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3M

October 26, 2004

8EHQ-1004-15954

[redacted]

**By Hand Delivery**
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U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460
Attention: Section 8(e) Coordinator

Contains No CBI

Re: **TSCA Section 8(e) Submissions**

Dear Sir/Madam:

3M Company ("3M") requests that EPA place the attached studies in the TSCA Section 8(e) docket. We have included a master index for these studies identifying the study title, test substance and CAS number. A Confidential Business Information (CBI) version of this index and the studies also is being submitted today pursuant to EPA procedures. 3M has not provided CBI substantiation with this submission, but would be willing to do so at the Agency's request.

3M has concluded that data in these studies may not be, strictly speaking, "corroborative" of previously reported or published information as defined in EPA's reporting guidance or otherwise potentially may warrant 8(e) submission based on EPA's reporting guidance.

3M appreciates EPA's attention to this matter. Please contact the undersigned if you have any questions or require further information regarding this submission.

8EHQ-05-15954

Very truly yours,

Katherine E. Reed (9.7.)

Dr. Katherine E. Reed, Ph.D
Staff Vice President
Environmental Technology and Safety Services
(651) 778-4331
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# Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
## (Confidential Business Information Redacted)

| Title | Substance Information | CAS Information |
|---|---|---|
| Aquatic Toxicity Data Sheet: 48hr *Daphnia Magna* | 1,4-dioxane; heptadecafluoro-1-octanesulfonic acid; linear n-ethyl perfluorooctanesulfonamide; n-ethylperfluorooctanesulfonamidoethyl alcohol; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; polyethylene glycol; water | 1,4-dioxane (123-91-1); heptadecafluoro-1-octanesulfonic acid (1763-23-1); linear n-ethyl perfluorooctanesulfonamide (4151-50-2); n-ethylperfluorooctanesulfonamidoethyl alcohol (1691-99-2); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (29117-08-6); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-79-3); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-81-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (56372-23-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-80-6); polyethylene glycol (25322-68-3); water (7732-18-5) |
| Multigeneration Daphnid Life Cycle Test | 1,4-dioxane; heptadecafluoro-1-octanesulfonic acid; linear n-ethyl perfluorooctanesulfonamide; n-ethylperfluorooctanesulfonamidoethyl alcohol; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy-; polyethylene glycol; water | 1,4-dioxane (123-91-1); heptadecafluoro-1-octanesulfonic acid (1763-23-1); linear n-ethyl perfluorooctanesulfonamide (4151-50-2); n-ethylperfluorooctanesulfonamidoethyl alcohol (1691-99-2); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (29117-08-6); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(nonafluorobutyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-79-3); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(pentadecafluoroheptyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-81-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(tridecafluorohexyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (56372-23-7); poly(oxy-1,2-ethanediyl), .alpha.-[2-[ethyl[(undecafluoropentyl)sulfonyl]amino]ethyl]-.omega.-hydroxy- (68298-80-6); polyethylene glycol (25322-68-3); water (7732-18-5) |
| Aquatic Invertebrate Testing - Alkyltins LR 8024-1 | Alkyltins: dibutyltin laurate and dibutyltin-di(2 ethylhexoate) | Dibutyltin laurate (CAS 77-58-7); Dibutyltin-di(2 ethylhexoate) (CAS 2781-10-4) |
| Aquatic Invertebrate Testing - Decosheen Material (LR-8052) | Decosheen Ribbon Materials and pigments: Decosheen Blue in Green Ceres Blue ZV; Decosheen Gold Paste Pigment; Decosheen Royal Blue, Solvent Blue | Decosheen Blue in Green Ceres Blue ZV (CAS 61814-09-3); Decosheen Royal Blue, Solvent Blue (CAS [illegible]-86-6); Decosheen Gold Paste Pigment (CAS Number [illegible] |
| R Scratch Remover (Fathead Minnow) | 55-65% Water; 20-30% Stoddard Solvent; 1-5% Sodium Silicate; 1-5% Potassium Hydroxide; 0.1-3% Nonylphenoxypoly(oxyethylene)ethanol | Water (CAS 7732-18-5); Stoddard Solvent (CAS 8052-41-3); Sodium Silicate (CAS 1344-09-8); Potassium Hydroxide (CAS 1310-58-3); Nonylphenoxypoly(oxyethylene)ethanol (CAS 9016-45-9) |
| S Scratch Remover (Fathead Minnow) | 60-70% Water; 20-30% Stoddard Solvent; 1-5% Sodium Silicate; 0.1-3% Turgitol NP-33 | Water (CAS 7732-18-5); Stoddard Solvent (CAS 8052-41-3); Sodium Silicate (CAS 1344-09-8); Turgitol NP-33 (CAS 9016-45-9) |
| Octanol Water Partition Coefficient | N-methylperfluorooctane sulfonamidoethanol | CAS 24448-09-7 |

COMPANY SANITIZED

# Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
## (Confidential Business Information Redacted)

| Title | Substance Information | CAS Information |
|---|---|---|
| Plant Toxicity Comparison, Young Seedling Growth | [ ] | [ ] |
| *Ceriodaphnia dubia* Survival and Reproduction exposed to Opequon Creek Water Spiked with BETZ 1110 Polymer (November 4, 1987 sample) for seven days under static renewal conditions | BETZ 1110: Non-3M Product - Chemical composition not provided to 3M by manufacturer | MSDS provided by manufacturer states product is "not hazardous" and not "considered to be a carcinogen" |
| *Ceriodaphnia dubia* Survival and Reproduction exposed to Opequon Creek Water Spiked with Betz 1138 Polymer (November 4, 1987 sample) for seven days under static renewal conditions | BETZ 1138: Non-3M Product - Chemical composition not provided to 3M by manufacturer | MSDS provided by manufacturer states product is "not hazardous" and not "considered to be a carcinogen" |
| * Toxicity of 1,6 - Hexanediol Diacrylate to *Daphnia magna* | 1,6 Hexanediol diacrylate | CAS 13048-33-4 |
| *Daphnia magna* Chronic Bioassay Under Static Renewal Conditions | Methyl isoamyl acrylate | CAS 18993-92-1 |
| Estimating the Chronic Toxicity of Nalclear 7177 to *Ceriodaphnia* Survival and Reproduction Using Short-Term Tests | Nalclear 7177 wastewater treatment acrylamide/acrylate polymer - Chemical composition not provided to 3M by manufacturer | CAS Information not provided to 3M by manufacturer |
| Acute Toxicity of Isooctyl Acrylate to *Daphnia magna* | Isooctyl Acrylate Monomer | CAS 29590-42-9 |
| Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna* | Tolyltriazole | CAS 29385-43-1 |
| Static Acute Toxicity of [ ] to the Alga, *Selenastrum capricornutum* | Tolyltriazole | CAS 29385-43-1 |
| Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna* | [ ] | [ ] |
| Static Acute Toxicity of [ ] to the Fathead Minnow, *Pimephales promelas* | [ ] | [ ] |
| Static Acute Toxicity of [ ] to the Daphnid, *Daphnia magna* | water; propylene-tetrafluoroethylene polymer; tert-butyl alcohol | water (7732-18-5); propylene-tetrafluoroethylene polymer (27029-05-6); tert-butyl alcohol (75-65-0) |

# Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
## (Confidential Business Information Redacted)

| Title | Substance Information | CAS Information |
|---|---|---|
| Isooctyl acrylate: Fish, Acute Toxicity Test | Isooctyl Acrylate Monomer | CAS 29590-42-9 |
| Isooctyl Acrylate: *Daphnia sp.* Acute Immobilization Test | Isooctyl Acrylate Monomer | CAS 29590-42-9 |
| Isooctyl Acrylate: Alga, Growth Inhibition Test | Isooctyl Acrylate Monomer | CAS 29590-42-9 |
| Isooctyl Acrylate: *Daphnia sp*. Reproduction Test | Isooctyl Acrylate Monomer | CAS 29590-42-9 |
| Acute Toxicity of [ ] to the mysid, *Mysidopsis bahia* | [ ] | [ ] |
| Final Report (Microtox) | [ ] | [ ] |
| Determination of the Partition Coefficient (N-Octanol/Water) of T-5896 by High Performance Liquid Chromatography (HPLC) | N-methyl perfluorooctane sulfonamido ethanol; N-methyl perfluorooctane sulfonamidethyl acrylate | N-methyl perfluorooctane sulfonamido ethanol (CAS 25268-77-3); N-methyl perfluorooctane sulfonamidethyl acrylate (CAS 24448-09-7) |
| OECD Activated Sludge Respiration Inhibition Test Results | N-Dodecyltrimethylammonium chloride | CAS = 112-00-5 |
| Final Report (Fish Acute Toxicity) | Mirataine CB (30% Cocamidopropyl betaine = Amides, coco, N-(3-(dimethylamino)propyl), alkylation products with chloroacetic acid, sodium salts, 70% Water and Inerts); Mirataine COB (30% Coco/Oleamidopropyl Betaine = 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., inner salt) | Cocamidopropyl betaine (CAS 70851-07-9); Coco/Oleamidopropyl Betaine (CAS 61789-40-0) |
| A Flow-Through Life-Cycle Toxicity Test With the Saltwater Mysid (*Mysidopsis bahia*) | Perfluorooctane sulfonate | CAS 1763-23-1 |
| Lithium: Alga, Acute toxicity Tests | Lithium Chloride | CAS 7447-41-8 |
| An Early Life-Stage Toxicity Test With the Fathead Minnow (*Pimephales promelas*) | Perfluorooctane sulfonate | CAS 1763-23-1 |
| Lithium: Fish, Acute toxicity Tests | Lithium Chloride | CAS 7447-41-8 |
| Lithium: *Daphnia*, Acute toxicity Tests | Lithium Chloride | CAS 7447-41-8 |
| Summary of Toxicity Testing on OSCI and OSF | Octane sulfonyl chloride and Octane sulfonyl fluoride | Octane sulfonyl fluoride (CAS 7795-95-1), Octane sulfonyl chloride (CAS 4063-63-5) |
| Toxicity to Microtox Test | Lauryldimethylamineoxide | CAS 1643-20-5 |

# Master Index to Studies Submitted Under TSCA 8(e) by 3M Company on October 26, 2004
(Confidential Business Information Redacted)

| Title | Substance Information | CAS Information |
|---|---|---|
| Ecotoxicological Testing of CoCl2.6H2O as Co2+ ion (Seed Germination and Root Elongation) | Cobalt (as Co2+ ion) (CoCl2.6H2O) | CAS 7791-13-1 |

LRF 1770
6-20-88 SHB

Toxicity of 1,6-Hexanediol Diacrylate to *Daphnia magna*

Test Results - Percent Mortality

| Nominal Conc. mg/L | Initial Measured Conc. mg/L | 24-HRS Combined | 48-HRS Separate | 48-HRS Separate | 48-HRS Combined |
|---|---|---|---|---|---|
| 2.7 | 2.59 | 0 | 70 | 60 | 65 |
| 5.0 | 4.79 | 0 | 100 | 90 | 95 |
| 9.0 | 8.64 | 80 | 100 | 100 | 100 |
| 16 | 15.92 | 100 | 100 | 100 | 100 |
| 27 | 26.49 | 100 | 100 | 100 | 100 |
| $EC_{50}$ (95% CI) | | | | | |
| Nominal: | | N.C.[1] | N.C | 2.4 (0.02-3.3) | 2.3 (0.8-2.9) |
| Measured: | | N.C. | N.C. | 2.3 (0.02-3.2) | 2.2 (0.7-2.8) |

[1] Not calculable

Lab Request No. F1770

Page 1 of 4

Date 6-14-89

Analyst: SHB

**Environmental Lab — Work Sheet**

Daphnia magna Acute Static

Sample Description
1,6-Hexanediol diacrylate
Aldrich Lot # 03105CT
Passed thru DR-4 Resin Column

Stock Solution Preparation (1)

- 90 ml / 3 L Aerated, Carbon filtered well water, filtered through a 0.2 µm Millipore® filter
- Mixed gently over night, not completely miscible with water
- Removed test substance droplets on flask bottom, using suction
- Poured stock solution into a 3-L glass separatory funnel
- Decanted from bottom for test solutions

Initial pH = 7.9
Initial D.O 8.8 mg/L
Initial Temp. = 21°C

(1) Prepared by WKR

LR F1770

pg 2 of 4

ENVIRONMENTAL LABORATORY
DAPHNIA TOXICITY DATA SHEET

TEST TYPE 48 HR Acute Static CHEMICAL TESTED 1,6-Hexanediol diacrylate LOT Aldrich 03105CT

TEST ORGANISM Daphnia magna SOURCE USEPA ERL Duluth, MN DATE REC'D 8-14-86

AGE OF TEST ORGANISMS: <24 hrs. old instars (neonates) NO. ORGANISMS PER TREATMENT 10

TEST VESSEL: 250 ml Erlenmeyer Flask with ground-glass stopper HEIGHT: 10.5 cm

TIME STARTED 3:00 pm DATE STARTED 6-14-88 DATE COMPLETED 6-16-88

DILUTION WATER Carbon-filtered well water(1) (Temp. 21 °C, D.O. 9.0 mg/L, pH 8.1)

ANALYST Susan A. Beach $EC_{50}$ (95% Confidence Limits) Separate, nominal = 2.4 (0.02-3.2) mg/L
Separate, measured = 2.3 (0.02-5.2) mg/L
Combined, nominal = 2.3 (0.8-2.9) mg/L
Combined, measured = 2.2 (0.7-2.8) mg/L
Probit analysis

| Test Vessel No. | Initial Conc. mg/L | Total Amount Added ml(2) | 24 Hours Total No. Dead | 24 Hours pH | 24 Hours D.O. mg/L | 48 Hours Total No. Dead | 48 Hours pH | 48 Hours D.O. mg/L |
|---|---|---|---|---|---|---|---|---|
| I | Control | – | 0 | | | 0 | | |
| 1-1 | 2.7 | 25 | 0 | | | 6 | | |
| 1-2 | 5.0 | 46 | 0 | | | 9 | | |
| 1-3 | 9.0 | 83 | 9 | | | 10 | | |
| 1-4 | 16 | 148 | 10 | | | 10 | | |
| 1-5 | 27 | 250 | 10 | | | 10 | | |
| | | | | | | | | |
| Test Temp. °C | | | 20 | | | 20 | | |
| Initial & Date | | | SAB 6-15-88 | | | SAB 6-16-88 | | |

(1) Aerated, Carbon-filtered well water, passed through a 0.2 µm Millipore® filter. Used as Control media & diluent

Comments: (2) Stock Solution : 50 µl /3 L Diluent

See pg 1 for stock solution preparation

Initial pH highest Conc tested 27 mg/L = 7.9

Test solutions reached midway in neck of test vessels
Excess forced out with glass stopper to leave no head space
Vessels remained stoppered throughout test
Pasteur pipets used to introduce Daphnia, left in test vessels

Test methodology conforms with the following two test protocols:
(1) OECD #202 "Daphnia sp., Acute Immobilization Test and Reproduction Test".
(2) US-EPA #EG-1 "Daphnid Acute Toxicity Test".

LR 51576

ENVIRONMENTAL LABORATORY
DAPHNIA TOXICITY DATA SHEET

PG 3 of 4

TEST TYPE 48 HR Acute Static CHEMICAL TESTED 1,4-Hexanediol diacrylate LOT March 03105 CT
TEST ORGANISM Daphnia magna SOURCE USEPA ERL Duluth, MN DATE REC'D 8-14-86
AGE OF TEST ORGANISMS: <24 hrs. old instars (neonates) NO. ORGANISMS PER TREATMENT 10
TEST VESSEL: 250 ml Erlenmeyer Flask with ground-glass stopper HEIGHT: 10.5 cm
TIME STARTED 3:00 pm DATE STARTED 6-14-88 DATE COMPLETED 6-16-88
DILUTION WATER Carbon-filtered well water (1) (Temp. 21 °C, D.O. 9.0 mg/L, pH 8.1)
ANALYST Susan A. Beach, $EC_{50}$ (95% Confidence Limits) Combined, nominal = 2.3 (0.8 - 2.9) mg/L
Combined, measured = 2.2 (0.7-2.8) mg/L
Probit analysis

| Test Vessel No. | Initial Conc. mg/L | Total Amount Added ml (2) | 24 Hours Total No. Dead | 24 Hours pH | 24 Hours D.O. mg/L | 48 Hours Total No. Dead | 48 Hours pH | 48 Hours D.O. mg/L |
|---|---|---|---|---|---|---|---|---|
| II | Control | — | 0 | | | 0 | | |
| 2-1 | 2.7 | 25 | 0 | | | 7 | | |
| 2-2 | 5.0 | 46 | 0 | | | 10 | | |
| 2-3 | 9.0 | 83 | 7 | | | 10 | | |
| 2-4 | 16 | 148 | 10 | | | 10 | | |
| 2-5 | 27 | 250 | 10 | | | 10 | | |
| | | | | | | | | |
| Test Temp. °C | | | 20 | | | 20 | | |
| Initials & Date | | | S+B 6 15 88 | | | S+B 6 16 88 | | |

(1) Aerated, carbon-filtered well water, passed through a 0.2 um Millipore filter used as control media + dil'n

Comments: (2) Stock Solution: 90 ml / 3 L diluent

See pg 1 for Stock Solution Preparation

Initial pH highest conc tested 27 mg/L = 7.9

Test solutions reached midway in neck of test vessels. Excess forced out with glass stopper, to leave no head space. Vessels remained stoppered throughout test. Pasteur pipets used to introduce daphnia, left in test vessels.

Test methodology conforms with the following two test protocols:
(1) OECD #202 "Daphnia sp., Acute Immobilization Test and Reproduction Test".
(2) US-EPA #EG-1 "Daphnid Acute Toxicity Test".

LR F1770
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**ENVIRONMENTAL LABORATORY**
**DAPHNIA TOXICITY DATA SHEET**

TEST TYPE 48-HR Acute Static CHEMICAL TESTED Lic-Hazardial disodium LOT 4Ulrich 23105CT
TEST ORGANISM Daphnia magna SOURCE USEPA ERL Duluth, MN DATE REC'D 8-14-86
AGE OF TEST ORGANISMS: <24 hrs. old instars (neonates) NO. ORGANISMS PER TREATMENT 10
TEST VESSEL: 250 ml Erlenmeyer Flask with ground-glass stopper HEIGHT: 10.5 cm
TIME STARTED 3:00 pm DATE STARTED 6-14-88 DATE COMPLETED 6-16-88
DILUTION WATER Carbon-filtered well water[1] (Temp. 21 °C, D.O. 9.0 mg/L, pH 8.1)
ANALYST Susan A. Black $EC_{50}$ (95% Confidence Limits)

Extra Test vessels set for 48-HR pH, • D.O. Readings

| Test Vessel No. | Initial Conc. mg/L | Total Amount Added ml[2] | 24 Hours Total No. Dead | 24 Hours pH | 24 Hours D.O. mg/L | 48 Hours Total No. Dead | 48 Hours pH | 48 Hours D.O. mg/L |
|---|---|---|---|---|---|---|---|---|
| | Control | | 0 | | | 0 | 8.1 | 8.0 |
| Low-1 | 2.7 | 25 | 0 | | | 7 | 8.2 | 8.8 |
| Mid-1 | 9.0 | 83 | 9 | | | 10 | 8.2 | 8.9 |
| High-1 | 27 | 250 | 10 | | | 10 | 7.9 | 9.0 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Test Temp. °C | | | 20 | | | 20 | | |
| Initials & Date | | | SAB 6-15-88 | | | SAB 6-16-88 | | |

(1) Aerated, carbon filtered well water, passed through a 0.2 µm Millipore filter, used as control media & diluent

Comments: (2) Stock Solution: 90 ml / 36 Diluent

See pg 1 for Stock solution preparation

Initial pH highest conc tested, 27 mg/L, = 7.9

Test Solutions reached midway in neck of test vessels
Excess forced out with glass stopper to minimize air & space
Vessels remained stoppered throughout test
Pasteur pipets used to introduce daphnia, 1 per 50 vessels

Test methodology conforms with the following two test protocols:
(1) OECD #202 "Daphnia sp., Acute Immobilization Test and Reproduction Test".
(2) US-EPA #EG-1 "Daphnid Acute Toxicity Test".

```
@run probit

3M ENVIRONMENTAL LABORATORY

***PROBIT ANALYSIS FOR BIOASSAY DATA***

NO OF CURVES ? 2
NO  OF CONC  FOR CURVE 1   ? 3
INPUT DATA-CONC ,NO. EXPOSED,NO DEAD
 ? 2.59,20,13
 ? 4.79,20,19
 ? 8.64,20,20

COMMENTS FOR CURVE 1
 ? D  magna  48-hr exp (combined)  1,6-hexanediol diacrylate  6/20/88  sab
            mg/L        (measured)

                LOG            FRACTION        FITTED
CONC            CONC           RESPONSING      FRACTION

 2.59           0.4132998      0.65            0.6469726
 4.79           0.6803357      0.95            0.954567
 8.64           0.9365137      1               0.9984168
CHI-SQ PROBABILITY IS   0.05

NO OF           INTERCEPT      SLOPE           CHI SQ FOR      CHI SQ FOR
ITERATIONS        (A)            (B)           LINEARITY       PROBABILITY

 6              -1.656076      4.919519        0.04213456      0.8373634

HETEROGENIETY FACTOR (H) = 1                   G = 0.5477381

LC-50 =          2.17087

95 PCT  LOWER CONF  LIMIT =                    0.720126
95 PCT  UPPER CONF  LIMIT =                    2.761561
```

(Combined) Measured Concentration

48-HR $EC_{50}$ = 2.2 (0.7 - 2.8) mg/L

NO OF CURVES 1 4
NO OF CONC FOR CURVE 1 2 4
INPUT DATA-CONC NO EXPOSED NO DEAD
2 59 10.6
4 79.10.9
8 64.10.10

COMMENTS FOR CURVE 1
2 D magna 48-hr exp (separate) 1.6-hexandiol diacrylate 6/20/88 sab
mg/L (measured)

| CONC | LOG CONC | FRACTION RESPONDING | FITTED FRACTION |
|---|---|---|---|
| 2 59 | 0 4132998 | 0 6 | 0 5894642 |
| 4 79 | 0 6803355 | 0 9 | 0 9172112 |
| 8 64 | 0 9365137 | 1 | 0 9937861 |

CHI-SQ PROBABILITY IS > 0 05

| NO OF ITERATIONS | INTERCEPT (A) | SLOPE (B) | CHI SQ FOR LINEARITY | CHI SQ FOR PROBABILITY |
|---|---|---|---|---|
| 6 | -1 569807 | 4 345148 | 0 1061246 | 0 7446001 |

HETEROGENIETY FACTOR (H) = 1 G = 0 8611417

LC-50 2 297487

95 PCT LOWER CONF LIMIT = 0 01609771
95 PCT UPPER CONF LIMIT = 3 207186

( ~~Combined~~ Separate ) Measured Concentrations

48 HR $EC_{50}$

2.3 (0.02 - 3.2) mg/L

```
NO  OF CONC  FOR CURVE 2  ? 3
INPUT DATA CONC  NO  EXPOSED,NO DEAD
 ? 4 79,20,0
 ? 8 44,20,16
 ? 15 92,20,20

COMMENTS FOR CURVE 2
 ? D  magna 24-hr exp  1,6-hexnediol diacrylate  4/20/88  sab
        mg/L   (measured)

                LOG            FRACTION       FITTED
CONC           CONC            RESPONDING     FRACTION

***DATA ERROR***THIS PROGRAM
REQUIRES AT LEAST TWO OBSERVATIONS WHERE THE NUMBER OF
RESPONSES IS NOT EQUAL TO ZERO OR THE NUMBER EXPOSED
STOP at line 00590 of MAIN PROGRAM
```

```
NO OF CURVES [illegible]
NO OF CONC  FOR CURVE 1  [illegible]
INPUT DATA-CONC (NO) EXPOSED NO DEAD
 > 5 0,20,0
 > 9 0,20,16
 > [illegible],20,20

COMMENTS FOR CURVE 1
 > D  magma  24-hr exposure  1,6-hexanediol diacrylate  6/14/88  sab
            mg/L  nominal

                LOG            FRACTION       FITTED
[illegible]          CONC           RESPONDING     FRACTION

***DATA ERROR***THIS PROGRAM
[illegible] AT LEAST TWO OBSERVATIONS WHERE THE NUMBER OF
RESPONSES IS NOT EQUAL TO ZERO OR THE NUMBER EXPOSED
STOP at line 00596 of MAIN PROGRAM
NO OF CONC  FOR CURVE 1  [illegible]
INPUT DATA-CONC (NO) EXPOSED NO DEAD

 > 5,[illegible]
 > 9,20,20

COMMENTS FOR CURVE 1
 > D  magma  48 hr exp  (combined) 1,6-Hexanediol diacrylate  [illegible]  sab
                    mg/L  nominal

                LOG            FRACTION       FITTED
CONC            CONC           RESPONDING     FRACTION

 0 [illegible]          0 [illegible]          [illegible]
 5              0 [illegible]          [illegible]          [illegible]
 9              0 9542435                     0 9987[illegible]
CHI-SQ PROBABILITY IS [illegible]

NO OF          INTERCEPT      SLOPE          CHI SQ FOR     CHI SQ FOR
ITERATIONS      (A)            (B)           LINEARITY      PROBABILITY

 6             -1.041742      4.911885       0.[illegible]      0.835[illegible]

HETEROGENEITY FACTOR (H) = 1                  [illegible]

LC-50 =        [illegible]

95 PCT  LOWER CONF  LIMIT =                   0.[illegible]
95 PCT  UPPER CONF  LIMIT =                   2.879[illegible]
```

NO OF CONC FOR CURVE 2 [illegible]
INPUT DATA [illegible]
[illegible]
[illegible]

COMMENTS FOR CURVE 2
[illegible] magna 48-hr exp (separate [illegible]-hexanediol diacrylate [illegible] sab
[illegible] nominal

| CONC | LOG CONC | FRACTION RESPONDING | FITTED FRACTION |
|---|---|---|---|
| 2 - 2.59 | 0 [illegible] | 0 6 | 0 5894074 |
| 4.79 | 0 6989[illegible] | 0 9 | 0 9173495 |
| 8.64 | 0 9542425 | 1 | 0 9937088 |

CHI-SQ PROBABILITY IS > 0 05

| NO OF ITERATIONS | INTERCEPT (A) | SLOPE (B) | CHI SQ FOR LINEARITY | CHI SQ FOR PROBABILITY |
|---|---|---|---|---|
| 6 | [illegible] | 4 340.19 | 0 1076474 | 2 7428386 |

HETEROGENIETY FACTOR (H) = 1 G - 0 85904*2

LC-50 = 2 394897

95 PCT LOWER CONF LIMIT = 0 01799473
95 PCT UPPER CONF LIMIT = 3 344525