Innovative Legal Response to Water Contamination: Shifting Treatment Costs From Ratepayers to Manufacturers

Richard W. Head

ENVIRONMENTAL LAW GROUP

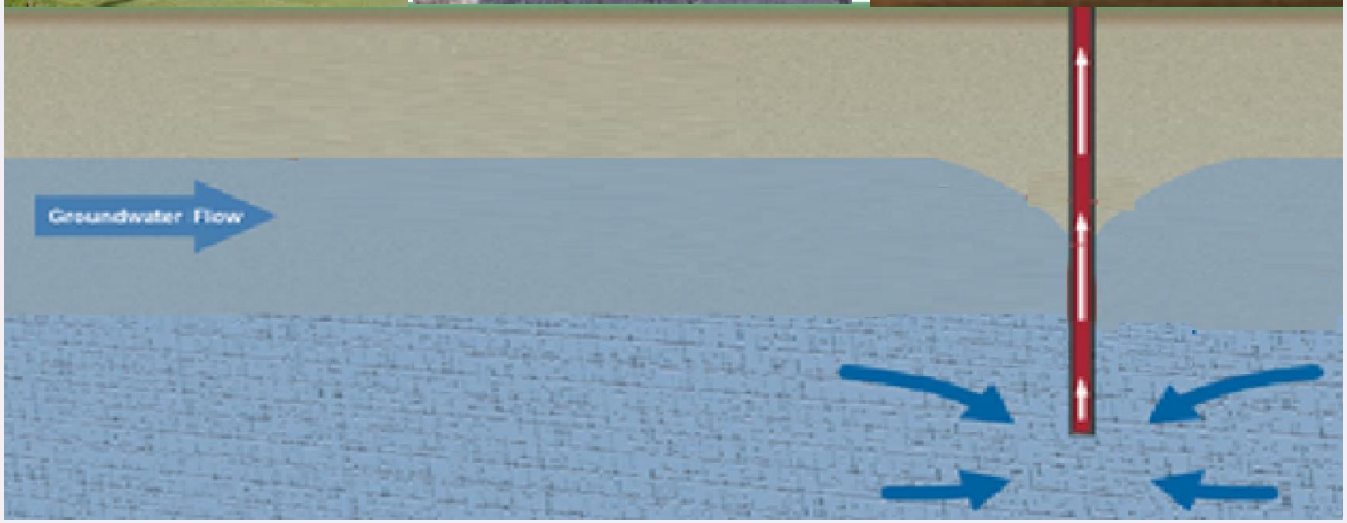
Water Systems Are In The News


Cost of most drinking water pollution borne by consumers
How tap water became
Michigan
Residents concerend about contaminated drinking water
Local water contami
Military to check
contamination
ged for contamination
AP-GfK Poll: About half of Americans
Oregon
Near North

DOW

MONSANTO

EXXON



Conventional Response to Contamination When MCL is Exceeded

- Cost recovery may be considered against end user (spiller), but:
  - Hard to identify actual source;
  - Multiple sources;
  - Ubiquitous contamination;
  - Lack of insurance or financially judgment proof.
- Water systems and consumers, therefore, frequently end up paying the cost.

Relative Profit and Knowledge

Profits and Resources

Manufacturer

Knowledge of Risk

Conventional Response to Contamination When MCL is Exceeded

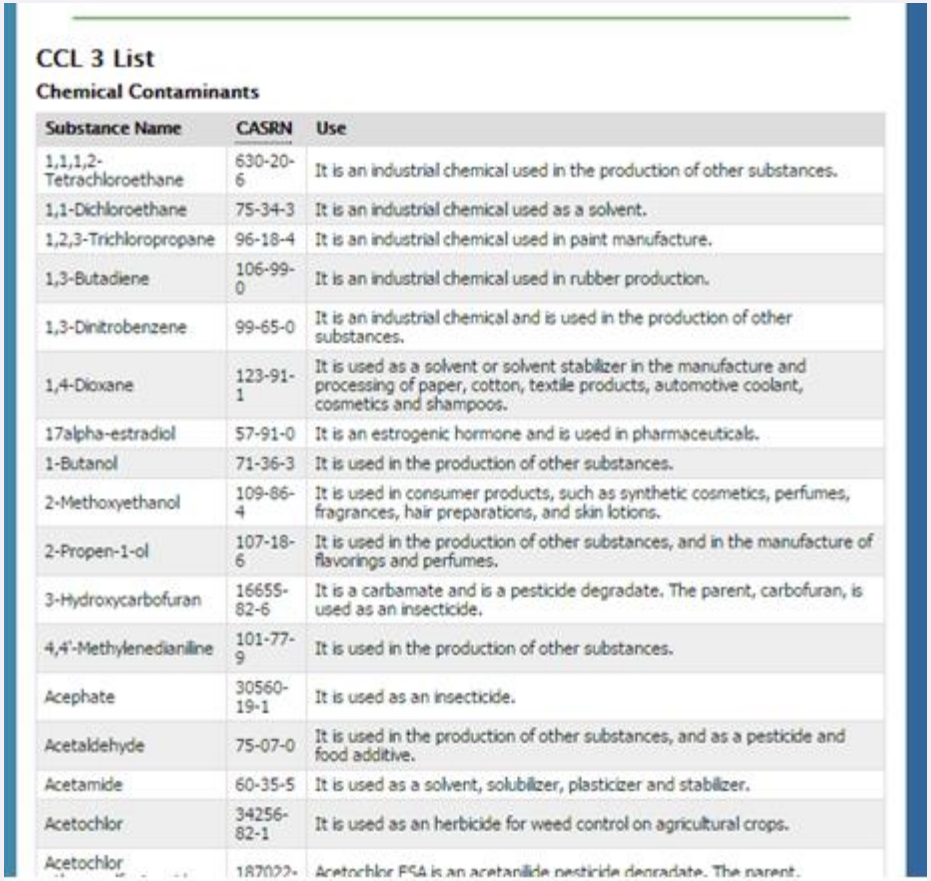
- Dilution is the solution to pollution.
  - Results in regulatory compliance.
  - Relatively low cost.
  - Potentially negative results:
    - loss of property;
    - loss of capacity;
    - public distrust.

Conventional Response to Contamination When MCL is Exceeded

- Treatment or New Well Construction.
  - Relatively high cost.
  - Sometimes partial grant funding available, but limited and does not typically cover O&M.
  - Suitable alternative well location hard to identify.
  - New well results in loss of property.

Below MCL ≠ Safe

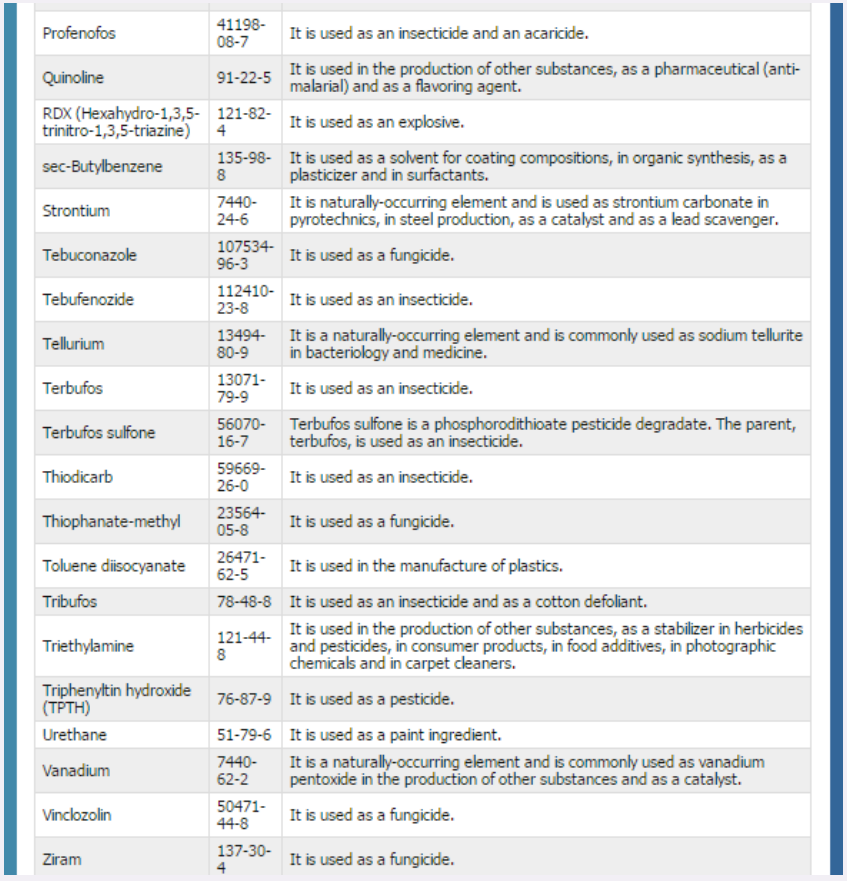
Regulators cannot maintain pace with new chemicals of concern, but health risks known.



CCL 3 List

Chemical Contaminants

Substance Name	CASRN	Use
1,1,1,2-Tetrachloroethane	630-20-6	It is an industrial chemical used in the production of other substances.
1,1-Dichloroethane	75-34-3	It is an industrial chemical used as a solvent.
1,2,3-Trichloropropane	96-18-4	It is an industrial chemical used in paint manufacture.
1,3-Butadiene	106-99-0	It is an industrial chemical used in rubber production.
1,3-Dinitrobenzene	99-65-0	It is an industrial chemical and is used in the production of other substances.
1,4-Dioxane	123-91-1	It is used as a solvent or solvent stabilizer in the manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.
17alpha-estradiol	57-91-0	It is an estrogenic hormone and is used in pharmaceuticals.
1-Butanol	71-36-3	It is used in the production of other substances.
2-Methoxyethanol	109-86-4	It is used in consumer products, such as synthetic cosmetics, perfumes, fragrances, hair preparations, and skin lotions.
2-Propen-1-ol	107-18-6	It is used in the production of other substances, and in the manufacture of flavorings and perfumes.
3-Hydroxycarbofuran	16655-82-6	It is a carbamate and is a pesticide degradate. The parent, carbofuran, is used as an insecticide.
4,4'-Methylenedianiline	101-77-9	It is used in the production of other substances.
Acephate	30560-19-1	It is used as an insecticide.
Acetaldehyde	75-07-0	It is used in the production of other substances, and as a pesticide and food additive.
Acetamide	60-35-5	It is used as a solvent, solubilizer, plasticizer and stabilizer.
Acetochlor	34256-82-1	It is used as an herbicide for weed control on agricultural crops.
Acetochlor	187022-	Acetochlor ESA is an acetanilide pesticide degradate. The parent,



Profenofos	41198-08-7	It is used as an insecticide and an acaricide.
Quinoline	91-22-5	It is used in the production of other substances, as a pharmaceutical (anti-malarial) and as a flavoring agent.
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	121-82-4	It is used as an explosive.
sec-Butylbenzene	135-98-8	It is used as a solvent for coating compositions, in organic synthesis, as a plasticizer and in surfactants.
Strontium	7440-24-6	It is naturally-occurring element and is used as strontium carbonate in pyrotechnics, in steel production, as a catalyst and as a lead scavenger.
Tebuconazole	107534-96-3	It is used as a fungicide.
Tebufenozide	112410-23-8	It is used as an insecticide.
Tellurium	13494-80-9	It is a naturally-occurring element and is commonly used as sodium tellurite in bacteriology and medicine.
Terbufos	13071-79-9	It is used as an insecticide.
Terbufos sulfone	56070-16-7	Terbufos sulfone is a phosphorodithioate pesticide degradate. The parent, terbufos, is used as an insecticide.
Thiodicarb	59669-26-0	It is used as an insecticide.
Thiophanate-methyl	23564-05-8	It is used as a fungicide.
Toluene diisocyanate	26471-62-5	It is used in the manufacture of plastics.
Tribufos	78-48-8	It is used as an insecticide and as a cotton defoliant.
Triethylamine	121-44-8	It is used in the production of other substances, as a stabilizer in herbicides and pesticides, in consumer products, in food additives, in photographic chemicals and in carpet cleaners.
Triphenyltin hydroxide (TPTH)	76-87-9	It is used as a pesticide.
Urethane	51-79-6	It is used as a paint ingredient.
Vanadium	7440-62-2	It is a naturally-occurring element and is commonly used as vanadium pentoxide in the production of other substances and as a catalyst.
Vinclozolin	50471-44-8	It is used as a fungicide.
Ziram	137-30-4	It is used as a fungicide.

Below MCL ≠ Safe

- Regulators have limited jurisdiction and often depend on an MCL to take action.
- Water suppliers have broader authority.
  - Water suppliers have property interest.
  - Negligence
  - Nuisance
  - Products liability

Benefits of Innovative Legal Approach

- Manufacturer has greatest knowledge of risks of chemical.
- Costs are passed on to polluter, not end user.
- Unregulated chemicals can fall within this approach.
- Ahead of the game when MCL is established.
- Water supply too valuable to surrender to contamination.

Benefits of Innovative Legal Approach

- Goals of Litigation against Manufacturers:
  - Recover Costs Of Treatment or Replacement Water.
  - Capital Costs.
  - O&M – *As Long As It Takes!*
  - Ensure That Polluters Pay, Not Ratepayers.

Benefits of Innovative Legal Approach

- Examples of Damage Claims
  - Damages to water suppliers' property interest.
  - Treatment costs and O&M for as long as the contamination persists.
  - Additional costs due to loss of capacity.
  - Cost of new wells, including costs of investigation and exploration of alternative sites.
  - Cost to extend water lines to properties contaminated with chemical.

Innovative Legal Response
What Goes Into The Analysis?

- **What is the contaminant?**
  - Does it come from a manufactured product? (*e.g.*, gasoline, fertilizer)
  - Does it come from human activities? (e.*g.*, production of coal or gas)
  - Are there natural and man-made sources? (*e.g.* perchlorate)
  - Are there multiple uses of chemical? (*e.g.* industrial and agricultural TCP)

Innovative Legal Response
What Goes Into The Analysis?

- **Why is this contaminant bad?**
  - What, if any, are the environmental risks?
  - Is the chemical harder to treat than the alternatives?
  - What, if any, are the human health risks?
  - How long does this contaminant persist?
  - How long have these risks been known?
  - What were the alternatives to the chemical?

Innovative Legal Response
What Goes Into The Analysis?

- **Are there regulations?**
  - Are there any regulations governing the acceptable limit of this contaminant in the environment?
  - But remember: An MCL or other regulatory standard is not required.

Innovative Legal Response
What Goes Into The Analysis?

- **Not all contaminants fall within this model.**
  - But this model should be incorporated into standard response analysis.
  - All responsible parties should be considered, including the chemical manufacturer.
  - If cost recovery against manufacturer is not considered, have you done all you can to protect consumers?

Who Should Pay For Pollution?

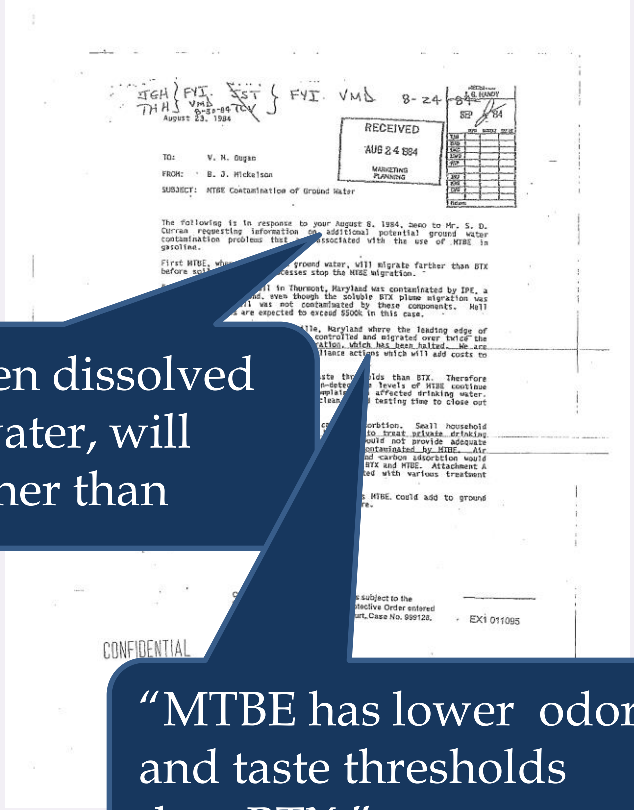
As one court stated, "The burden of illness from dangerous products . . . should be placed upon those who profit from its production . . . . That burden should not be imposed exclusively on the innocent victim."

Brooks v. Beech Aircraft Corp., 902 P.2d 54, 58 (NM 1995)

4. Case Studies

Petroleum Chemicals

MTBE: Exxon, 1984

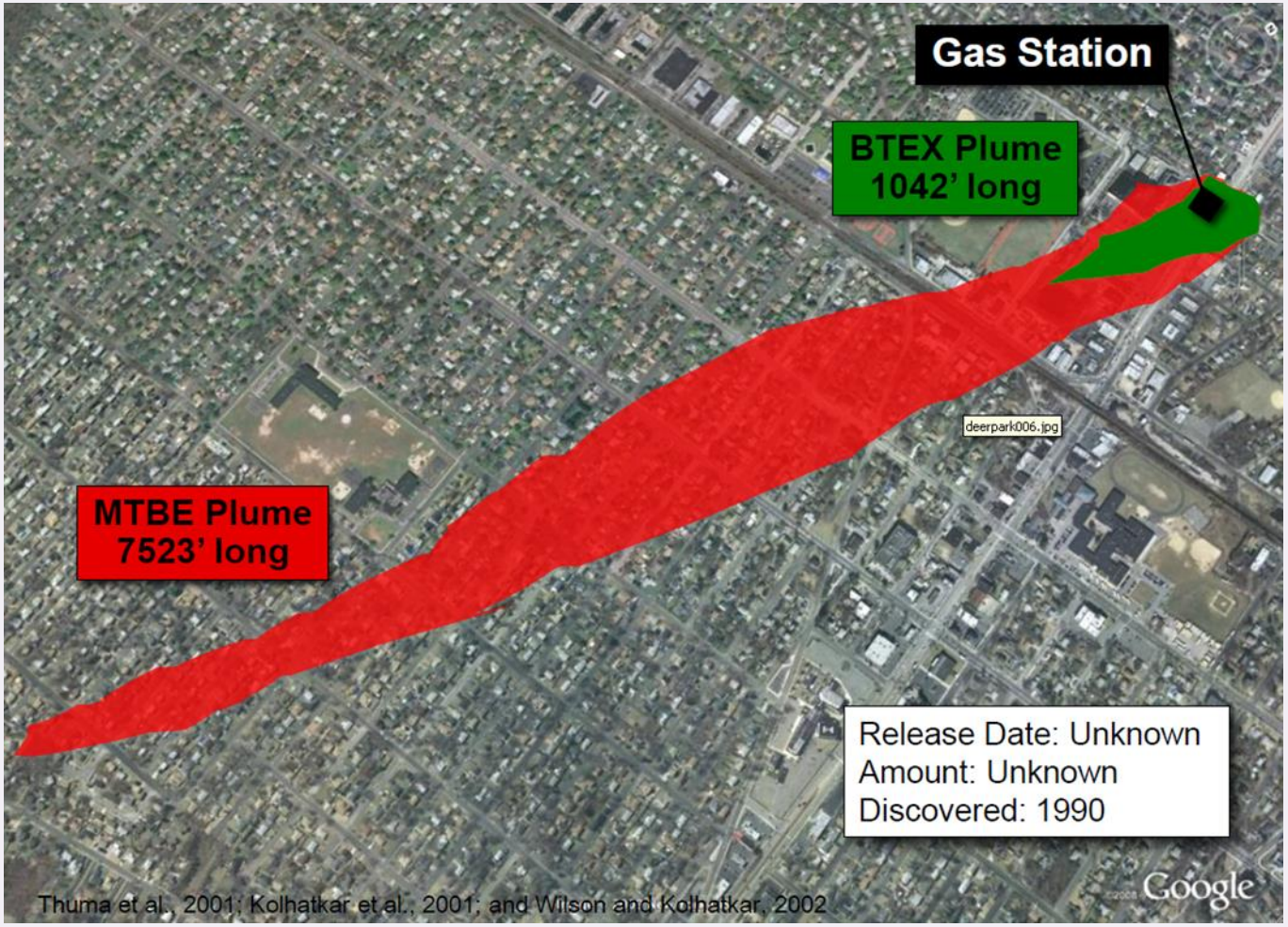


"MTBE, when dissolved in ground water, will migrate farther than BTX."

"MTBE has lower odor and taste thresholds than BTX."

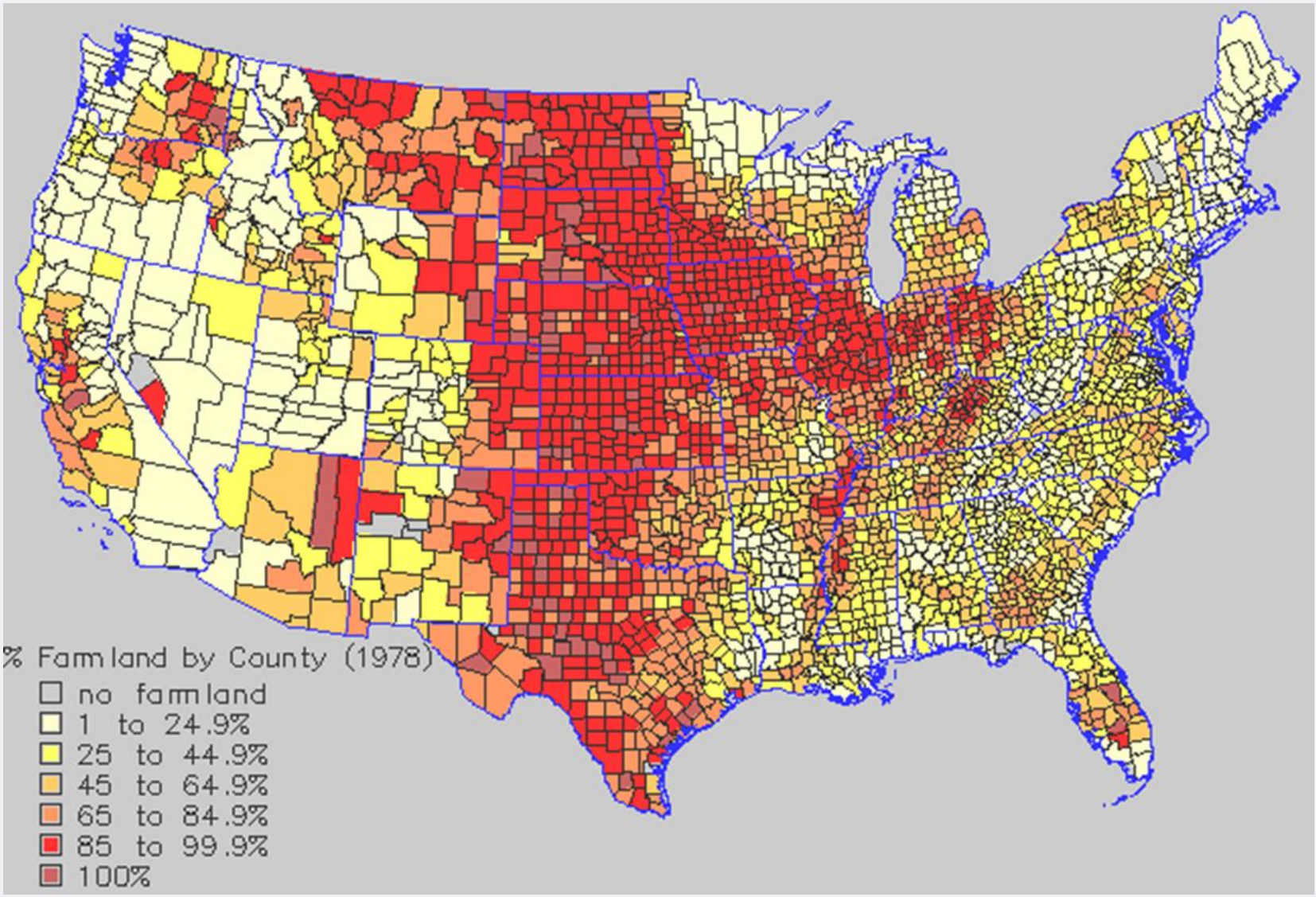
"The number of well contamination incidents is estimated to increase three times following the widespread introduction of MTBE into Exxon gasoline."

MTBE – TRAVELS FASTER AND FURTHER

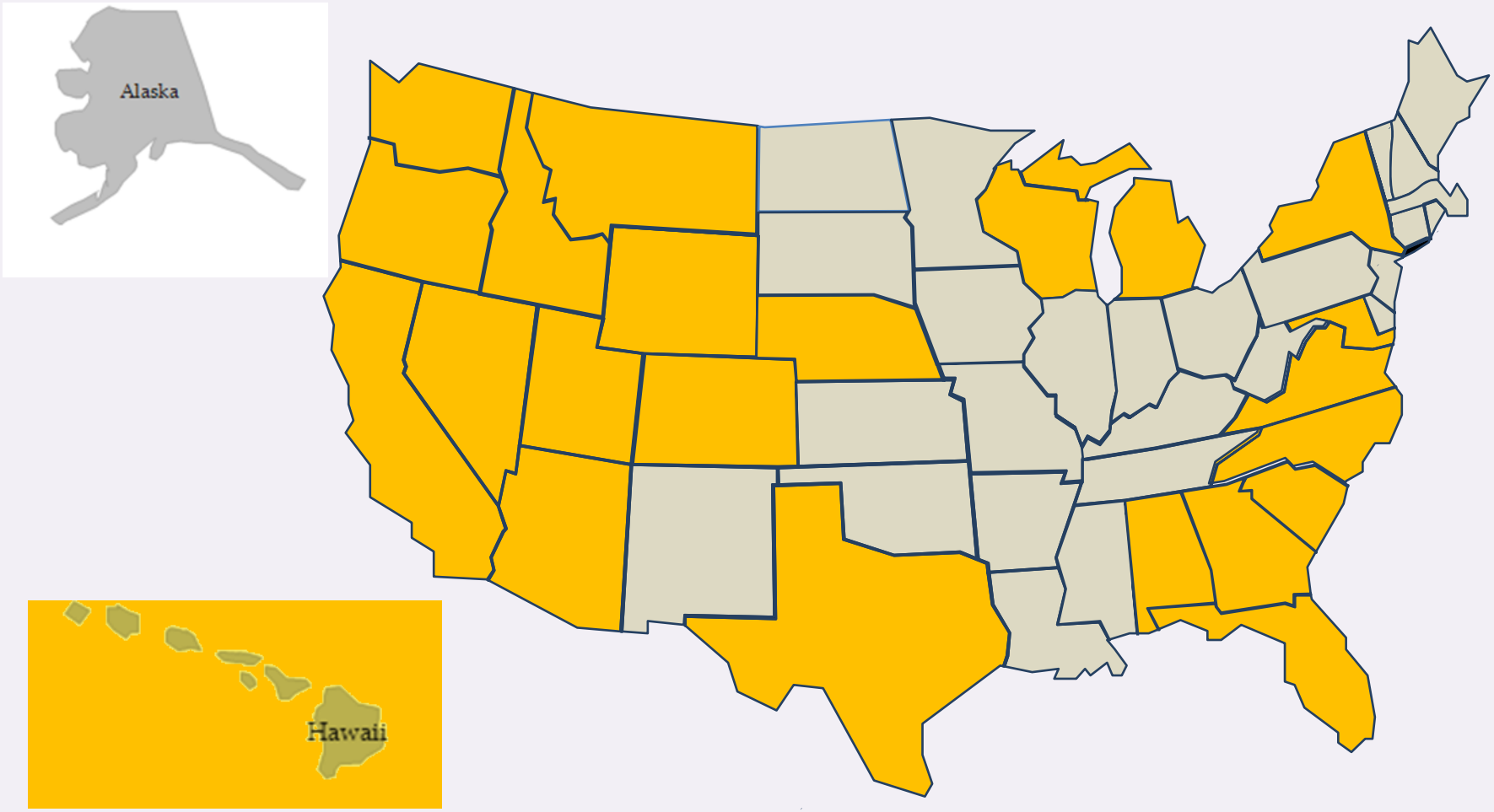


Agricultural Chemicals

US FAMRLAND

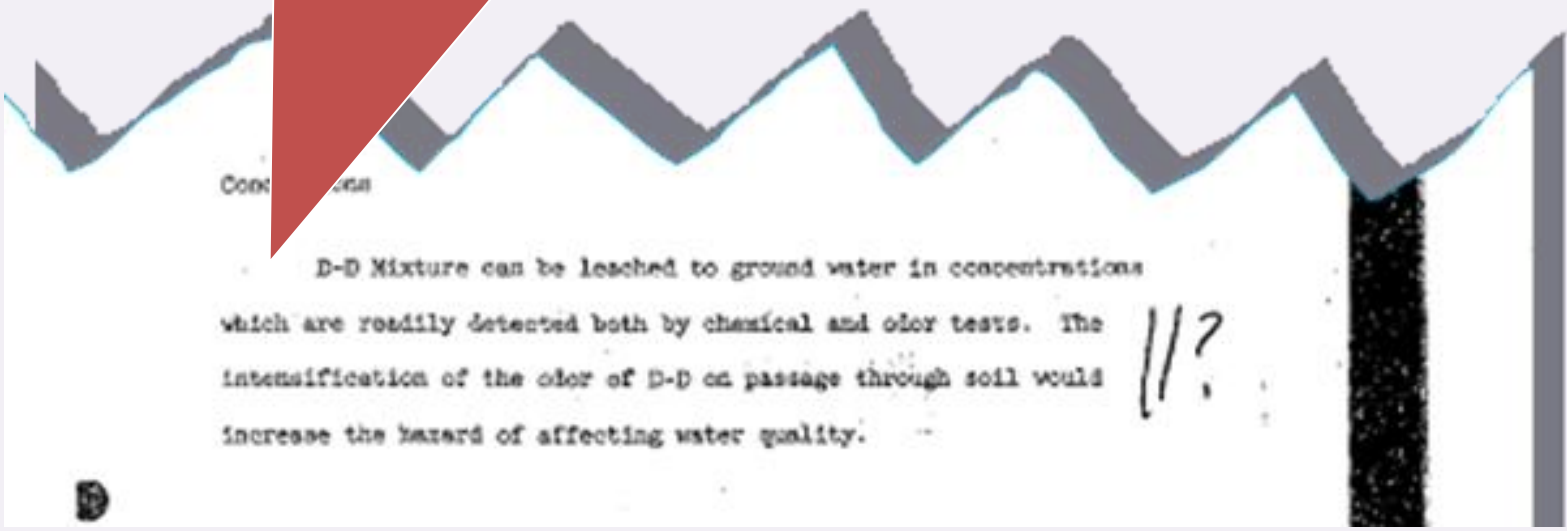

% Farmland by County (1978)
no farmland
1 to 24.9%
25 to 44.9%
45 to 64.9%
65 to 84.9%
85 to 99.9%
100%

POTENTIAL TCP CONTAMINATION



TCP: Shell, 1962

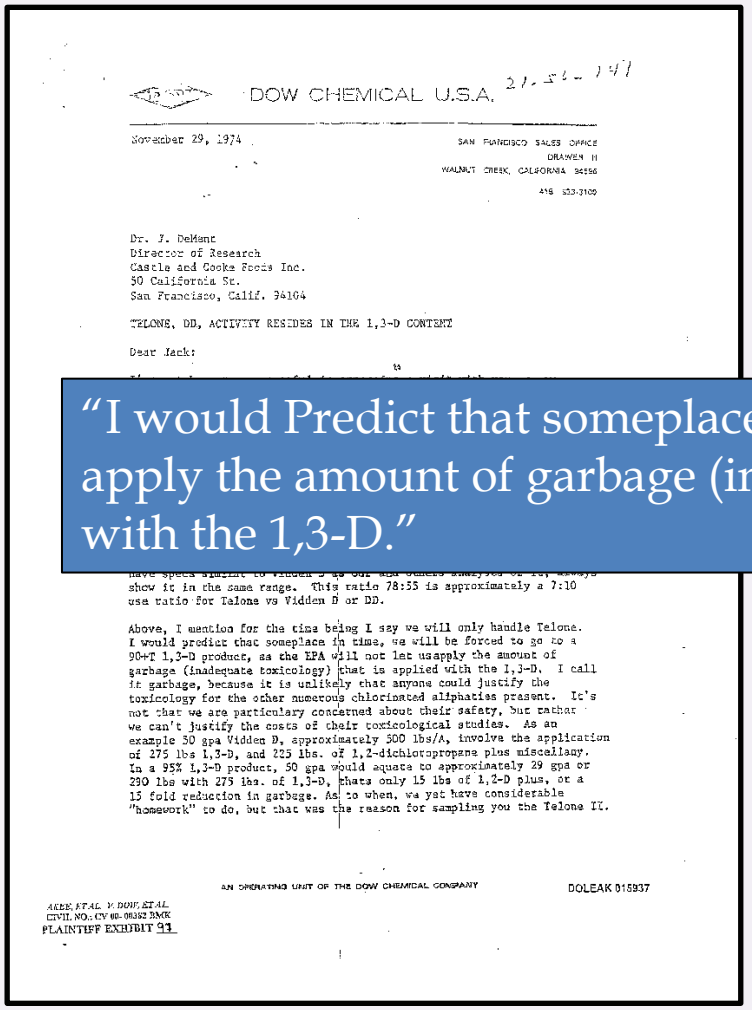
"D-D Mixture can be leached to ground water in concentrations which are readily detected both by chemical and odor tests."



D-D Mixture can be leached to ground water in concentrations which are readily detected both by chemical and odor tests. The intensification of the odor of D-D on passage through soil would increase the hazard of affecting water quality.

!!?

Dow Chemical: 1974



DOW CHEMICAL U.S.A.

November 29, 1974

SAN FRANCISCO SALES OFFICE
DRAWER H
WALNUT CREEK, CALIFORNIA 94596
415 933-7100

Dr. J. DeHaut
Director of Research
Castle and Cooke Foods Inc.
50 California St.
San Francisco, Calif. 94104

TELONE, DD, ACTIVITY RESIDES IN THE 1,3-D CONTENT

Dear Jack:

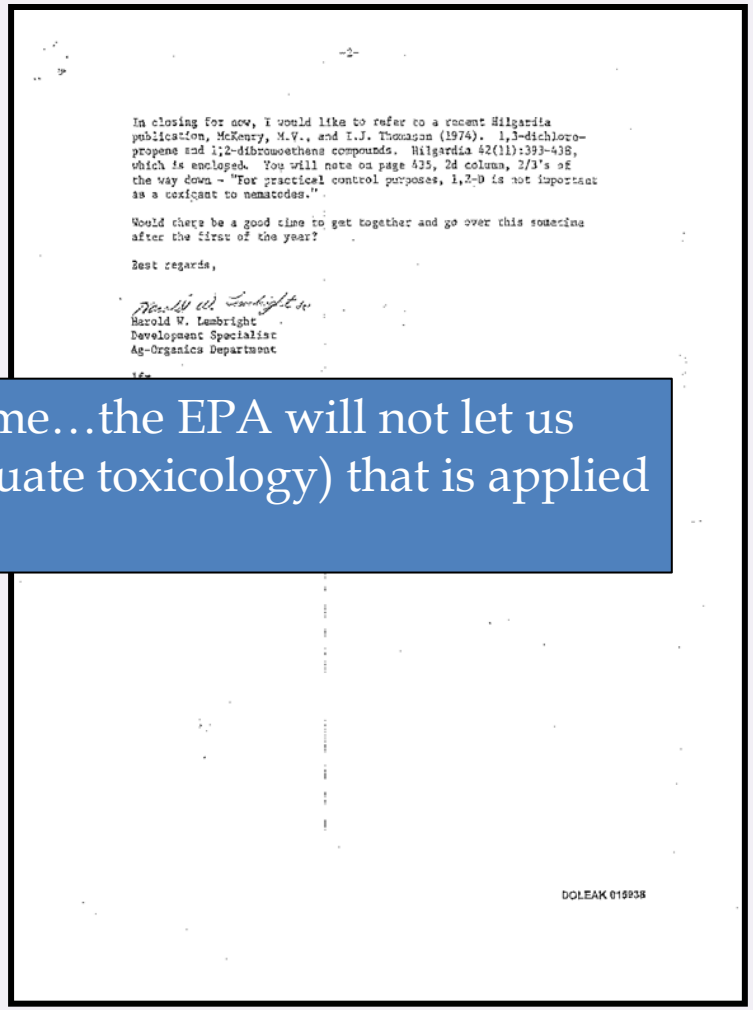
show it in the same range. This ratio 78:55 is approximately a 7:10 use ratio for Telone vs Vidden D or DD.

Above, I mention for the time being I say we will only handle Telone. I would predict that someplace in time, we will be forced to go to a 90+T 1,3-D product, as the EPA will not let us apply the amount of garbage (inadequate toxicology) that is applied with the 1,3-D. I call it garbage, because it is unlikely that anyone could justify the toxicology for the other numerous chlorinated aliphatics present. It's not that we are particulary concerned about their safety, but rather we can't justify the costs of their toxicological studies. As an example 50 gpa Vidden D, approximately 500 lbs/A, involve the application of 275 lbs 1,3-D, and 225 lbs. of 1,2-dichloropropane plus miscellany. In a 95% 1,3-D product, 50 gpa would equate to approximately 29 gpa or 290 lbs with 275 lbs. of 1,3-D, thats only 15 lbs of 1,2-D plus, or a 15 fold reduction in garbage. As to when, we yet have considerable "homework" to do, but that was the reason for sampling you the Telone II.

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

DOLEAK 015937

AKEE, ET AL. V. DOW, ET AL.
CIVIL NO.: CV 00-00382 BMK
PLAINTIFF EXHIBIT 93



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In closing for now, I would like to refer to a recent Hilgardia publication, McKenry, M.V., and I.J. Thomason (1974). 1,3-dichloropropene and 1,2-dibromoethane compounds. Hilgardia 42(11):393-438, which is enclosed. You will note on page 435, 2d column, 2/3's of the way down - "For practical control purposes, 1,2-D is not important as a toxicant to nematodes."

Would there be a good time to get together and go over this sometime after the first of the year?

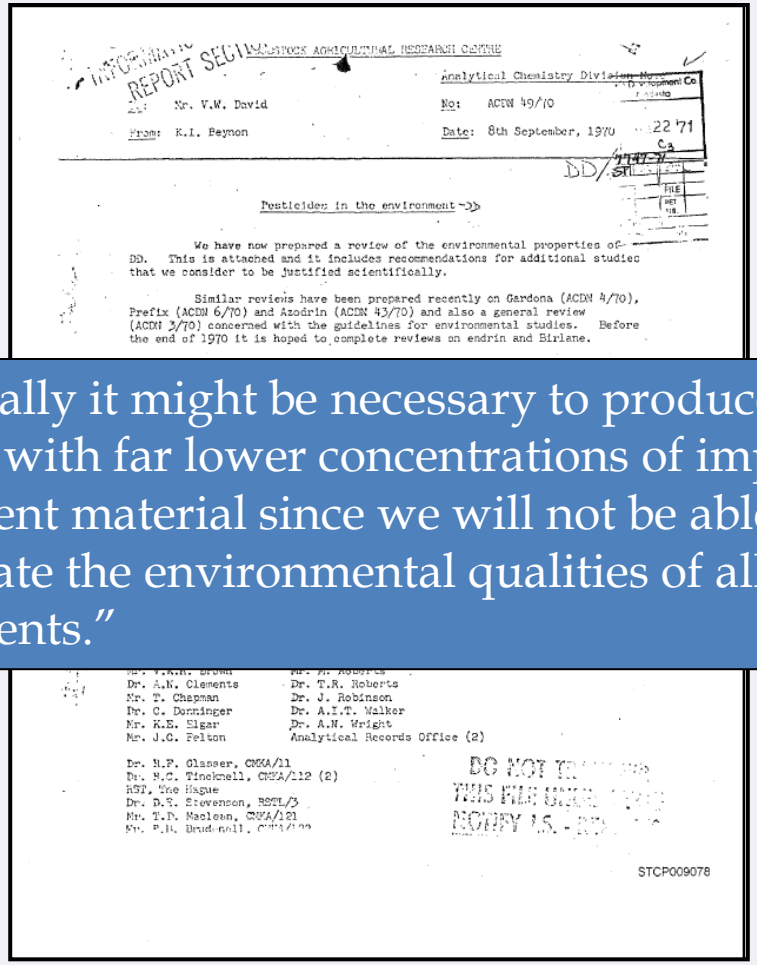
Best regards,

Harold W. Lambright
Development Specialist
Ag-Organics Department

DOLEAK 015938

"I would Predict that someplace in time…the EPA will not let us apply the amount of garbage (inadequate toxicology) that is applied with the 1,3-D."

Shell Research: 1970



Analytical Chemistry Division

Mr. V.W. David

No: ACDN 49/70

From: K.I. Beynon

Date: 8th September, 1970

Pesticides in the environment

We have now prepared a review of the environmental properties of DD. This is attached and it includes recommendations for additional studies that we consider to be justified scientifically.

Similar reviews have been prepared recently on Gardona (ACDN 4/70), Prefix (ACDN 6/70) and Azodrin (ACDN 43/70) and also a general review (ACDN 3/70) concerned with the guidelines for environmental studies. Before the end of 1970 it is hoped to complete reviews on endrin and Birlane.

Dr. A.N. Clements
Mr. T. Chapman
Dr. C. Donninger
Mr. K.E. Elgar
Mr. J.C. Felton
Dr. T.R. Roberts
Dr. J. Robinson
Dr. A.I.T. Walker
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Dr. N.C. Tinsknell, CMKA/112 (2)
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Dr. D.S. Stevenson, BSCL/3
Mr. T.D. Maclean, CMKA/121

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STCP009078

"Eventually it might be necessary to produce a cleaner product with far lower concentrations of impurities than the present material since we will not be able to investigate the environmental qualities of all the current components."

5. Common Myths

Common Myths

- Litigation is too expensive.
- Manufacturers did not spill the chemical and therefore can't be sued.
- You cannot sue until there is a regulatory standard.
- Health risks must be known.
- The cost of pollution needs to be absorbed by water system.

Thank You

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