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ENVIROMENTAL PROTECTION AGENCY

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3 PUBLIC HEARING: :

4 PROPOSED AMENDMENT TO :

5 LIST OF HAZARDOUS WASTE :

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9 HEW Auditorium
10 330 Independence Avenue, S.W.
Washington, D.C.

11 9:05 a.m.
12 October 9, 1979

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18 PRESIDING:

19 LISA FRIEDMAN, Chairperson

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PANEL MEMBERS:

MS. LISA FRIEDMAN, Chairperson
Attorney, Office of the General Counsel, EPA

MR. JOHN P. LEHMAN
Director, Hazardous & Industrial Waste Division
Office of Solid Waste, EPA

MR. ALAN S. CORSON
Chief, Waste Characterization Branch
Hazardous & Industrial Waste Division
Office of Solid Waste, EPA

MR. MATT STRAUS
Manager, Hazardous Waste Definition Program
Waste Characterization Branch
Hazardous & Industrial Waste Division
Office of Solid Waste, EPA

DR. DONN VIVIANI
Environmental Scientist
Hazardous & Industrial Waste Division
Office of Solid Waste, EPA

MR. MICHAEL PELENSKY
Hazardous Materials Branch
EPA Region III

MAKING PRESENTATIONS:

MR. KEVIN GAYNOR, Esq.
Nixon, Hargrave, Devans & Doyle
Washington, D.C.

DR. STACY L. DANIELS
Research Specialist
Dow Chemical Company
Environmental Science Research 1702 Building
Midland, MI 48640

1 P R O C E E D I N G S

2 MR. LEHMAN: Good morning. My name is John Lenman,
3 and I am the Director of the Hazardous and Industrial Waste
4 Division of EPA, Office of Solid Waste, in Washington.
5 On behalf of EPA, I would like to welcome you here
6 to this public hearing. For a brief overview of why we are
7 here, the EPA on August 22, 1979, issued a supplemental pro-
8 posed rule under section 3001 of the Solid Waste Disposal
9 Act as substantially amended by the Resource Conservation and
10 Recovery Act, Public Law 94-580.
11 This supplemental proposal covers an additional
12 listing of approximately 45 hazardous wastes to be added to
13 the proposed list of hazardous wastes which the Agency pub-
14 lished on December 18, 1978. This rule also proposes to list
15 those chemical which are included in the International Agency
16 for Research on Cancer list of human carcinogens and potential
17 human carcinogens but which are not already listed as a
18 hazardous waste proposed regulations published on December 18,
19 1978, in appendices 3, 4 and 5 of section 3001 regulations if
20 such materials are disposed of as pure materials, spilled
21 clean-up residues of specification materials or container
22 residues.
23 This proposal together with those already pub-
24 lished pursuant to sections 3001, 3002 and 3004 on December 18,
25 1978; section 3003 on April 28, 1978; section 3008 on August 4,

1978; section 3010 on July 11, 1978; and sections 3005 and 3006 on June 14, 1979; and that of the Department of Transportation pursuant to the Hazardous Materials Transportation Act proposed on May 25, 1978; constitute the hazardous waste regulatory program under Subtitle C of the Act.

This program will provide a system for the management of the nation's hazardous waste from point of generation to final disposal. The court order promulgation date for final regulations is December 31, 1979.

This hearing is being held as part of our public participation process in the development of this regulatory program. We appreciate you taking the time to participate in the development of these hazardous waste regulations.

I would like to introduce the panel members who share the rostrum with me. From your left to right, they are Mike Pelensky, chemical engineer, Hazardous Materials Branch of EPA's Region III in Philadelphia; Donn Viviani, Environmental Scientist in Waste Characterization Branch of the Hazardous and Industrial Waste Division, EPA in Washington; Alan Corson, Chief of the Waste Characterization Branch in the Hazardous and Industrial Waste Division in EPA, Washington; Lisa Friedman from our Office of General Counsel, who will be the chairperson of the hearing; and on my left, Matt Strous, Program Manager of the Hazardous Waste Definition Program in the Waste Characterization Branch, Hazardous and Industrial

Waste Division, EPA, Washington.

Ms. Claire Welty who is listed as a panel member will not be with us this morning.

The comment period for this proposal closes on October 12, 1979. The comments received at this hearing together with the comment letters we receive will be a part of the official docket in this rule making process. This docket may be seen during normal working hours in room 2439K in Waterside Mall, 401 M Street, S.W., in Washington, D.C.

In addition, we expect to have a transcript of this hearing within about two weeks of the close of the hearing. The transcript will be available for reading at any of the EPA libraries. A list of these locations is available at the registration table.

With this as background, I would like to lay the groundwork and rules for the conduct of this hearing. The focus of a public hearing is on the public's response to a regulatory proposal of an agency. The purpose of this hearing as announced in the August 22 Federal Register is to solicit comments on the proposed regulations, including any background information used to develop the comment.

So this public hearing is being held not primarily to inform the public nor to defend a proposed regulation but rather to obtain the public's response to this proposed regulation and thereafter revise it as may seem appropriate. All

major substantive comments made at the hearing will be addressed during the preparation of the final regulations.

This is not a formal adjudicatory hearing with the right to cross-examination. The members of the public are to present their views on the proposed regulation to the panel, and the panel may ask questions of the people presenting statements to clarify any ambiguities in their presentation. Some questions by the panel may be forwarded in writing to the speakers. His or her response if received within a week of the close of this hearing will be included in this transcript. Otherwise, we will include it in the docket.

The chairperson reserves the right to limit lengthy questions, discussions or statements. If you have a copy of your statement, please submit it to the court reporter. Written statements will be accepted at the end of the hearing, and if you wish to submit a written rather than an oral statement, please make sure that the court reporter has a copy.

The written statements will also be included in their entirety in the record. Persons wishing to make an oral statement who have not made an advance request by telephone or in writing or by indicating their desire to do that on the registration card this morning should return to the registration table, fill out another card, and give it to one of the staff.

As we call upon an individual to make a statement,

he or she should come up to the lectern and identify himself or herself for the court reporter and deliver his or her statement.

At the beginning of the statement, the chairperson will inquire as to whether the speaker is willing to entertain questions from the panel. The speaker is under no obligation to do so, although within the spirit of this information sharing hearing, it would be of great assistance to the Agency if questions were permitted.

Our day's activities as we currently see them appear like this: Only a few persons have indicated a desire to make a statement. We may conclude this hearing this morning. If necessary, we will break for lunch at about 12:00 and reconvene at 2:00, and we will conclude the day's session at about 5:00 o'clock or when all of the comments have been received, statements have been received, whichever is earliest.

If you wish to be added to our mailing list for future regulations, draft regulations or proposed regulations, please leave your business card or name and address on a 3x5 card on the registration desk.

Today's discussion is limited to the listed wastes appearing in the August 22 Federal Register notice. The chairperson reserves the right to cut off discussion of any other aspect of the proposed Hazardous Waste Regulations for which hearings have been previously held.

Now I would like to turn the hearing over to our chairperson, Lisa Friedman. Lisa?

MS. FRIEDMAN: Thank you. I have one issue I want to bring up today. During the comment period on the supplemental proposal, we received a number of requests for extension of the comment period on the ground that some of the reference material referenced documents of listed wastes were not available.

In response to these requests and because we recognize these materials were not available, we are extending the comment period on the following wastes: wastes from equipment cleaning and test cleaning in the manufacture of paperboard boxes, waste from press clean-up of newspaper printing, wash water from printing ink equipment cleaning and melted ore (?) of sand casting wastes from iron foundries.

We hope to have list in the Federal Register later this week before we announce the extension.

We have two people who have asked to speak today. The first will be Mr. Kevin Gaynor of Nixon, Hargrave, Devans and Doyle.

PRESENTATION OF KEVIN GAYNOR, Esq.
NIXON, HARGRAVE, DEVANS & DOYLE:

MR. GAYNOR: I am an attorney with the law firm of Nixon, Hargrave, Devans and Doyle of Rochester, New York; Washington, D.C.; and Palm Beach, Florida. I am here today to make a statement on behalf of a client engaged in the printing of books and periodicals.

While our firm will be filing more extensive comments with EPA by the filing deadline, we feel this matter is of such importance a public statement must also be made.

The purpose of this statement is to protest EPA's proposal to designate as hazardous all wash water from printing ink equipment cleaning. Promulgation of this designation is both legally in excess of the Agency's authority under RCRA and technically inaccurate.

In its August 22, 1979, proposal, which is the subject of these hearings today, EPA announced its intention to include, quote, "(SIC) 2893: Wash water from printing ink equipment cleaning," on its list of hazardous waster. Although the SIC code listed for this item applies only to printing ink manufacturing industry, the description of the waste, which according to EPA's original proposal is the determinative factor, is sufficiently broad to apply to the printing and publishing industry as well.

Specifically, we believe that this item should be struck from the list of processes generating hazardous waste

since the principal substance covered by the description, wash water, dose not fall within the definition of hazardous waste under RCRA and is exlucded from regulation under this Act.

Specifically, hazardous waste is defined as a subset of solid waste. Expressly excluded from RCRA's definition of solid wastes are, quote, "industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended," end of quote.

Thus, wash water discharged directly to a water body is clearly exempted from regulation as a hazardous waste under RCRA.

In addition, section 1006 of RCRA, which addresses the applicability of RCRA vis-a-vis other laws, provides that RCRA does not apply to any activity or substance which is subject to the Clean Water Act except where RCRA requirements would not be inconsistent with the Clean Water Act.

This section goes on to mandate that EPA integrate its enforcement of RCRA and avoid duplication of regulatory efforts. Clearly EPA's proposed designation of wash water as a hazardous waste does just the opposite. Wash water which is discharged indirectly to a water body from a sewage system or a publicly owned treatment works is regulated under Clean Water Act and in particular is subject to the pretreatment

requirements o that Act.

For this reason indirect discharges of waste water to a POTW's sewer system are not intended to be regulated under RCRA. Since wash water from printing ink equipment cleaning can be subjected to pretreatment requirements if necessary, there is no reason to separate out this category of water from any other water for regulation under RCRA rather than under the Clean Water Act.

Therefore, on the basis of statutory authority, it is inappropriate to define wash water as a hazardous waste under Subtitle C of the Hazardous Waste Management Program and to regulate it under RCRA. The statute simply does not authorize direct RCRA regulation of the discharge of wash water itself.

In comments made by the Agency in its preamble to the December 18, 1978, proposal, it was clearly recognized that the Hazardous Waste Program does not apply to discharges of water. The proposal to list wash water is in direct contradiction to EPA's announced interpretation of the proper regulatory interface between the Clean Water Act and RCRA.

This preamble discussion explained that once a hazardous waste enters a POTW, which by definition includes the conveyance sewer as well as the sewage treatment plant, the resulting mixture is no longer considered a solid waste under RCRA. This preamble comment goes on to note that in

the absence of a surface impoundment, the proposed hazardous waste regulations do not apply to water to be discharged by an NPDES permitted facility.

In view of this clear position taken by the Agency, wash water is simply not subject to control as a hazardous waste under RCRA. Rather, regulation of wash water must be achieved under the appropriate provisions of the Clean Water Act pursuant to which there is full authority to control these discharges.

In addition to these legal arguments, there are practical considerations which support the regulation of printing ink equipment cleaning wash water under the Clean Water Act rather than under RCRA. The first is the matter of volume. Wash water is by its very nature primarily water with very dilute amounts of contaminants in it. A hazardous designation under RCRA would force virtually every printing company, hometown newspaper, et cetera, to dispose of its wash water at a licensed hazardous waste disposal facility.

Even the proposed 100 kilogram per month exemption for small volume generators would not be of help to printers and publishers because of the weight of water. Any printer or publisher who uses more than 27 gallons of water a month to wash a printing press would be a hazardous waste generator.

In the case of one of our clients, the weekly cleaning of presses involves the use of approximately 50 gallons

of water per press. We ask the question: where will this water be disposed of? Presently in New York State where our client is located, there are only two licensed hazardous waste disposal facilities, both of which are secure landfills.

These landfills because of potential leachate and groundwater contamination problems will not accept such liquid waste. Even if these facilities did accept such waste, EPA must give serious consideration to whether the best use of these waste disposal facilities which are in short demand is for the large volume of printing equipment cleaning water produced by the printing and publishing industry.

If printing ink equipment cleaning water does in fact contain hazardous material, it would seem more reasonable and certainly more practical to remove and concentrate the hazardous components. Such treatment can be clearly mandated under the Clean Water Act through section 402 (for direct discharges) and section 307 (for discharges to POTWs).

If EPA by applying its various hazardous waste critera then finds that the sludges from the waste water are hazardous, it can identify these sludges in the solid form as hazardous wastes.

Let us turn briefly now to the question of whether all waste water from printing ink equipment can be reasonably designated as hazardous. We are seriously concerned that the hazardous components of this wash water

identified in EPA's support document -- namely, lead, chromate, phenols and isophorone -- occur in only a small fraction of all printing ink used in this country. Many ink and ink equipment cleaning fluid vendors have provided assurances to one of our clients that these four substances or classes of substances are not in most inks that are being used.

From discussions with the publishers trade association, Graphic Arts Council, it appears that only the colored inks, mainly yellows and reds, may contain these chemicals. Graphic Arts Council, however, pointed out that not all the colored inks contain these materials since many ink manufacturers have, quote, "seen the handwrinting on the wall," end quote, and have substituted non-hazardous components for components said to be hazardous.

Since many publishers rarely use colored inks but rely instead on black ink, this proposed classification is entirely too broad. If finally promulgated as proposed, this designation will place an unreasonable burden and disposal cost on the publishing industry.

We feel that at present EPA's hazardous waste data base is totally inadequate to support this designation. Many printers and publishers do not have the facilities or the money to test waste water, excuse me wash water, for the four substances or worse yet, to apply RCRA's tests for toxic,

1 toxic organic, mutagenic and bioaccumulative properties as
2 would be required if this proposal were adopted and a
3 variance from these regulations were sought.
4 Our client has demonstrated his concern by the
5 research it has done thus far and by our appearance here
6 today. I have been asked to call upon EPA now to do its part
7 and devote more time and energy to researching this hazardous
8 waste designation.
9 EPA has the expertise to develop and appropriate
10 data base and apparently has already begun in connection with
11 developing effluent standards. At the conclusion of this
12 research, EPA can make an informed decision as to which com-
13 ponents of which segment of the wash water waste stream for
14 the printing industry, if any, are hazardous.
15 Only then can EPA reasonably proceed to regulate
16 these materials. Naturally our client and hopefully other
17 members of the printing industry stand ready to assist EPA
18 in its efforts.
19 In conclusion, I would like to reemphasize that
20 addition of this waste category to the hazardous waste
21 regulations is objectionable both because it does not comport
22 with the mandates of RCRA and because it is so boradly stated
23 that it includes a significant amount of non-hazardous waste
24 thereby placing burdensome and unreasonable requirements on
25 many publishers.

1 Thank you very much. I would be happy to answer
2 questions to the extent I can. As I said, we will be submit-
3 ting written comments; and to the extent your questions are
4 technical, maybe I will have to defer to our written comments.
5 DR. VIVIANI: The Agency was under the impression
6 that some of this wash water was drummed and sent to landfills.
7 We were told that maybe this wasn't a common practice. It is
8 done occasionally.
9 We are certainly going to go back and reexamine our
10 information, but if you can provide any information as to
11 whether or not this wash water is ever drummed and landfilled,
12 we would certainly appreciate it.
13 MR. GAYNOR: Would that have to be a sanitary land-
14 fill or hazarous waste --
15 DR. VIVIANI: It doesn't much matter what type of
16 facility it is brought to, but we were told that in many
17 cases or in some cases at least, it doesn't go out the
18 effluent pipe but is drummed and land disposed.
19 MR. GAYNOR: It is not clear from the proposed
20 regulations that that is the procedure you would allow even
21 if it is drummed.
22 DR. VIVIANI: Well, I think the point is that that
23 would certainly come under our jurisdiction, drummed waste --
24 MR. GAYNOR: Oh, I see what you are saying.
25 DR. VIVIANI: -- and land disposed. It would not

1 come under the Clean Water Act at all.

2 MR. GAYNOR: I see what you are saying. Certainly

3 if that is the delineation you are making of your jurisdiction,

4 it ought to be spelled out in the proposal so that members of

5 the industry who are discharging directly into sewage systems

6 would not be covered.

7 Is that -- do you intend to make that distinction?

8 DR. VIVIANI: I am not qualified to make any

9 distinction. Lisa?

10 MS. FRIEDMAN: I think in our proposed regulation,

11 there appears to be sort of misunderstanding that needs to be

12 worked on. We do not intend in our proposed regulations to

13 regulate the discharge of wash water into a navigable water.

14 We would regulate it as if it were treated as a lagoon area.

15 MR. GAYNOR: Surely.

16 MS. FRIEDMAN: Kind of a holding area or something

17 like that. Nor do we intend to regulate the discharge of

18 wash water into a publicly owned treatment works sewage

19 system.

20 MR. GAYNOR: Well, it could be then that we have

21 no argument with you since those are the two situations we

22 are concerned with.

23 MS. FRIEDMAN: This misunderstanding will be

24 clarified in the regulation.

25 MR. GAYNOR: Good!

1 MS. FRIEDMAN: I have one point. You made the
2 statement when you gave your presentation that your client
3 did not believe that printing wash water is hazardous.
4 MR. GAYNOR: Yes.
5 MS. FRIEDMAN: Do you have the data on this wash
6 water?
7 MR. GAYNOR: We are going to try to supply that in
8 our detailed comment.
9 MS. FRIEDMAN: Okay, that would be very helpful.
10 MR. GAYNOR: We are in the process now of collecting
11 that information.
12 MR. CORSON: One other point to ask if you could
13 clarify for us. In your client's comments, you did indicate
14 I believe that your feeling, your client's feeling, was that
15 some of the colored inks may have this problem. Now I notice
16 you mention yellow and --
17 MR. GAYNOR: Yellow and red.
18 MR. CORSON: -- red, which I guess is two of the
19 three colored inks that you use, and everything else comes
20 from those three major and the three primary. Perhaps you
21 could provide to us in your comments a more accurate descrip-
22 tion, if you think it is appropriate, of that part of the
23 printing industry to whom you feel such a ddesignation of
24 hazardous waste should apply.
25 Because our intent is not to make it so broad that

we are including 10 times the number to force them to test out. We would like to make it fine enough to bring all those in that should be in, but also clear so those who are not in are not covered.

MR. GAYNOR: We are attempting to collect that data, and one of our problems I think is in the collection of the data, and it may be that this is an area that EPA could explore more, in more detail also.

MR. CORSON: Okay.

MS. FRIEDMAN: One other point. We will be extending the comment period --

MR. GAYNOR: Yes. To when? I didn't hear the date.

MS. FRIEDMAN: I think it will be 45 days.

MR. GAYNOR: Forty-five days?

MS. FRIEDMAN: Right.

MR. GAYNOR: Thank you very much.

MS. FRIEDMAN: Which would take you up to November 25th.

MR. GAYNOR: Thank you very much.

MS. FRIEDMAN: Our next speaker will be Dr. Stacy L. Daniels. He is with Dow Chemical Company.

1 PRESENTATION OF:

2 DR. STACY L. DANIELS,
THE DOW CHEMICAL COMPANY:

3 DR. DANIELS: My greeting to the panel. I am glad
4 I am not the lead-off speaker like I was in St. Louis to be
5 followed by Barry Commoner (ph). I don't see him in the
6 audience today, so I assume I am free from locking horns with
7 him today.

8 Miss Chairperson, I am Dr. Stacy L. Daniels,
9 Research Specialist in Environmental Sciences in the Health
10 and Environmental Sciences Department of the Dow Chemical
11 Company. As chairman of our corporate RCRA task force, I
12 wish to summarize our concerns on the issues raised by the
13 Agency in the supplemental listing of hazardous wastes and
14 the accompanying background document.

15 We worked closely with the Agency and with various
16 trade organizations, professional societies and standard
17 setting groups for the past two and a half years to develop
18 a consistent set of meaningful regulations for hazardous
19 waste management that will provide adequate benefits in
20 protection of human health and the environment from unreason-
21 able risk while demanding realistic expenditures of resources.

22 Toward this goal, we have provided comments on all
23 major aspects of this draft and the proposed regulations.
24 Today we wish to summarize our major concerns in four areas:
25 first the supplemental listing and delisting; two, the

inapplicability of generic listing; three, the lack of supporting evidence; and four, the classification of wastes by degree of hazard and facilities by degree of control as they pertain to generic listing.

With regard to the supplemental listing and delisting, the Agency proposes to add approximately 45 wastes to the initial listing to include 16 generic waste streams purported to contain significant quantities of chlorinated organic compounds and 28 specific processes supposedly generating hazardous wastes.

We have serious objections to both the general procedure employed to prepare the supplemental list and particularly to the use of generic format for listing wastes as hazardous. The identification of some hazardous waste is contrary to the statutory mandate of RCRA which requires proper publishing of criteria and listing of only paritcular hazardous wastes.

About 87 percent of the newly proposed wastes are based on three candidate characteristics of hazard; that is, mutagenicity, bioaccumulation, and/or toxic organic; which are not defined as characteristics and do not meet the definition of hazardous waste.

We recommend, therefore, that all supplemental wastes that are proposed to be listed because of mutagenicity, bioaccumulation or toxic organic be deleted.

The listing of hazardous waste based upon candidate characteristics having no validated methods and no verifying data on actual wastes is improper. For the listing of hazardous waste, the Agency relies on only four characteristics of hazard; namely, ignitability, corrosivity, reactivity and toxicity, all of which have available test protocols. The use of the candidate characteristics for purposes of listing or delisting is pure speculation.

We recommend that the candidate characteristics of mutagenicity, bioaccumulation and toxic organic be deferred from consideration until validated methods are developed and sufficient data are generated to define their utility and interpretation of hazard.

The listing of hazardous wastes based solely upon characteristics for which there are no validated methods preclude delisting of such wastes. We believe that listing and delisting should be conducted on equal bases. If the Agency has no validated tests and no supporting data for listing, then it should not require an applicant to attempt the impossible.

We recommend that both listing and delisting be based on identical procedures.

We object specifically to the incorrect listing of, quote, "heavy ends from the production of glycerine from allyl chloride," unquote, as hazardous. The Agency has

1 confused process intermediates, wastes and final products.
2 The glycerine still bottoms are, in fact, a mixture of
3 nontoxic glycerine and polyglycerines which are widely used
4 in many commercial products, including the toothpaste you may
5 have used this morning.
6 They contain no detectable epichlorohydrin and less
7 than two parts per million of trichloropropane, the two com-
8 ponents which have formed the basis for the tentative listing.
9 We will be happy to supply further details in a separate
10 communication. You are considering extending the comment
11 period for other SIC codes; I would request that this one
12 also be considered.
13 We recommend that heavy ends from the production
14 of glycerine from allyl chloride be deleted from the supple-
15 mental list.
16 With regard to the inapplicability of generic list-
17 ing, the Agency has proposed to list 16 additional waste
18 streams generated in the production of chlorinated organic
19 chemicals as hazardous. We disagree with the Agency's approach
20 of a generic format as invalid, inappropriate and inapplicable
21 as an index of hazard.
22 We do not believe the Agency has shown adequate
23 justification for the use of generalized elemental composition
24 or chemical structure in the determination of hazard. Such a
25 simplistic approach will only compound the already

overclassification of solid wastes as hazardous.

Generic listings of organic production wastes such as chlorinated organics, brominated organics, phenols and aromatic amines, which are being presently considered, are scientifically indefensible and are contrary to the express statutory language of the RCRA which provides for the listing of particular hazardous waste rather than a general or universal listing. The discussion of the proposed supplemental listing conveniently omits the adjective, "particular." We assume this omission is unintentional.

We recommend that all listings be restricted to particular hazardous wastes.

Congress never intended to authorize generic listings of hazardous waste. Explanation of listing should relate to: quantity; concentration; physical, chemical or infectious characteristics and other factors which contribute to the hazardous nature of the substance and which EPA is to consider as part of the listing process.

We recommend that listing be restricted to specific factors adversely affecting human health and the environment.

We consider the use of generic listing to be improper when based on criteria which have not been proposed. The Agency states that the mere existence of a generic waste group is not sufficient cause or justification for its inclusion on the hazardous waste list. And they further

state their intent to use a criterion of similarity of waste streams described by generic group quantitatively or qualitatively so that all individual members of the set meet the particular listing or characteristics which indict the group as a whole.

The Agency then proceeds to identify seven sub-criteria never subjected to rule making. The previous listing of electroplating waste water treatment sludge cited as the precedent for this action contains no mention of generic format.

We specifically request that the Agency withdraw the generic categories of hazardous waste and publish the new criterion and sub-criteria for public comment.

With regard to the lack of supporting evidence, the use of the generic listing is scientifically unfounded. The Agency has not adequately demonstrated that the chlorinated organics as a class are hazardous. The supporting evidence with the background document, BD-5A, is grossly insufficient to support an overall generic listing.

Reaction similarity is overstated for chlorinated organics. Clorination is a process which may involve a wide variety of chlorine sources and the attachment of the chlorine atom in many ways resulting in chlorine being retained in the final product, recovered in a side stream, or simply neutralized into an inorganic salt.

For example, and I quote: "Solution residues from the production of chlorinated polymers," unquote, often involve the aqueous suspension chlorination of a previously formed polymer with the final solution residue being an inorganic brine containing primarily sodium chloride rather than a mixture of any chlorinated organics.

The toxicity of chlorinated organics is not apparent. The toxicities of 45 compounds reported by the Agency in Appendix E of the background document is a random compilation of chlorinated and non-chlorinated compounds supposedly indicted from earlier appendices. These data are a hash of different animal species subjected to different routes of exposure and evaluated by different bases of mortality.

The characteristic of toxic organic is supposedly based on a calculated equivalent leachate concentration as derived from acute oral mammalian toxicity to the white rate; namely, LD50 in units of milligrams per kg.

We have compiled comparable values for this specific parameter for 49 listed compounds contained within the main body of the background document in Appendix E. These values range from 46 to 28,700 milligrams per kilogram, with both extremes being for non-chlorinated compounds.

Ten compounds, including five chlorinated organics, are less toxic than the acetic acid proposed as a simulated extractant and excluded as non-hazardous. There is no clear

1 distinction between chlorinated and non-chlorinated compounds
2 over a range of three orders of magnitude.
3 The aquatic toxicities as reported by the Agency
4 are incomplete and nonspecific. This is the fault of the
5 NIOSH registry which is an incomplete source of aquatic
6 toxicity data. We have compiled values for the acute toxicity
7 to the fathead minnow expressed as LC50 in units of milligrams
8 per liter for 32 listed compounds contained within the main
9 body of the background document and Appendix E.
10 Values ranged from 28 to 1,620,000 micrograms per
11 liter. Nine compounds, including five chlorinated organics,
12 were less toxic than acetic acid. There was again no clear
13 distinction between chlorinated and non-chlorinated compounds
14 over a range of almost five orders of magnitude.
15 Specific composition formulations do not reveal
16 high concentrations of toxic chlorinated organics. Only five
17 of 25 wastes reported by the Agency in the background document
18 in Appendix A have quantitative analyses. Most of the rest
19 are limited to the qualitative presence of three or less
20 specific compounds.
21 No criteria have been provided as to what consti-
22 tutes high toxicity or high concentration. This is in direct
23 disregard to the Congressional mandate to consider quantity,
24 concentration and chemical form.
25 Threats to human health and the environment are

not proven. The background document does not provide an adequate data base to support the generic listing of chlorinated organics based on damage cases. Two of the cases cited by the Agency are attributed to a single compound in each case. The third case involved a small group of compounds detected in groundwater at a single site with no demonstrable damage.

Only three of 143 groundwater analyses exceed the calculated equivalent leachate concentration -- that is, the 0.35 factor times the calculated human LD50 -- which is the apparent basis for listing. Only two analyses exceed the median aquatic toxicity for the respective compounds.

We conclude that these limited cases are not representative but indeed are limited in scope, deficient in substance and inconclusive for purposes of generalization.

We recommend the Agency limit their attention to specific process streams which actually generate a significant hazardous waste.

And finally with regard to classification of wastes by degree of hazard and facilities by degree of control as they pertain to the generic listing; the Agency has correctly identified degree of hazard as a major issue. We have repreatedly indicated in our comments on section 3001, in our special supplement on degree of hazard, and in the subsequent addendum submitted to the Agency at their specific request,

that RCRA requires consideration of degree of hazard.

Both the legislative history and the statutory language of RCRA indicate that hazard is a function of both varying effect and varying exposure. Effects are dependent upon the nature of individual wastes; exposures are dependent upon the nature of individual wastes and upon the method of control andthe specific site of disposal.

Attempts to classify facilities without classifying wastes is an incomplete response. The use of a generic format would negate any degree of hazard classification by incorrectly assuming that all wastes of generalized elemental composition or chemical structure have the same effect upon exposure.

This assumption is clearly and scientifically incorrect. Generic listing is fundamentally incompatible with the requirement of listing by degree of hazard. The use of a generic format is a regressive approach which will result in a waste being denoted as hazardous through guilt by association rather than as a function of specific properties.

We recommend, therefore, that classification of wastes be based on degree of hazard and that classification of facilities be based on degree of control.

Thank you.

MS. FRIEDMAN: Will you take questions from the panel?

DR. DANIELS: Yes, I will.

DR. VIVIANI: Stacy, when we developed a generic listing, we went through about 20 or 30 chlorinated organic waste streams; in fact, all the ones we had data for at headquarters, and then we went out to the regions and we looked at maybe another 10 or 15. I think they are all in the background document. And we looked at the analysis we had.

In every single case there were what we thought very high levels of chlorinated organics found in them. Now the fact that we were unable to find even one waste stream in these processes that didn't contain chlorinated organics certainly indicated to us that there was some sort of a trend here.

If you have information that indicates this is not the case and if you can supply us with analytical data from these waste streams indicating that in many cases or even in a majority of cases high concentrations of chlorinated organics are not to be found, we would certainly appreciate the information.

DR. DANIELS: We will be pleased to do that. On the two that I mentioned here, the solution and chlorination of an already formed polymer and also the glycerine still bottoms -- those are two specific ones. However, it is hard to respond to something on how high is high.

1 DR. VIVIANI: Well, even if you could just give us
2 the analytical data on the ones we specifically mention in the
3 background data; if that information is incorrect, in fact it
4 was either a bad sample or bad analytical technique or for
5 some reason those chlorinated organics are not typically found
6 in those waste streams, we would like to be made aware of that.
7 Because we can only act on the information we have.
8 DR. DANIELS: If you can extend the comment period
9 on those two that I mentioned, we can talk specifically on
10 those and attempt to add to that all we have on the other
11 ones.
12 Specifically though, with regard to the toxicity
13 values and things like this, this is the other thing that
14 isn't really factored into that. If you have a concentration
15 of X parts per million of alpha-methyl ump-de-gump; is that
16 a hazard or not? And while you admit in the background docu-
17 ment that you are not indicting by mere presence, there seems
18 to be a lot of indications to that; and that is what I would
19 like to have clarified.
20 DR. VIVIANI: Okay. I think that if you go back
21 to the background document -- I am sure you have read it many
22 times -- you will notice that it is never a case of us having
23 just one chlorinated organic. It is usually a range, and in
24 many cases, there are things like HCBs and other hydro-
25 chlorinated, virtually indestructable organic chemicals

in the waste stream.

Again, if this range does not occur, if you find that it is typically just one or two of the less toxic ones that you mentioned in your paper that are only present in these waste streams; again we would be very happy to see that information.

DR. DANIELS: I think that this is a case of the OSW being guilty of the same trend within the Agency that the chlorinated organic is a bad compound and a persistent compound, and that is not true across the board. It is just the generalization that I object to; that a chlorinated organic could be biodegradable, it could be relatively non-toxic compared to something else. It could be insoluble. It could be volatile. There are a lot of physical properties that aren't fully considered here that really don't indict chlorinated organics as a class.

Everybody else is very quiet this morning.

MS. FRIEDMAN: I have a question. In your statement, you said you would be happy to supply details on the data you have on glycerine still bottoms.

DR. DANIELS: Yes.

MS. FRIEDMAN: If you could submit that, --

DR. DANIELS: We will be providing detailed written comments by the formal closing date, which is Friday.

MS. FRIEDMAN: With respect to glycerine still

bottoms, you made a statement that some contain nontoxic glycerine and polyglycerine. If there were a procedure which would allow to do this, glycerine still bottoms if they contain nontoxic as opposed to toxic glycerine; would that meet some of your concerns?

DR. DANIELS: Well, glycerine specifically is about the least toxic compound next to water that I know of. It is the other trace organics that are apparently indicted in this particular case. And I think it is a miswording that is the confusing part of this particular waste.

Because there aren't really wastes associated with this process other than waste water and the final product.

MS. FRIEDMAN: You made a criticism that we had given no opportunity to comment on the criteria and sub-criteria for the generic listings which are contained in the background document. You don't feel that you can comment on this criteria contained in the background document?

DR. DANIELS: That the first place that they have appeared. We have never seen them before in any official channel.

MS. FRIEDMAN: But you still feel that you can't comment on them as part of the background document?

DR. DANIELS: Well, we are commenting in a limited time that we have, in the 45-day period. Specifically I am referencing the sub-criteria, those seven items that begin

on page four of BD-5A.

MS. FRIEDMAN: My last question is: Apparently you do feel that some chlorinated organics are hazardous, and we would really appreciate any information that you have on ways that we could distinguish between those which of the chlorinated are hazardous or non-hazardous. In other words, what we can shoot at as the dividing line.

DR. DANIELS: If the definition of hazardous waste would settle down instead of being a moving target, I think we could comment a little more carefully on that. But at the present time, we are faced with comparing LD50s and LC50s and things like this. We can't comment on mutagenicity because the data has not been supplied by the Agency at this point.

MS. FRIEDMAN: Well, apparently Dow Chemical has its own opinion of where that dividing line should be, and I think it owuld be very helpful for us if you could provide that, of where you think the cut-off point should be for listing or not listing these various chlorinated organics in it.

Thank you very much.

Would anyone else wish to make a statement?

(No response)

VOICE: I have a question.

MS. FRIEDMAN: We made an initial statement that

1 we are not going to answer any questions today unless for
2 clarification of a proposed regulation.
3 VOICE: No questions?
4 MS. FRIEDMAN: No.
5 This hearing is adjourned.
6 (Whereupon, at 9:50 a.m., the public hearing was
7 adjourned.)
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3 REPORTER'S CERTIFICATE
4
5 DOCKET NUMBER:
6 CASE TITLE: Public Hearing: Proposed Amendment to List of Hazardous Waste
7 HEARING DATE: October 9, 1979
8 LOCATION: Washington, D.C.
9
10 I hereby certify that the proceedings and evidence
11 herein are contained fully and accurately in the notes
12 taken by me at the hearing in the above case before the
13 Environmental Protection Agency
14 and that this is a true and correct transcript of the same.
15
16
17
18 Date: October 9, 1979
19
20
21 Margaret Beach
22 Official Reporter
Acme Reporting Company, Inc.
23 1411 K Street, N.W.
Washington, D.C. 20005
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25

J. Lehman

RESOURCE CONSERVATION AND RECOVERY ACT

Hazardous Waste Guidelines and Regulations

Comments on Supplemental Proposed Rule

Additions to Proposed Listing of Hazardous Waste

by

The Dow Chemical Company

to the

U.S. Environmental Protection Agency

Hazardous Waste Management Division

Office of Solid Waste

Public Meeting

Washington, D.C.

October 9, 1979

Mr. Chairman, I am Dr. Stacy L. Daniels, Research Specialist in Environmental Sciences in the Health and Environmental Sciences Department of The Dow Chemical Company. As Chairman of our corporate RCRA Task Force, I wish to summarize our concerns on the issues raised by the Agency in the supplemental listing of hazardous wastes (44 FR 49402-5, August 22, 1979), and the accompanying Background Document (BD-5A).

We have worked closely with the Agency, and with various trade organizations, professional societies, and standard setting groups, over the past 2-1/2 years to develop a consistent set of meaningful regulations for hazardous waste management that will provide adequate benefits in protection of human health and the environment from unreasonable risks while demanding realistic expenditures of resources. Toward this goal, we have provided comments on all major aspects of the draft and proposed regulations. Today we wish to summarize our major concerns in four areas: (1) the supplemental listing and delisting, (2) the inapplicability of generic listing, (3) the lack of supporting evidence, (4) the classification of wastes by degree of hazard and facilities by degree of control.

(1) Supplemental Listing and Delisting

The Agency proposes to add approximately 45 wastes to the initial listing (43 FR 58946, 58957-9, December 18, 1979) to include: 16 generic waste streams purported to contain significant quantities of chlorinated organic compounds, and 29 specific processes supposedly generating hazardous waste. We have serious objections to both the general procedure employed to prepare the supplemental lists and particularly to the use of a generic format for listing wastes as hazardous.

The identification of some hazardous wastes is contrary to the statutory mandate of RCRA which requires proper publishing of criteria and listing of only "particular" hazardous wastes. About 87% of the newly proposed wastes are based on three candidate characteristics of hazard, i.e. mutagenicity (M), bioaccumulation (B), and/or toxic organic (O) which are not defined as characteristics and do not need the definition of hazardous waste.

We recommend that all supplemental wastes that are proposed to be listed because of mutagenicity, bioaccumulation, or toxic organic be deleted.

The listing of hazardous waste based upon candidate characteristics having no validated methods and no verifying data on actual wastes is improper. For the listing of hazardous waste, the Agency relies on only four characteristics of hazard, namely, ignitability (I), corrosivity (C), reactivity (R), and toxicity (T), all of which have available test protocols. The use of the candidate characteristics for purposes of listing or delisting is pure speculation.

We recommend that the candidate characteristics of mutagenicity, bioaccumulation, and toxic organic be deferred from consideration until validated methods are developed and sufficient data are generated to define their utility and interpretation of hazard.

The listing of hazardous wastes based solely upon characteristics for which there are no validated methods to preclude delisting of such wastes. We believe that listing and delisting should be conducted on equal bases. If the Agency has no validated tests and no supporting data for listing, then it should not require an applicant to attempt the impossible.

We recommend that both listing and delisting be based on identical procedures.

We object specifically to the incorrect listing of "Heavy Ends from the Production of Glycerine from Allyl Chloride" (SIC 2869, BD-5A at 92) as hazardous. The Agency has confused process intermediates, wastes, and final products. The glycerine still bottoms are, in fact, a mixture of non-toxic glycerine and polyglycerines which are widely used in many commerical products. They contain no detectable epichlorohydrin and less than 2 ppm of trichloropropane (1,2,3-). We will be happy to supply further details in a separate communication.

<u>We recommend that Heavy Ends from the Production of Glycerin from Allyl Chloride be deleted from the supplemental list</u>.

(2) <u>Inapplicability of Generic Listing</u>

The Agency has proposed to list 16 additional "Waste streams generated in the production of chlorinated organic chemicals" as hazardous. We disagree with the Agency's approach of a generic format as invalid, inappropriate, and inapplicable as an index of hazard. We do not believe the Agency has shown adequate justification for the use of generalized elemental composition or chemical structure in the determination of hazard. Such a simplistic approach will only compound the already overclassificiation of solid wastes as hazardous.

Generic listings of organic production wastes, such as chlorinated organics, brominated organics, phenols, and aromatic amines, are scientifically indefensible and are contrary to the express statutory language of the RCRA which provides for the listing of "particular" hazardous waste rather than a general or universal listing. The discussion of the proposed supplemental listing conveniently omits the adjective "particular". We assume this omission is unintentional.

We recommend that all listings be restricted to "particular" hazardous wastes.

Congress never intended to authorize generic listings of hazardous waste. Explanation of listing should relate to: "(Q)uantity, concentration, physical, chemical or infectious characteristics... and other factors...which contribute to the hazardous nature of the substance and which EPA is to consider as part of the listing process." (House Report at 25, emphasis added).

We recommend that listing be restricted to specific factors adversely affecting human health and the environment.

We consider the use of generic listing to be improper when based on criteria which have not been proposed. The Agency states that "the mere existence of a generic waste group is

not sufficient cause or justification for its inclusion on the hazardous waste list." (BD-5A), and their intent to use a criterion of "similarity of waste streams described by generic group quantitatively or qualitatively so that all individual members of the set meet the particular listing of characteristic(s) which indict the group as a whole." (BD-5A at 3-4). The Agency the proceeds to identify seven sub-criteria never subjected to rulemaking. The previous listing of Electroplating Waste Water Treatment Sludge (BD-5 at 61-2) cited as the precedent for this action, contains no mention of generic format.

We specifically request that the Agency withdraw the generic categories of hazardous waste and publish the new criterion and sub-criteria for public comment.

(3) Lack of Supporting Evidence

The use of generic listing is scientifically unfounded. The Agency has not adequately demonstrated that the chlorinated organics as a class are hazardous. The supporting evidence (BD-5A) is grossly insufficient to support generic listing.

Reaction similarity is overstated for chlorinated organics. Chlorination is a process which may involve a wide variety of chlorine sources and the attachment of the chlorine atom

in many ways resulting in chlorine being retained in the final product, recovered in a side stream, or neutralized into an inorganic salt. For example, "solution residues from the production of chlorinated polymers" often involve the aqueous (suspension) chlorination of a previously formed polymer with the final solution residue being an inorganic brine containing primarily sodium chloride rather than a mixture of chlorinated organics.

The toxicity of chlorinated organics as a class is not apparent. The toxicities of 45 compounds reported by the Agency (BD-5A, Appendix E) is a random compilation of chlorinated and non-chlorinated compounds supposedly indicted from earlier appendices. The data are a hash of different animal species subjected to different routes of exposure and evaluated by different bases of mortality.

The characteristic of toxic organic is supposedly based solely on a calculated equivalent leachate concentration as derived from acute oral mammalian toxicity to the white rat (LD50, mg/kg). We have compiled comparable values for this specific parameter for 49 listed compounds (BD-5A and Appendix E). Values ranged from 46 to 28,700 mg/kg, with both extremes for non-chlorinated compounds. Ten compounds including five chlorinated organics, are less toxic than the acetic acid proposed as a simulated extractant and excluded as non-hazardous.

There is no clear distinction between chlorinated and non-chlorinated compounds over a range of three orders of magnitude.

The aquatic toxicities as reported by the Agency ~~as~~ are incomplete and nonspecific. We have compiled values for the acute toxicity to the fathead minnow (LC50, mg/L) for 32 listed compounds (BD-5A and Appendix E). Values ranged from 28 to 1,690,000 µg/L. Nine compounds, including five chlorinated organics, were less toxic than acetic acid. There was no clear distinction between chlorinated and non-chlorinated compounds over a range of almost five orders of magnitude.

Specific composition formulations do not reveal high concentrations of toxic chlorinated organics. Only 5 of 25 wastes reported by the Agency (BD-5A, Appendix A) have ~~am~~ quantitative analyses; most of the rest are limited to the qualitative "presence" of three or less specific compounds. No criteria have been provided as to what constitutes "high" toxicity or "high" concentration. This is in direct disregard to the Congressional mandate to consider quantity, concentration, and chemical form.

Threats to human health and the environment are not proven. The Background Document does not provide an adèquate data base to support the generic listing of chlorinated organics based

on damage cases. Two of the cases cited by the Agency are attributed to a single compound in each case. The third case involved a small groups of compounds detected in groundwater at a single site with no demonstrable damage.

Only three of 143 groundwater analyses exceed the calculated equivalent leachate concentration (0.35x calculated human LD50) which is the apparent basis for listing. Only two analyses exceed the median aquatic toxicity for the respective compounds. We conclude that these limited cases are not representative but indeed are limited in scope, deficient in substance, and inconclusive for purposes of generalization.

<u>We recommend the Agency limit their attention to specific process streams which actually generate a significantly hazardous waste</u>.

(4) <u>Classification of Wastes by Degree of Hazard and Facilities by Degree of Control</u>

The Agency has correctly identified degree of hazard as a major issue. We have repeatedly indicated in our comments on Section 3001, in our special supplement on degree of hazard, and in the subsequent addendum submitted to the Agency at their specific request, that RCRA requires consideration of degree of hazard. Both the legislative history and the statutory language of RCRA indicate that hazard is a function of both

varying effect and varying exposure. Effects are dependent upon the nature of individual wastes; exposures are dependent upon the nature of individual wastes and upon the method of control and the specific site of disposal. Attempts to classify facilities without classifying wastes are an incomplete response. The use of a generic format would negate any degree of hazard classification by incorrectly assuming that all wastes of generalized elemental composition or chemical structure have the same effect upon exposure. This assumption is clearly and scientifically incorrect. Generic listing is fundamentally incompatible with the requirement of listing by degree of hazard. The use of a generic format is a regressive approach which will result in a waste being denoted as "hazardous" through guilt by association, rather than as a function of specific properties.

<u>We recommend that classification of wastes be based on degree of hazard and that classification of facilities be based on degree of control</u>.