportionately high and adverse human health or environmental impacts as a result of EPA's policies, programs, and activities, and that all people live in safe and healthful environments. In response to Executive Order 12898 and to concerns voiced by many groups outside the Agency, EPA's Office of Solid Waste and Emergency Response formed an Environmental Justice Task Force to analyze the array of environmental justice issues specific

to waste programs and to develop an overall strategy to identify and address these issues (OSWER Directive No. 9200.3–17).

Today's proposed rule pertains to hazardous wastes used in zinc micronutrient production. It is not certain whether the environmental problems addressed by this rule could disproportionately affect minority or low-income communities. Today's proposed rule is intended to reduce risks of excluded hazardous secondary materials as proposed, and to benefit all populations. As such, this rule is not expected to cause any disproportionately high and adverse impacts to minority or low-income communities versus non-minority or affluent communities.

The wastes proposed for exclusion will be subject to protective conditions regardless of where they are generated and regardless of where they may be managed. Although the Agency understands that the proposed exclusion, if finalized, may affect where these wastes are managed in the future, the Agency's decision to conditionally exclude these materials is independent of any decisions regarding the location of waste generators and the siting of waste management facilities. Today's proposed rule will reduce loadings of toxic non-nutritive constituents to the soil. It will also preclude outdoor storage of hazardous secondary materials used in zinc fertilizer production. EPA believes that these provisions of the proposal will benefit all populations in the United States, including low-income and minority communities.

We encourage all stakeholders including members of the environmental justice community and members of the regulated community to provide comments or further information related to potential environmental justice concerns or impacts, including information and data on facilities that have evaluated potential ecological and human health impacts (taking into account subsistence patterns and sensitive populations) to minority or low-income communities.

List of Subjects

40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

40 CFR Part 266

Environmental protection, Energy, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

40 CFR Part 268

Environmental protection, Hazardous waste, Reporting and recordkeeping requirements.

Dated: November 15, 2000.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, 6924y, and 6938.

Subpart A—General

2. Section 261.4 is amended by adding new paragraphs (a)(20) and (21) to read as follows:

§ 261.4 Exclusions.

(a) * * *

(20) Hazardous secondary materials used to make zinc fertilizers, provided that the following conditions are satisfied:

(i) Hazardous secondary materials used to make zinc micronutrient fertilizers must not be accumulated speculatively.

(ii) Generators of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers must:

(A) Store the excluded secondary material in tanks, containers, or in buildings. The tanks, containers or buildings must be constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose must be an engineered structure made of non-earthen materials that provide structural support, and must have a floor, walls and a roof that prevent against wind dispersal or contact with rainwater. Tanks used for this purpose must be structurally sound and must have roofs or covers that prevent contact with wind or rain. Containers used for this purpose that are not located in buildings must be made of metal or other rigid material that has structural integrity, and must have lids or covers that prevent wind or water dispersal of the stored materials.

(B) Submit a one-time notice to the Regional Administrator or State Director in whose jurisdiction the exclusion is being claimed, which contains the following information:

(1) Name, address and EPA ID number of the generator facility;

(2) Name and address of the fertilizer manufacturer(s) to which excluded secondary materials are expected to be shipped;

(3) A brief description of the industrial process(s) which generated the secondary material, and estimated annual quantity of excluded secondary materials that are expected to be shipped to each fertilizer manufacturer; and

(4) If excluded secondary materials are to be shipped off-site, a certification that the state in which the receiving facility(s) is located is authorized to administer the provisions of this section.

(C) Maintain at the generating facility for no less than three years records of all shipments of excluded hazardous secondary materials. For each shipment these records must at a minimum contain the following information:

(1) Name of the transporter and date of the shipment;

(2) Name and address of the fertilizer manufacturer who received the excluded material, documentation confirming the manufacturer's receipt of the shipment, and a notice to the receiving manufacturer that the shipped materials are excluded from regulation, subject to the conditions specified in this paragraph (a)(20);

(3) Type and quantity of excluded secondary material in each shipment.

(iii) Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials must:

(A) Store excluded hazardous secondary materials in accordance with the storage requirements for generators, as specified in paragraph (a)(20)(ii)(A) of this section.

(B) Submit a one-time notification to the Regional Administrator or State Director that, at a minimum, contains the following information:

(1) Name, address and EPA ID number of the manufacturing facility.

(2) Estimated annual quantities of excluded hazardous secondary materials to be used, and the industrial processes from which they are expected to be generated.

(3) Names, locations and EPA ID numbers of generator facilities expected to supply such materials.

(C) Maintain for a minimum of three years records of all shipments of excluded secondary materials received by the manufacturer, which must at a minimum identify for each shipment the name and address of the generating facility, name of transporter and date the materials were received, type and quantity received, and a brief

description of the industrial process that generated the waste.

(D) Submit to the Regional Administrator or State Director an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizer or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial process(s) from which they were generated.

(iv) Nothing in this section preempts, overrides or otherwise negates the provision in § 262.11 of this chapter, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(21) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials excluded under paragraph (a)(20) of this section, provided that:

(i) The fertilizers meet the following contaminant limits:

(A) For metal contaminants:

Constituent	Total [1]
1. Lead	2.8
2. Cadmium	1.4
3. Arsenic	0.6
4. Mercury	0.3
5. Nickel	1.4
6. Chromium	0.6

[1] Maximum Allowable Total Concentration in Fertilizer, per Unit (1%) of Zinc (ppm).

(B) For dioxin contaminants the fertilizer must contain no more than eight (8) parts per trillion of dioxin, measured as toxic equivalent (TEQ).

(ii) The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every six months, and for dioxins no less than every twelve months. The manufacturer may use any reliable analytical method to demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise, and representative of the product(s) that is introduced into commerce.

(iii) The manufacturer maintains for no less than three years records of all sampling and analyses performed for purposes of determining compliance with the requirements of (a)(21)(ii) of this section. Such records must at a minimum include:

(A) The dates and times product samples were taken, and the dates the samples were analyzed;

(B) The names and qualifications of the person(s) taking the samples;

(C) A description of the methods and equipment used to take the samples;

(D) The name and address of the laboratory facility at which analyses of the samples were performed;

(E) A description of the analytical methods used, including any cleanup and sample preparation methods; and

(F) All laboratory analytical results used to determine compliance with the contaminant limits specified in this paragraph (a)(21)(iii)(F).

(iv) In an enforcement action, the burden of proof to establish conformance with the conditions in this paragraph (a)(21)(iv) and in paragraph (a)(20) of this section, shall be on the generator or manufacturer claiming the exclusion.

* * * * *

PART 266—[AMENDED]

3. The authority citation for Part 266 continues to read as follows:

Authority: 42 U.S.C. 1006, 2002(a), 3004, and 3014, 6905, 6906, 6912, 6922, 6924, 6925, and 6937.

Subpart C—Recyclable Materials Used in a Manner Constituting Disposal

4. Section 266.20 is amended by removing the last two sentences of paragraph (b), and adding a new paragraph (d) to read as follows:

§ 266.20 Applicability.

* * * * *

(d) Fertilizers that contain recyclable materials are not subject to regulation provided that:

(1) They are zinc fertilizers excluded from the definition of solid waste according to § 261.4(a)(21) of this chapter; or

(2) For non-zinc fertilizers, the fertilizers meet the applicable treatment standards in subpart D of Part 268 of this chapter for each hazardous waste that they contain.

PART 268—[AMENDED]

5. The authority citation for part 268 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, and 6921.

Subpart D—Treatment Standards

§ 268.40 [Amended]

6. Section 268.40 is amended by removing paragraphs (i) and (j).

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