

Firm	Refund received as of Mar. 13, 1980	Amount due to make refund equal to 90.202 percent of consent order refund amount
Thermco, Inc., P.O. Box 976, Tacoma, WA 98401	1,141	570
Total refunds due (exclusive of interest)		21,200
Reinhard Oil, 5322 Dallas Hwy., Salem, OR 97304	31	*7

\* Principal below \$15 minimum, but with interest will reach \$15 threshold.

\* Reinhard Oil's potential refund falls below the \$15 minimum, even with interest included. Therefore, it will not receive a refund in this proceeding.

#### Appendix B—Harris Enterprises, Inc., Firms We Are Unable To Locate

Applegate Dairy  
Kenneth Bolton  
Ed Krskinc/Frank Harding & Sun  
Haley's Heating Oils  
Bazar, Inc.  
Earl Moore  
Defiance Oil Company

#### Appendix C—Harris Enterprises, Inc., Wholesale Customers Who Received At Least 90.202 percent Of Refund Due Under Consent Order

J.R. Bales\*  
Mike Heidt\*  
John Jersey & Son\*  
Jack Gross\*  
Powell Distributing Co., P.O. Box 17194,  
Kenton Station, Portland, OR 97200  
L&M Transportation, Box 519, Winston,  
OR  
Fletcher Oil Company, 606 Alexander  
Street, Tacoma, WA 98421  
Gull Oil, 3404 Fourth Avenue South,  
Seattle, WA 98124  
Champion Petroleum, 9125 N. Burrage,  
Portland, OR 97217

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BILLING CODE 6450-0-M

#### ENVIRONMENTAL PROTECTION AGENCY

[OPTS-42053A TSH-FRI 2684-3]

#### Alkyl Epoxides; Decision Not To Test

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

**SUMMARY:** EPA is terminating its rulemaking proceeding under section 4(a) of the Toxic Substances Control Act (TSCA) to require testing for certain alkyl epoxides. EPA's analysis of data now available indicates that few people

\* Firms which we were unable to locate.

are exposed to these chemicals, exposure levels are low, and only small amounts of these chemicals are released to the environment. Existing information on health effects does not suggest an unreasonable risk at expected exposure levels.

**FOR FURTHER INFORMATION CONTACT:** Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-543, 401 M St., SW., Washington, D.C. 20460. Toll free: (800-424-9065). In Washington, D.C.: (554-1404). Outside the USA: (Operator-202-554-1404).

**SUPPLEMENTARY INFORMATION:** EPA is not proceeding with its rulemaking under section 4(a) of TSCA to require health effects or chemical fate testing of certain alkyl epoxides.

#### I. Background

##### A. ITC Recommendations and ANPR

Section 4(e) of TSCA (Pub. L. 94-469, 90 Stat. 2003 *et seq.*; 15 U.S.C. 2601 *et seq.*) established the Interagency Testing Committee (ITC) to recommend to EPA a list of chemicals to receive priority consideration for testing under section 4(a) of TSCA.

The ITC transmitted its First Report to the Administrator of EPA, as published in the Federal Register of October 12, 1977 (42 FR 55026), and designated the category "alkyl epoxides" for priority testing consideration for mutagenicity, carcinogenicity, teratogenicity, other chronic effects (with emphasis on organ effects and behavioral changes), and environmental fate. Epidemiological studies were also recommended for priority consideration for two or three of the highest exposure compounds, if suitable cohorts could be identified.

In response to the ITC, EPA published notices in the Federal Register of January 3, 1984 (49 FR 200) for ethylene oxide (49 FR 430) and January 4, 1984 for propylene oxide (49 FR 503). The remaining category members were addressed in an Advance Notice of Proposed Rulemaking (ANPR) published in the Federal Register of January 4, 1984 (409 FR 449). The ANPR solicited additional information on the production, use, exposure, and release of these chemicals, as well as health and environmental effects data not previously submitted to EPA. Several approaches to testing these chemicals were also raised for public comment.

In evaluating the ITC's testing recommendations for members of the alkyl epoxides category, EPA considered all relevant information including the following: information presented in the ITC's report

recommending testing consideration. TSCA section 8(d) submissions, comments and information received in response to the ANPR, additional information provided by a manufacturers and processors, and published and unpublished data available to the Agency.

#### B. Category Members

The ITC defined the alkyl epoxides category as noncyclic aliphatic hydrocarbons bearing one or more epoxide functional groups.

EPA has identified from the nonconfidential (public) TSCA Chemical Substances Inventory six short-chain (up to four carbon atoms) alkyl epoxides and eight longer-chain (greater than nine carbon atoms) alkyl epoxides that fit the alkyl epoxides chemical category definition. No additional alkyl epoxides are listed in the confidential portion of the Inventory. Of the short-chain compounds, three have been addressed in separate Federal Register documents: ethylene oxide (49 FR 200), propylene oxide (49 FR 430), and 1,2-butylene oxide (49 FR 503). This notice addresses the remaining three short-chain compounds and eight long-chain substances shown in the following Table 1.

TABLE 1.—ALKYL EPOXIDES ADDRESSED IN THIS NOTICE

Chemical	CAS No.
<b>Short-chain</b>	
2,3-Epoxybutane	(CAS No. 3286-23-7)
Isobutylene oxide	(CAS No. 558-30-5)
1,2,3,4-Diepoxybutane	(CAS No. 1464-53-5)
<b>Long-chain</b>	
1,2-Epoxydecane	(CAS No. 2404-44-6)
1,2-Epoxydodecane	(CAS No. 2855-19-9)
1,2-Epoxytetradecane	(CAS No. 3234-29-4)
1,2-Epoxyhexadecane	(CAS No. 18633-25-5)
1,2-Epoxyoctadecane	(CAS No. 7320-37-8)
1,2-Epoxyheptadecane	(CAS No. 22092-38-2)
1,2-Epoxyoctadecane	(CAS No. 7390-81-0)
1,2-Epoxyundecane	(CAS No. 57860-04-2)

Any other alkyl epoxides would be subject to premanufacture notification and EPA review under TSCA section 5 prior to their being manufactured or imported for purposes subject to TSCA jurisdiction.

#### C. Public Comments

Any agency received comments on the ANPR from two sources: Viking Chemical Co. and Union Carbide Corp., both manufacturers of long-chain alkyl epoxides. Viking's comments were submitted as Confidential Business Information (CBI) and contained information on production volumes, workplace and consumer exposure, and reasons why additional testing was not warranted. Union Carbide,

manufacturer of 1, 2-epoxyhexadecane, submitted recent results of Ames assays and a Sister Chromatid Exchange test, and updated production data (CBI) (Ref. 1; non-CBI version). Union Carbide stressed that the number of persons involved in the manufacture of 1,2-epoxyhexadecane is small and that the physical properties of the chemical (high boiling point of 315° C) and the personal protection employed would substantially limit exposure. It also stated that existing toxicity data and the low production volume of these chemicals did not justify additional testing of the long-chain alkyl epoxides.

#### D. Regulatory Development

Under section 4(a)(1) of TSCA, EPA shall by rule require testing of a chemical substance to develop appropriate test data if the Agency finds that:

(1)(A)(i) the manufacture, distribution in commerce, processing, use, or disposal of a chemical substance or mixture, or that any combination of such activities, may present an unreasonable risk of injury to health or the environment,

(ii) there are insufficient data and experience upon which the effects of such manufacture, distribution in commerce, processing, use, or disposal of such substance or mixture or of any combination of such activities on health or the environment can reasonably be determined or predicted, and

(iii) testing of such substance or mixture with respect to such effects is necessary to develop such data; or

(B)(i) a chemical substance or mixture is or will be produced in substantial quantities, and (I) it enters or may reasonably be anticipated to enter the environment in substantial quantities or (II) there is or may be significant or substantial human exposure to such substance or mixture,

(ii) there are insufficient data and experience upon which the effects of the manufacture, distribution in commerce, processing, use, or disposal of such substance or mixture or of any combination of such activities on health or the environment can reasonably be determined or predicted, and

(iii) testing of such substance or mixture with respect to such effects is necessary to develop such data.

EPA uses a weight-of-evidence approach in which both exposure and toxicity information are considered in making a section 4(a)(1)(A)(i) finding that the chemical may present an unreasonable risk. For the section 4(a)(1)(B)(i) finding, EPA considers only production, exposure, and release information to determine whether there is substantial production, and significant or substantial exposure, or substantial release. Thus, while EPA can require testing for an effect under section 4(a)(1)(A) only if there is a suspicion of a hazard, under section 4(a)(1)(B) EPA can

require testing whether or not there are data suggesting adverse effects if the relevant production and exposure or release criteria are met.

For the findings under both section 4(a)(1)(A)(ii) and (B)(ii), EPA examines toxicity and fate studies to determine whether existing information is adequate to reasonably determine or predict the effects of human exposure to, or environmental release of, the chemical. In making the third finding, that testing is necessary, EPA considers whether ongoing testing will satisfy the information needs for the chemical and whether testing which the Agency might require would be capable of developing the necessary information. EPA's process for determining when these findings can be made is described in detail in EPA's first and second proposed test rules as published in the Federal Register of July 18, 1980 (45 FR 48528) and June 5, 1981 (46 FR 30300). The section 4(a)(1)(A) finding is discussed at 45 FR 48528, and the section 4(a)(1)(B) finding is discussed at 46 FR 30300.

## II. Review of Available Data

### A. Human Exposure and Environmental Release

The short-chain alkyl epoxides are produced or imported in small volumes (Ref. 2). Isobutylene oxide is produced infrequently on a custom basis by Chemical Samples Co., Inc., Arco Chemical Co. and Research Organic/Inorganic Chemical Co. for use as a research reagent. 2,3-Epoxybutane is produced in volumes less than 100 lb/yr by International Flavors and Fragrances, Inc. for use as a captive intermediate for the production of flavors and fragrances. Columbia Organic Chemicals Co. imports less than 10 lb/yr. of 1,2,3,4-diepoxybutane for use as a research chemical. The production information for the three short-chain alkyl epoxides suggests very little, if any, human exposure or environmental release and does not support a finding of significant or substantial exposure to these chemicals.

All the long-chain alkyl epoxides are produced by Viking Chemical Co. In addition, Union Carbide produces 1,2-epoxyhexadecane, which is the highest volume chemical of the long-chain alkyl epoxides. Production volumes for long-chain alkyl epoxides were submitted as CBI. The Agency concludes from these submissions that the production volumes are not substantial. In general, they are speciality chemicals, several being produced on a custom basis, having limited use primarily as reactive intermediates. Non-CBI submissions

obtained from processors described uses such as additives for printing inks for plastics, petroleum additives to prevent hazing in finished products, intermediates for surfactants for speciality chemical blends, and use as experimental chemicals in product development (Ref. 3). The highest amount of residual epoxide reported in a finished product was 2-percent, in a petroleum additive. However, for these additives, concentrations are further reduced by secondary processors producing final products with epoxide concentrations less than 1-percent. In addition, these products appear to be used primarily in industrial equipment such as hydraulic devices that operate as closed systems. The hydraulic fluids are recycled until they can no longer be reconditioned and are then burned as a fuel supplement (Ref. 4). No nonindustrial consumer populations were identified. In the manufacturing and processing of long-chain alkyl epoxides, potential exposure to the pure chemical occurs during loading of the reactor or mixing vessel. Voluntary use of protective clothing and equipment design minimize the potential for exposure. From information supplied to the Agency, EPA estimates that fewer than 100 persons are exposed to all the long-chain alkyl epoxides in the manufacturing and processing of these chemicals.

Information submitted as CBI by the manufacturers and some processors leads the Agency to conclude that environmental releases of long-chain alkyl epoxides are not substantial. Non-CBI submissions by processors (Ref. 3) indicate that minor discharges may occur in equipment cleanup procedures. Several processors indicate such releases to be 1 lb/yr or less. In some cases, waste includes an organic phase, which is typically burned or processed by a waste disposal contractor.

### B. Health Effects

Discussions of the toxicity data for high-production short-chain alkyl epoxides appear in separate Federal Register notices on ethylene oxide (49 FR 200), propylene oxide (49 FR 430), and 1,2-butylene oxide (49 FR 503). The following health effects have been reported for one or more of these three compounds: carcinogenicity, mutagenicity, neurotoxicity, and reproductive toxicity.

EPA has conducted an evaluation of published and unpublished literature for the chemicals discussed in this notice. No toxicity data were found for 2,3-epoxybutane. Acute toxicity studies, using Department of Transportation test

protocols, determined that isobutylene oxide was caustic in an eye irritation study (rabbit), negative in a dermal irritation study (rabbit), and classified "nontoxic" (dose: 500 mg/kg) in an acute oral toxicity study (rat) (Ref. 5).

Isobutylene oxide was not mutagenic in Ames strains TA98, TA100, and TA1537, with or without activation (Ref. 5), but DNA damage was observed at several dose levels in an Alkaline Elution Assay using Chinese hamster lung fibroblast (V-79) cells (Ref. 5).

Information on 1,2,3,4-diepoxybutane shows acute toxicity with an inhalation LC<sub>50</sub> (rats) of 90 ppm for a 4-hour exposure, an oral LD<sub>50</sub> (rats) of 78 mg/kg, and a dermal LD<sub>50</sub> of 89 mg/kg (rabbits) (Ref. 6). Also, the substance elicited a carcinogenic response in a number of studies using a dermal or subcutaneous route of administration (Refs. 7, 8, 9, 10, and 11). In addition, teratogenic effects have been reported in studies using rats and chickens (Ref. 12), and a mutagenic response was reported for a number of test systems (Refs. 13, 14, 15, and 16).

Some acute toxicity data are available on the long-chain alkyl epoxides (specific gravity and animal weight not provided) (Ref. 17). For several mixed long-chain 1,2-epoxides, rat (i.p.) LD<sub>50</sub> values were in the range of 4.9 to 7.5 "ml/kg," while rabbit dermal LD<sub>50</sub>'s were in the range of 5.0 to 14.1 "ml/kg." For 1,2-epoxyhexadecane the corresponding values were 4.9 "ml/kg" (rat) and 10.0 "ml/kg" (rabbit). Skin irritation (rabbit) was "moderate" or "minor"; eye injury (rabbit) was graded as "none" or "trace" (Ref. 17).

Several test systems for mutagenicity have produced negative results for 1,2-epoxyhexadecane. Both Ames tests conducted by NTP (4 strains, with and without activation) (Ref. 18) and Ames tests commissioned by Union Carbide (5 strains, with and without activation) (Ref. 1) found 1,2-epoxyhexadecane to be nonmutagenic. In addition, 1,2-epoxyhexadecane was negative in a Sister Chromatid Exchange test using Chinese hamster ovary (CHO) cells without activation (Refs. 1 and 19). Other long-chain alkyl epoxides, 1,2-epoxydecane, 1,2-epoxydodecane, 1,2-epoxytetradecane, and 1,2-epoxyoctadecane are being evaluated in the Ames test by NTP (Ref. 20).

Additional information on the toxicity of long-chain alkyl epoxides is available from a subchronic study on 1,2-epoxyhexadecane applied dermally to rats and mice, completed in 1980 for the National Toxicology Program (NTP). Dosages given to both species were 62.5, 125, 250, 500, and 1,000 mg/kg. The material (1,2-epoxyhexadecane in

acetone) was applied 5 times weekly to a one-inch square, shaved portion of the dorsal area for 13 weeks. Some mortality was observed in the mouse at doses of 250 mg/kg and above; none was observed in the rat. Cutaneous reactions, manifested by exfoliation of the stratum corneum, alopecia, hyperemia and/or balancing were seen at the application sites in male mice and rats receiving dose levels of 250, 500, and 1,000 mg/kg; in female mice receiving 1,000 mg/kg; and in female rats receiving 500 and 1,000 mg/kg. Reduced body weights were observed in male mice and rats dosed at 250 mg/kg and above and female rats dosed at 500 and 1,000 mg/kg. No other compound-related effects were observed on gross or histopathologic examination (Ref. 21).

Van Duuren *et al.* (Ref. 22) tested 1,2-epoxydodecane and 1,2-epoxyhexadecane separately in mouse skin painting studies to assess their oncogenic activity. No tumors were observed in a group of 30 ICR/Ha Swiss mice treated for 540 days (18 months) with approximately 100 mg of a 2-percent solution of 1,2-epoxydodecane in acetone (applied to the clipped back of each mouse three times per week from the age of 8 weeks). However, in an experimental group of 41 mice similarly treated with a 10-percent solution of 1,2-epoxyhexadecane in acetone, two mice developed papillomas and one papilloma developed into a squamous carcinoma. The test duration was 598 days, with a median survival time of 427 days. The first papilloma appeared on day 308, and the carcinoma appeared on day 372. No tumors were reported for the control group. No statistical analysis of the data was presented.

To confirm the results of Van Duuren *et al.*, and to test a representative long-chain, terminal monoepoxide, the NTF selected 1,2-epoxyhexadecane to undergo a 2-year bioassay in B6C3F1 mice and Fisher 344 rats by dermal application (Ref. 23). The exposure phase of the test was completed in June 1982. Doses of 62.5 and 125 mg/kg were applied to a 1-inch square shaved portion of the dorsal area of the mice and rats 5 times per week. The results from this study may be available by June 1986 (Refs. 23 and 24).

### C. Chemical Fate

No experimental chemical fate information is available for the alkyl epoxides addressed in this notice. The short-chain alkyl epoxides are estimated to have high water solubilities ( $2 \times 10^5$  ppm) and to partition primarily into the water phase under equilibrium conditions ( $\log K_{ow} = 0.67$ ) (Ref. 25). The

soil adsorption coefficient ( $K_{oc} = 4.2$ ) (Ref. 25) indicates that the short-chain alkyl epoxides would not adsorb strongly to organic matter and would be highly mobile in soils and sediments. On the basis of an estimated bioconcentration factor of 1.08, these chemicals are not expected to accumulate in environmental organisms (Ref. 25). The reactivity of epoxides toward water will preclude persistence of these water-soluble epoxides in the environment.

The long-chain alkyl epoxides are expected to behave very differently than the short-chain chemicals. The calculated water solubilities for the long-chain alkyl epoxides are low ( $6 \times 10^{-4}$  ppm) (Ref. 25), and calculated logs of the octanol/water partition coefficients are on the order of 6 or 7 (Refs. 25 and 26), indicating that these chemicals will partition primarily into the soil/sediment compartment under equilibrium conditions. The calculated soil adsorption coefficient ( $K_{oc} = 2 \times 10^5$ ) (Ref. 25) indicates that the long-chain alkyl epoxides will adsorb strongly to organic matter in the soil and sediment and can be considered relatively immobile. An estimated bioconcentration factor of  $1.7 \times 10^5$  indicates that these chemicals could bioconcentrate in the environment if significant releases occurred and the organisms were exposed before the epoxides were bound to soil and sediments. (Ref. 25). The epoxide function is likely by its nature to react with water or other nucleophiles, but these reactions may be slow because of the low water solubility.

### III. Decision Not To Initiate Rulemaking

EPA has decided not to proceed with its rulemaking to require health effects or chemical fate testing for the short-chain and long-chain alkyl epoxides addressed in this notice. The ITC recommended testing for the category of all noncyclic aliphatic hydrocarbons with one or more epoxy functional groups because of the effects known to be produced by the higher production short-chain epoxides ethylene oxide, propylene oxide, and 1,2-butylene oxide and the carcinogenic effects reported for diepoxides. The high production epoxides have been addressed in other notices: ethylene oxide (49 FR 200), propylene oxide (49 FR 430), and 1,2-butylene oxide (49 FR 503). Of the remaining category members, the three short-chain chemicals, i.e., 2,3-epoxybutane, isobutylene oxide, and 1,2,3,4-diepoxybutane, are produced or imported in low volumes, and their use limited primarily to research. Although

there is reason to believe that these chemicals may present a hazard because of their similarity to other short-chain category members and data available for 1,2,3,4-diepoxybutane, the current production, use, exposure, and environmental release of these chemicals do not support a section 4(a)(1)(A)(i) finding of "may present an unreasonable risk" or 4(a)(1)(B)(i) finding of "substantial production" and "significant or substantial exposure" or "substantial release" for health effects or chemical fate testing.

The eight long-chain alkyl epoxides behave differently than their short-chain counterparts. There are significant differences in chemical structure and expected chemical fate behavior. Toxicity data for 1,2-epoxyhexadecane do not indicate mutagenic activity. A long-term skin painting study was negative for 1,2-epoxydodecane, and a similar study produced one carcinoma for 1,2-epoxyhexadecane. A second skin painting study of 1,2-epoxyhexadecane has also been conducted by NTP; however, the results of this study are not available at this time. Although production for these long-chain chemicals is greater than that of the three short-chain alkyl epoxides addressed in this notice, the Agency does not consider it to be substantial. These epoxides are specialty chemicals with limited use. Little, if any, unreacted epoxide comes in contact with workers or industrial consumers. Known and potential releases to the environment are extremely small. The toxicity data available and data submitted on production volume, use, human exposure, and environmental release do not support a section 4(a)(1)(A)(i) finding of "may present an unreasonable risk" or 4(a)(1)(B) finding of "significant or substantial exposure" or "substantial release" for health effects or chemical fate testing of the long-chain alkyl epoxides.

#### IV. Public Record

EPA has established a public record for this decision not to test under Section 4 of TSCA (docket number OPTS-42053A). The record includes the following information:

##### A. Supporting Documentation

- (1) Federal Register notices pertaining to this decision consisting of:
  - (a) Notice containing the ITC Report designating the category alkyl epoxides to the Priority List (42 FR 55026; October 12, 1977).
  - (b) Notice of Advance Notice of Proposed Rulemaking (49 FR 449; January 4, 1984).
  - (c) Notice requiring submission of health and safety data under section 8(d) of TSCA (47 FR 38780; September 2, 1982).

- (d) Notice for ethylene oxide (49 FR 200; January 3, 1984).
- (e) Notice for propylene oxide (49 FR 430; January 4, 1984).
- (f) Notice for 1,2-butylene oxide (49 FR 503; January 4, 1984).
- (2) Communications consisting of:
  - (a) Written public and intra-agency or interagency memoranda and comments.
  - (b) Summaries of telephone conversations.
  - (c) Summaries of meetings.
- (3) Reports—published and unpublished factual materials, including contractors' reports.

##### B. References

- (1) Union Carbide Corp., Danbury, CT. Letter containing copies of correspondence with the Agency, ANPR comments, and test data (non-CBI version) from Don Heywood to Ralph Northrop, Office of Pesticides and Toxic Substances, Environmental Protection Agency. April 23, 1984.
- (2) Mathtech, Arlington, Va. Level I Economic Evaluation: Low Volume Alkyl Epoxides. April 1983.
- (3) Anonymous. Non-CBI submissions from processors of long-chain alkyl epoxides. April 1985.
- (4) Elco Corp., Cleveland, OH. Personal communication with Ralph Northrop, Office of Pesticide and Toxic Substances, Environmental Protection Agency. May 13, 1985.
- (5) The Upjohn Co., Kalamazoo, MI. TSCA section 8(d) submission of technical reports for Isobutylene Oxide and 1,2,3,4-Diepoxybutane, 8 DHQ-0978-0144. Washington, D.C.; U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances. 1978.
- (6) Clayton G.D., Clayton, F.E., editors. *Patty's Industrial Hygiene and Toxicology*, p 2161. 3rd Edition; Volume 2A; John Wiley and Sons, Publisher. 1981.
- (7) Kotin P., Falk H.L. "Organic Peroxides, Hydrogen Peroxide, Epoxides and Neoplasia." *Radiat. Res. Supp.* 3:193-211. 1963.
- (8) Van Duuren B.L., Orris L. and Nelson N. "Carcinogenicity of Epoxides, Lactones and Peroxy Compounds." II. *J. Nat. Cancer Inst.* 35:707-717. 1965.
- (9) Van Duuren B.L., Langseth L., Orris L., Teebor G., Nelson N., Kuschner M. "Carcinogenicity of Epoxides, Lactones and Peroxy Compounds." IV. Tumor Response in Epithelial and Connective Tissue in Mice and Rats. *J. Nat. Cancer Inst.* 37:825-838. 1966.
- (10) Van Duuren B.L., Nelson N., Orris L., Palmes E.D., Schmitt F.L. "Carcinogenicity of Epoxides, Lactones and Peroxy Compounds." *J. Nat. Cancer Inst.* 31:41-55. 1963.
- (11) Koppers Co. The potential carcinogenic activity of butadiene dioxide, 1960. TSCA Section 8(d) Submission 8DHQ-0978-0156. Washington, D.C.; Office of Pesticides and Toxic Substances, U.S. Environmental Protection Agency. 1978.
- (12) Shell Oil Co. Review of the Toxicology of Epoxy Compounds. TSCA Section 8(d) submission 8DHQ-0978-0018. Washington, D.C.; U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances. 1978.
- (13) Kilbey B.J. "The Analysis of a Dose-Rate Effect Found With a Mutagenic Chemical." *Mutat. Res.* 26(4):249-256. 1974.
- (14) Klimczuk J. "Spontaneous and Induced Reversions of Meth 1 Mutant of *Aspergillus nidulans*." *Genet. Pol.* 11(3-4):313-319. 1970.
- (15) Polakowska R., Putrament A. "Mitochondrial Mutagenesis in *Saccharomyces cerevisiae*. II. Methyl Methanesulphonate and Diepoxybutane." *Mutat. Res.* 61:207-213. 1979.
- (16) Wade M.J., Moyer J.W., Hine C.H. "Mutagenic Action of a Series of Epoxides." *Mutat. Res.* 66:367-371. 1979.
- (17) Union Carbide Corp. Listing of health and safety studies. TSCA Section 8(d) submission 8DHQ-0978-123. Washington, D.C.; U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances. 1978.
- (18) National Toxicology Program. Summary of Genetic testing at EMTPD Lab. Dr. Errol Zeiger. NTP NIEHS, Research Triangle Park, NC. January 11, 1982.
- (19) USEPA. Memorandum: "Evaluation of a Sister Chromatid Exchange Test for 1,2-Epoxyhexadecane." From I. Baemel, Office of Pesticides and Toxic Substances, U.S. Environmental Protection Agency, Washington, D.C. December 28, 1984.
- (20) National Toxicology Program. Personal communication on the status of mutagenicity testing for long-chain alkyl epoxides between EMTPD Lab and Andrea Blaschka. Office of Pesticides and Toxic Substances, Environmental Protection Agency. May 23, 1985.
- (21) National Toxicology Program. A subchronic test of 1,2-epoxyhexadecane (55538) in B6C3F1 mice and Fischer 344 rats by dermal application. Tracor Jitco Subcontract No. 78-81-106002; Gulf South Research Institute, Project No. 410-927, Dr. Ron Milnick, Project Officer, NTP, NIEHS, Research Triangle Park, NC. 1980.
- (22) Van Duuren B.L., Langseth L., Goldschmidt B.M., Orris L. "Carcinogenicity of Epoxides, Lactones, and Peroxy Compounds. VI. Structure and Carcinogenic Activity." *J. Nat. Cancer Inst.* 39:1217-1228. 1967.
- (23) National Toxicology Program. Personal communication on the status of the NTP Bioassay for 1,2-epoxyhexadecane between Ron Milnick, NTP, and Andrea Blaschka, Office of Pesticides and Toxic Substances, Environmental Protection Agency. November 21, 1983.
- (24) National Toxicology Program. Personal communication on the current status of studies done by Gulf South Research Institute between James Huff, NIEHS, and Andrea Blaschka, Office of Pesticides and Toxic Substances, Environmental Protection Agency. January 30, 1985.
- (25) USEPA. Memorandum: "Properties of Alkyl Epoxides". From William Wood, Office of Pesticides and Toxic Substances, Environmental Protection Agency, Washington, D.C., July 8, 1982.
- (26) USEPA. Memorandum: "Environmental Fate of Alkyl Epoxides". From William Wood, Office of Pesticides and Toxic Substances, Environmental Protection Agency, Washington, D.C., December 4, 1984.

Confidential Business Information (CBI), while part of the record, is not available for public review. A public version of the record, from which CBI has been deleted, is available for inspection in the OPTS Reading Rm. E-107, 401 M St., SW., Washington, D.C., from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

(15 U.S.C. 2603)

Dated: August 29, 1985.

J. A. Moore,

*Assistant Administrator for Pesticides and Toxic Substances.*

[FR Doc. 85-21304 Filed 9-5-85; 8:45 am]

BILLING CODE 6560-50-M

**[ER-FRL-2892-9]**

**Environmental Impact Statements; Availability**

**Responsible Agency:** Office of Federal Activities, General Information (202) 382-5073 or (202) 382-5075.

Availability of Environmental Impact Statements filed August 26, 1985 Through August 30, 1985 Pursuant to 40 CFR 1506.9.

EIS No. 850369, Draft, FHW, KY, KY-44 Reconstruction, KY-55 in Taylorsville to KY-44 Relocated, Spencer County, Due: October 21, 1985, Contact: Robert Johnson (502) 227-7321.

EIS No. 850370, Draft, NASA, PRO, Galileo and Ulysses Mission Projects, Jovian System Investigation Program, Due: October 21, 1985; Contact: Harry Mannheimer (202) 453-1602.

EIS No. 850372, Final, FHW, IL, Lake Front Highway/FAP 437 Construction and Improvements, IL Tri-State Tollway/I-94 to Grand Avenue/IL-132, Lake County, Due: October 7, 1985, Contact: Jay Miller (217) 492-4600.

EIS No. 850373, DSUPPL, FHW, WA, Pasco-Kennewick Intercity Steel Truss Bridge Removal, Columbia River, between Pasco and Kennewick Cities, Benton and Franklin Cos., Due: October 25, 1985, Contact: Paul Gregson (206) 753-2120.

**Amended Notices**

EIS No. 820676, Draft, OSM, CO, Meeker Area Mines, Mining and Reclamation Plan, Approval, Rio Blanco Co., Published FR 10-15-82—Officially Withdrawn.

EIS No. 830628, Draft, COE, IL, Kahawainui Stream Flood Control, Laie, Island of Oahu, Published FR 12-9-83—Officially Withdrawn.

Dated: September 3, 1985.

Allan Hirsch,

*Director, Office of Federal Activities.*

[FR Doc. 85-21355 Filed 9-5-85; 8:45 am]

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**[ER-FRL-2892-9]**

**Environmental Impact Statements; Availability of EPA Comments**

Availability of EPA comments prepared August 19, 1985 through August 23, 1985 pursuant to the Environmental Review Process (ERP), under section 309 of the Clean Air Act and section 102(2)(c) of the National Environmental Policy Act as amended. Requests for copies of EPA comments can be directed to the Office of Federal Activities at (202) 382-5075/76. An explanation of the ratings assigned to draft environmental impact statements (EISs) was published in FR dated October 19, 1984 (49 FR 41108).

**Draft EISs**

ERP No. D-BLM-L82007-00, Rating E02, Northwest Area Noxious Weed Control Program, ID, WA, MT, OR, and WY. Summary: EPA stated that picloram and glyphosate are currently not registered for range land use in the states covered by the DEIS. Therefore, registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) would be necessary to use these pesticides. Also, some evidence has recently arisen to indicate that glyphosate poses risks of oncogenic effects. This evidence is in the process of further evaluation, however, EPA does not expect any significant risks to human health to result from glyphosate's use in this program. EPA believes that BLM should consider expanding the worst case analysis to include a risk analysis of accidental spills and the risks to biota as well as human health. Additional documentation and evaluation of water quality impacts is also needed.

ERP No. D-CDB-B89016-MA, Rating L0, Tent City Development, Parcels 11A and 11B, S. End Urban Renewal, UDAG, MA. Summary: EPA believes the project, as proposed, can be developed in a manner that will not cause significant adverse impacts on the environment.

ERP No. D-COE-E30033-FL, Rating L02, Martin County Beach Erosion Control, FL. Summary: EPA believes the environmental effects of this action are within acceptable limits and can be materially lessened through the judicious selection of borrow material.

ERP No. D-COE-E67003-FL, Rating E02, Occidental Wetland Phosphate

Mining Operations Dredge and Fill Permit, Sect. 404, FL. Summary: EPA has concluded that the DEIS does not accurately assess the impacts of the proposed mining on fish and wildlife habitat and water quality of the subject headwaters and tributaries of the Suwannee River system. Further, the alternatives presented are limited in scope compared to those indicated in the Plan of Study or otherwise available. The EIS also contains fundamental factual errors regarding the value of wetlands on the project site, probability of replacing mined wetlands with higher quality habitat, and the effects of current mining practices on maintenance of water quality.

ERP No. DS-FHW-B40049-NH, Rating EC2, NH-101 Improvements, Chesham Rd. to Bonds Corner, Right-of-Way Acquisition, Construction, Modified Reconstruction Alternative, 404 Permit, NH. Summary: EPA recommended that the FEIS include for each alternative, a comprehensive impact analysis for domestic water supplies, a more detailed air quality analysis, and proposed mitigation measures that would reduce the impacts.

ERP No. D-FHW-L40146-OR, Rating EC1, Tualatin Valley Highway Widening, 21st Ave. to East Main St., Improvements and Development, OR. Summary: Although some traffic noise impacts of the project are substantial, EPA would have no objections with the project if it includes all noise mitigation.

ERP No. D-IBR-K39026-CA, Rating EC2, Freeman Diversion Improvement Project, Construction and Operation, Santa Clara R., Combat of Seawater Intrusion, CA. Summary: EPA expressed concern that the sedimentation analysis was not carried out far enough downstream of the diversion structure to adequately assess environmental impacts on the major habitats of the Lower Santa Clara River. EPA also requested a greater commitment to mitigation proposals in the FEIS.

ERP No. DS-NOA-B90001-RI, Rating L0, Rhode Island Coastal Resources Mgmt. Program, 1985 Amendment, RI. Summary: EPA believes the amendments to the Rhode Island Coastal Management Program will not cause significant adverse impacts on the environment, and will increase consistency and specificity of the regulatory policies.

**Final EISs**

ERP No. F-BLM-C08008-NM, El Paso 345 kV Transmission Line, Construction/Operation/Maintenance, Springerville to Deming, Right-of-Way Permit, NM. Summary: EPA has no