

**DRAFT**

EPA SUPPORT DOCUMENT

----- 1: REGULATORY STANDARDS AND SOLUBILITIES OF  
CONSTITUENTS OF CONCERN

. and references

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RAFT

REGULATORY STANDARDS AND SOLUBILITIES OF CONSTITUENTS OF CONCERN

| Compound                   | Regulatory Standard (mg/l) |     | Solubility (mg/l)    |     |
|----------------------------|----------------------------|-----|----------------------|-----|
|                            |                            | REF |                      | REF |
| * Acenaphthene             |                            |     | 3.4                  | 6   |
| Acenaphthylene             |                            |     | 3.9                  | 6   |
| Acetonitrile               |                            |     | $1.0 \times 10^6$    | 6   |
| Acrylic acid               | 2.8                        | 2   |                      |     |
| Acrylonitrile              | $1.5 \times 10^{-4}$       | 1   | $7.9 \times 10^4$    | 6   |
| Aldrin                     | $1.1 \times 10^{-3}$       | 3   | 0.18                 | 6   |
| Allyl alcohol              | 0.18                       | 3   | $5.1 \times 10^5$    | 6   |
| * Anthracene               |                            |     | 0.05                 | 6   |
| * Benzene                  | $1.2 \times 10^{-3}$       | 1   | $1.8 \times 10^3$    | 6   |
| * Benzidine                | $1.5 \times 10^{-7}$       | 1   | 400                  | 6   |
| Benzo(a)pyrene             | $3.0 \times 10^{-6}$       | 1   | $1.2 \times 10^{-3}$ | 6   |
| * Benzo(b)fluoranthene     | $2 \times 10^{-5}$         | 4   | $1.4 \times 10^{-2}$ | 6   |
| * Benzo(g,h,i,) perylene   |                            |     | $7.0 \times 10^{-4}$ | 6   |
| * Benzo(k)fluoranthene     |                            |     | $4.3 \times 10^{-3}$ |     |
| Bis-2-ethylhexyl-phthalate | 0.70                       | 3   | 0.4                  | 7   |
| Bis(chloromethyl)ether     | $3.8 \times 10^{-9}$       | 1   | $2.2 \times 10^4$    | 6   |
| Bis(2-chloroethyl)ether    | $3.1 \times 10^{-5}$       | 1   | $1.0 \times 10^4$    | 6   |
| Bromodichloromethane       | 0.21                       | 3   |                      |     |
| 1,3-Butadiene              | $3.5 \times 10^{-4}$       | 1   | 735                  | 6   |
| Cacodylic acid             | 0.35                       | 2   | $8.3 \times 10^5$    | 6   |
| Carbon disulfide           | 3.5                        | 2   | $2.9 \times 10^3$    | 6   |
| Carbon tetrachloride       | $2.7 \times 10^{-4}$       | 1   | 800                  | 6   |
| Chlordane                  | $2.2 \times 10^{-5}$       | 1   | 0.56                 | 6   |
| Chlorobenzene              | 1.1                        | 2   | $4.7 \times 10^2$    | 6   |
| Chloroform                 | $5.0 \times 10^{-4}$       | 1   | $8.2 \times 10^3$    | 6   |
| Chloromethane              |                            |     | $6.5 \times 10^3$    | 6   |
| * Chrysene                 | $2 \times 10^{-4}$         | 4   | $1.8 \times 10^{-3}$ | 6   |
| * Cresols                  | 1.8                        | 2   | $3.1 \times 10^4$    | 6   |
| Dibenz(a,h)anthracene      | $7 \times 10^{-7}$         | 4   | $5.0 \times 10^{-4}$ | 6   |
| Di-n-butyl phthalate       | 3.5                        | 3   | 13                   | 6   |

di-n-butyl phthalate

1-3

3

6-10 (6-10)

10/2/87

REGULATORY STANDARDS AND SOLUBILITIES OF CONSTITUENTS OF CONCERN

| Compound                             | Regulatory<br>Standard (mg/l) |     | Solubility<br>(mg/l) |     |
|--------------------------------------|-------------------------------|-----|----------------------|-----|
|                                      |                               | REF |                      | REF |
| 1,2-Dichlorobenzene                  | 3.2                           | 2   | 100                  | 6   |
| 1,3-Dichlorobenzene                  | 3.8                           | 10  | 123                  | 6   |
| 1,4-Dichlorobenzene                  | 3.8                           | 10  | 79                   | 6   |
| 3,3'-Dichlorobenzidine               | $2.1 \times 10^{-5}$          | 1   | 4                    | 6   |
| Dichlorodifluoro-<br>methane         | 7.0                           | 2   |                      |     |
| 1,1-Dichloroethene                   | $3.0 \times 10^{-4}$          | 1   | 2250                 | 6   |
| 1,2-Dichloroethene<br>(both isomers) | 0.35                          | 8,9 | 3500 (cis)           | 6   |
|                                      |                               |     | 6300 (trans)         | 6   |
| 1,2-Dichloroethane                   | $3.8 \times 10^{-4}$          | 1   | 8520                 | 6   |
| Dichloromethane                      | 0.056                         | 1   | $2.0 \times 10^4$    | 6   |
| 2,4-Dichlorophenol                   | 0.11                          | 3   | $4.6 \times 10^3$    | 6   |
| Diethyl phthalate                    | 350                           | 3   | 896                  | 6   |
| 7,12-Dimethylbenz-<br>(a)anthracene  |                               |     | $4.4 \times 10^{-3}$ | 6   |
| 2,6-Dimethylphenol                   | $2.1 \times 10^{-3}$          | 3   |                      |     |
| 3,4-Dimethylphenol                   | $3.5 \times 10^{-3}$          | 3   |                      |     |
| Dimethyl terephthalate               | 3.5                           | 3   |                      |     |
| 2,4-Dinitrophenol                    | 0.07                          | 3   | $5.6 \times 10^3$    | 6   |
| 2,4-Dinitrotoluene                   | $1.1 \times 10^{-4}$          | 1   | 240                  | 6   |
| 1,2-Diphenylhydrazine                | $4.5 \times 10^{-5}$          | 1   | $1.8 \times 10^3$    | 6   |
| Epichlorohydrin                      | $3.5 \times 10^{-3}$          | 1   | $6.0 \times 10^4$    | 6   |
| Ethyl benzene                        | 3.5                           | 2   | 152                  | 6   |
| Ethylene dibromide                   | $8.5 \times 10^{-7}$          | 1   | $4.3 \times 10^3$    | 6   |
| Fluoranthene                         | -                             | -   | 0.21                 | 6   |
| Fluorene                             | -                             | -   | 1.7                  | 6   |
| Formaldehyde                         | -                             | -   | $4.0 \times 10^5$    | 6   |
| Formic acid                          | 70                            | 2   |                      |     |
| Heptachlor                           | $1.0 \times 10^{-5}$          | 1   | 0.18                 | 6   |
| Hexabromobenzene                     | 0.07                          | 3   |                      |     |
| Hexachlorobenzene                    | $2.1 \times 10^{-5}$          | 1   | $6.0 \times 10^{-3}$ |     |
| Hexachlorobutadiene                  | $4.5 \times 10^{-3}$          | 1   |                      |     |
| Hexachloroethane                     | $2.5 \times 10^{-2}$          | 1   | 50                   | 6   |
| Ideno(1,2,3,cd)-<br>pyrene           | $2 \times 10^{-4}$            | 4   | $5.3 \times 10^{-4}$ | 6   |
| Isophorone                           | 7.0                           | 2   |                      |     |

REGULATORY STANDARDS AND SOLUBILITIES OF CONSTITUENTS OF CONCERN

| Compound                         | Regulatory Standard (mg/l) |     | Solubility (mg/l)      |     |
|----------------------------------|----------------------------|-----|------------------------|-----|
|                                  |                            | REF |                        | REF |
| * Methyl ethyl ketone            | 1.8                        | 2   | 2.7 x 10 <sup>5</sup>  | 6   |
| Methyl ethyl ketone peroxide     | 0.28                       | 2   |                        |     |
| * Naphthalene                    | 9                          |     | 31.7                   | 7   |
| Nitrobenzene                     | 0.018                      | 2   |                        |     |
| Nitrogen dioxide                 | 35                         | 2   |                        |     |
| N-Nitrosodiphenylamine           | 7.1 x 10 <sup>-3</sup>     | 1   |                        |     |
| Pentachlorobenzene               | 0.028                      | 3   | 0.14                   | 6   |
| Pentachloronitrobenzene          | 0.28                       | 2   | 0.07                   | 6   |
| Pentachlorophenol                | 1.1                        | 2   | 14                     | 6   |
| * Phenanthrene                   |                            |     | 1                      | 6   |
| * Phenol                         | 3.5                        | 2   | 9.3 x 10 <sup>4</sup>  | 6   |
| m-Phenylenediamine               | 0.21                       | 3   |                        |     |
| Phosphine                        | 0.011                      | 2   |                        |     |
| Phorate                          | 0.007                      | 5   | 50                     | 6   |
| Polychlorinated biphenyls        | 8.1 x 10 <sup>-6</sup>     | 1   | 3.1 x 10 <sup>-2</sup> | 6   |
| * Pyrene                         |                            |     | 0.13                   | 6   |
| Pyridine                         | 0.07                       | 2   | miscible               |     |
| Sodium diethyldithiocarbamate    | 1.1                        | 3   |                        |     |
| Styrene                          | 7                          | 3   |                        |     |
| 1,2,4,5-Tetrachlorobenzene       | 0.011                      | 3   | 6                      | 6   |
| 1,1,2,2-Tetrachloroethane        | 1.8 x 10 <sup>-3</sup>     | 1   | 2.9 x 10 <sup>3</sup>  | 6   |
| Tetrachloroethylene              | 6.9 x 10 <sup>-4</sup>     | 1   | 150                    | 6   |
| 2,3,4,6-Tetrachlorophenol        | 0.35                       | 2   | 1.0 x 10 <sup>3</sup>  | 6   |
| 2,3,5,6-Tetrachloroterephthalate | 1.8                        | 3   |                        |     |
| * Tetraethyl lead                | 3.5 x 10 <sup>-6</sup>     | 2   | 0.8                    | 6   |
| Thallic oxide                    | 0.014                      | 2   |                        |     |

Allyl methyl ketone

2.65

3.5 x 10<sup>-3</sup>

6.1 x 10<sup>-3</sup>

REGULATORY STANDARDS AND SOLUBILITIES OF CONSTITUENTS OF CONCERN

| Compound                                         | Regulatory Standard (mg/l) |     | Solubility (mg/l)     |     |
|--------------------------------------------------|----------------------------|-----|-----------------------|-----|
|                                                  |                            | REF |                       | REF |
| Thallium acetate                                 | 0.018                      | 2   |                       |     |
| Thallium carbonate                               | 0.014                      | 2   |                       |     |
| Thallium chloride                                | 0.018                      | 2   | 2.4 x 10 <sup>3</sup> |     |
| Thallium nitrate                                 | 0.018                      | 2   |                       |     |
| Thallium selenite                                | 0.018                      | 2   |                       |     |
| Thallium sulfate                                 | 0.018                      | 2   | 2.0 x 10 <sup>2</sup> |     |
| * Toluene                                        | 10.5                       | 2   | 535                   | 6   |
| 1,2,4-Trichloro-<br>benzene                      | 0.7                        | 3   | 30                    | 6   |
| * 1,1,1-Trichloroethane                          | 1.2                        | 11  | 1.5 x 10 <sup>3</sup> | 6   |
| 1,1,2-Trichloroethane                            | 6.1 x 10 <sup>-3</sup>     | 1   | 4.5 x 10 <sup>3</sup> | 6   |
| * Trichloroethylene                              | 3.2 x 10 <sup>-3</sup>     | 1   | 1.1 x 10 <sup>3</sup> | 6   |
| Trichlorofluoromethane                           | 10.5                       | 2   |                       |     |
| 2,4,6-Trichlorophenol                            | 1.8 x 10 <sup>-3</sup>     | 1   | 800                   | 6   |
| 2,4,5-Trichlorophenol                            | 3.5                        | 2   | 1.2 x 10 <sup>3</sup> | 6   |
| 2,4,5-Trichlorophen-<br>oxy acetic acid          | 1.1                        | 3   |                       |     |
| * 1,1,2-Trichloro-<br>1,2,2-trifluoro-<br>ethane | 1050                       | 2   |                       |     |
| Vinyl chloride                                   | 0.002                      | 1   | 2.7 x 10 <sup>3</sup> | 6   |
| * Xylene                                         |                            |     | 198                   | 6   |

LAB

11/2/87

REFERENCES FOR TABLE 1

1. U.S. EPA. 1985. Health Assessment Document for Trichloroethylene. EPA 600/8-82/006F. (PB-85-249-696).
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3. U.S. EPA. 1986. Verified Reference Doses (RFDs) of the U.S. EPA ORD/ECAO-CIN-475. May 1986.
4. .... 1980. Ambient Water Quality Criteria for Polynuclear Aromatic Hydrocarbons, EPA 440/5-80-069 (PB-81-117-806); U.S. EPA. 1982. Ambient Water Quality Criteria for Polynuclear Aromatic Hydrocarbons. EPA 440/5-80-069. Errata. Program Office Draft (Table A).
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7. Callahan et. al., 1979. Water-related Environmental Fate of 129 Priority Pollutants, Volumes I and II, Office of Water and Waste Management, EPA-440/4-79-029a, EPA Contract No. 68-01-3852 and 68-01-3867. (PB-80-204-373 and PB-80-204-381).
8. U.S. EPA. Office of Drinking Water, "Cis-1,2-Dichloroethylene, Health Advisory," Internal Review Draft (September 1985).
9. U.S. EPA. Office of Drinking Water, "Trans-1,2-Dichloroethylene, Health Advisory," Internal Review Draft (September 1985).
10. U.S. EPA. Office of Drinking Water, "Ortho- meta-, and para-dichlorobenzenes, Health Advisory," Internal Review Draft (September 1985).
11. U.S. EPA. Office of Drinking Water, "1,1,1-Trichloroethane, Health Advisory," Internal Review Draft (September 1985).

| <u>Chemical Name</u>                         | <u>Health-based Number</u>       | <u>Water Solubility</u>                                                                     | <u>Reference</u>                                                                                                                 |
|----------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Methyl chloride<br>(74-87-3)                 | 4 mg/L<br>RED                    |                                                                                             | Hazard Profile for Chloro-<br>methane/First Draft/ECAO-<br>Cin/June 1983                                                         |
| * Methyl isobutyl ketone<br>(100-10-1)       | 2 mg/L<br>Verified RED           |                                                                                             | Verified Reference Doses of<br>the U.S. EPA/1986                                                                                 |
| Chlorodibromomethane<br>(124-48-1)           | 0.02 mg/L<br>RED                 |                                                                                             | Summary of Current Accept-<br>able Daily Intakes (ADIs) for<br>Oral Exposure/Internal Review<br>Draft/ECAO-Cin/Feb. 1984         |
| Dichlorobromomethane<br>(75-27-4)            | 0.02 mg/L<br>RED                 |                                                                                             | Summary of Current Accept-<br>able Daily Intakes (ADIs) for<br>Oral Exposure/Internal Review<br>Draft/ECAO-Cin/Feb. 1984         |
| LAB * Isobutanol<br>(78-83-1)                | 11 mg/L<br>Verified RED          |                                                                                             | Verified Reference Doses of<br>the U.S. EPA/1986                                                                                 |
| 2-Chlorophenol<br>(95-57-8)                  | 5 x 10 <sup>-5</sup> mg/L<br>RED | 28,500 mg/L (20°C)<br>from Ambient Water<br>Quality Criteria:<br>2-Chlorophenol/1980        | Health Effects Assessment<br>for the 129 Priority Pol-<br>lutants/Memorandum/ECAO-<br>Cin/April 1, 1982                          |
| 4,6-Dinitro-o-cresol<br>(534-52-1)           | 0.04 mg/L<br>RED                 | 100mg/L (20°C) from<br>Hazard Profile: 4,6-<br>Dinitro-o-cresol/ECAO-<br>Cin/April 15, 1980 | Summary of Current Accept-<br>able Daily Intakes (ADIs)<br>for Oral Exposure/Internal<br>Review Draft/ECAO-Cin/Feb.<br>1984      |
| Bis(2-chloroisopropyl) ether<br>(39638-32-9) | 0.04 mg/L<br>RED                 |                                                                                             | Summary of Current Accept-<br>able Daily Intakes (ADIs)<br>for Oral Exposure/Internal<br>Review Draft/ECAO-Cin/Feb.<br>Feb. 1984 |

Table of Health-Based Numbers

| <u>Chemical Name</u>                     | <u>Health-based Number</u>                                              | <u>Water Solubility</u>                                                                                      | <u>Reference</u>                                                                                                                        |
|------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| * Acetone<br>(67-64-1)                   | 4 mg/L<br>Verified RFD                                                  |                                                                                                              | Verified Reference Doses of<br>the U.S. EPA/Jan. 1986                                                                                   |
| Acetophenone<br>(98-86-2)                | 15 mg/L<br>RFD                                                          |                                                                                                              | Summary of Current Accept-<br>able Daily Intakes (ADIs)<br>for Oral Exposure/Internal<br>Review Draft/ECAO-Cin/Feb.<br>1984             |
| Acrolein<br>(107-02-8)                   | 0.5 mg/L,<br>RFD                                                        | 200,000 ppm (20°C)<br>400,000 ppm (25°C)                                                                     | Health and Environmental<br>Effects Profile for Acrolein<br>/Final Draft/ECAO-Cin/Sept.<br>1985                                         |
| * 1,2,3,4-benz(a)anthracene<br>(56-55-3) | 1 x 10 <sup>-5</sup> mg/L,<br>RSD at the 10 <sup>-6</sup><br>risk level |                                                                                                              | Review of Toxicologic Data<br>in Support of Evaluation<br>for Carcinogenic Potential<br>of Benz(a)anthracene/SRC<br>TR-83-553/June 1983 |
| Benzyl chloride<br>(100-44-7)            | 0.2 mg/L<br>RFD                                                         |                                                                                                              | IARC Monographs on the<br>Evaluation of Carcinogenic<br>Risk of Chemicals to Man/<br>Vol.29/IARC/1982                                   |
| Benzidine<br>(92-87-5)                   | 1 x 10 <sup>-7</sup> mg/L<br>RSD at the 10 <sup>-6</sup><br>risk level  |                                                                                                              | Health Assessment Document<br>for Tetrachloroethylene/<br>Final Report/OHEA/July 1985                                                   |
| * Cresylic acid<br>(1319-773)            | 2 mg/L<br>Verified RFD                                                  |                                                                                                              | Verified Reference Doses of<br>the U.S. EPA/Jan. 1986                                                                                   |
| 1,2-Trans-dichloroethylene<br>(156-60-5) | 0.4 mg/L<br>RFD                                                         | 6300 mg/L (20°C)<br>from Hazard Profile<br>for 1,2-Trans-dichloro-<br>ethylene/First Draft/<br>EPA/Jan. 1983 | ODW Health Advisory for<br>Trans-1,2-Dichloroethylene/<br>Draft/Sept. 30, 1985                                                          |

100-357

| <u>Chemical Name</u>               | <u>Health-based Number</u>                                             | <u>Water Solubility</u>                                                                   | <u>Reference</u>                                                                                                                         |
|------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Dimethyl phthalate<br>(131-11-3)   | 350 mg/L<br>RfD                                                        | 4.32 x 10 <sup>3</sup> mg/L (25°C)                                                        | Health and Environmental<br>Effects Profile for<br>Phthalic Acid, Alkyl, Aryl, &<br>Alkyl/Aryl Esters/ECAO-Cin/<br>First Draft/July 1986 |
| Di-n-octyl phthalate<br>(117-84-0) | 0.6 mg/L<br>RfD                                                        | 3.0 mg/L (25°C)                                                                           | Health and Environmental<br>Effects Profile for<br>Phthalic Acid, Alkyl, Aryl, &<br>Esters/ECAO-Cin/First Draft/<br>July 1986            |
| Fluoranthene<br>(206-44-0)         | 0.2 mg/L<br>RfD                                                        | 2.65 x 10 <sup>-1</sup> mg/l (25°C)                                                       | Ambient Water Quality Cri-<br>teria for Fluoranthene/Oct.<br>1980                                                                        |
| Hydrazine<br>(302-01-2)            | 3 x 10 <sup>-6</sup> mg/L<br>RSD at the 10 <sup>-6</sup><br>risk level | miscible                                                                                  | Health and Environmental<br>Effects Profile for Hydra-<br>zine and Hydrazine Sulfate/<br>Final Draft/ECAO-Cin/Sept.<br>1984              |
| * Naphthalene<br>(91-20-3)         | 9 mg/L<br>RfD                                                          |                                                                                           | Summary of Current Accept-<br>able Daily Intakes (ADIs)<br>for Oral Exposure/ECAO-Cin/<br>Feb. 1984                                      |
| Nitrosodimethylamine<br>(62-75-9)  | 1 x 10 <sup>-6</sup> mg/L<br>RSD at the 10 <sup>-6</sup><br>risk level |                                                                                           | Health Assessment Document<br>for Tetrachloroethylene/<br>Final Report/OHFA/July 1985                                                    |
| Nitrobenzene<br>(91-05-3)          | 0.02 mg/L<br>Verified RfD                                              | 1900 ppm (20°C)<br>2090 ppm (25°C)<br>(from Health and Environ-<br>mental Effects Profile | Verified Reference Doses of<br>the U.S. EPA/Jan. 1986                                                                                    |

Page 15

| <u>Chemical Name</u>                   | <u>Health-based Number</u>                                    | <u>Water Solubility</u>                                                               | <u>Reference</u>                                                                                      |
|----------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 2,4,5-TP<br>(93-72-1)                  | 0.3 mg/L<br>R(1)                                              | 140 mg/L (25°C)                                                                       | ODW Health Advisory for<br>2,4,5-TP/Draft/Sept. 30,<br>1985                                           |
| 1,1,2,2-Tetrachloroethane<br>(79-34-5) | $2 \times 10^{-3}$ mg/L<br>RSD at the $10^{-5}$<br>risk level | 2.9 g/L (20°C)                                                                        | Hazard Profile for 1,1,2,2-<br>Tetrachloroethane/First<br>Draft/ECHO-Cin/May 1983                     |
| * Xylene<br>(1330-20-7)                | 2 mg/L<br>R(1)                                                | 175 g/L (20°C)<br>for o-xylene                                                        | ODW Health Advisory for<br>Xylenes/Draft/Sept. 30, 1985                                               |
| * 1,1,1-Trichloroethane<br>(71-55-6)   | 3 mg/L<br>R(1)                                                | 0.44 g/100 g (25°C)                                                                   | Hazard Profile for 1,1,1-<br>Trichloroethane/First Draft/<br>ECHO-Cin/June 1983                       |
| Acetonitrile<br>(75-05-8)              | 0.6 mg/L<br>R(1)                                              | completely<br>miscible                                                                | Health and Environmental<br>Effects Profile for Aceto-<br>nitrile/Final Draft/ECHO-<br>Cin/Sept. 1985 |
| Diphenylamine<br>(122-39-4)            | 2 mg/L<br>R(1)                                                | 29.6 ppm (20°C)<br>35.7 ppm (25°C)                                                    | Health and Environmental<br>Profile for N,N-Diphenyl-<br>amine/First Draft/ECHO-Cin/<br>June 1985     |
| * Ethyl ether<br>(60-29-7)             | 18 mg/L<br>Verified R(1)                                      | 7.5 g/100 g (20°C)<br>from Ethyl Ether:<br>Hazard Profile/ECHO<br>-Cin/April 15, 1980 | Verified Reference Doses of<br>the U.S. EPA/1986                                                      |
| Isophorone<br>(78-59-1)                | 7 mg/L<br>Verified R(1)                                       |                                                                                       | Verified Reference Doses of<br>the U.S. EPA/1986                                                      |

14B \*

| <u>Chemical Name</u>                   | <u>Health-based Number</u>                                             | <u>Water Solubility</u>                                                                                                                                                                                  | <u>Reference</u>                                                                                                                              |
|----------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1,2-Diphenyl hydrazine<br>(122-66-7)   | 5 x 10 <sup>-5</sup> mg/L<br>RSD at the 10 <sup>-6</sup><br>risk level |                                                                                                                                                                                                          | Health Assessment Document<br>for Tetrachloroethylene/<br>Final Report/OHFA/July 1985                                                         |
| Hexachlorocyclopentadiene<br>(77-47-4) | 0.2 mg/L<br>Verified RFD                                               |                                                                                                                                                                                                          | Verified Reference Doses of<br>the U.S. EPA/1986                                                                                              |
| Peryllium<br>(7440-41-7)               | 0.02 mg/L<br>Verified RFD                                              |                                                                                                                                                                                                          | Verified Reference Doses of<br>the U.S. EPA/1986                                                                                              |
| 1,4-Dioxane<br>(123-91-1)              | 0.007 mg/L<br>RSD at the 10 <sup>-6</sup><br>risk level                |                                                                                                                                                                                                          | Review of Toxicologic Data<br>in Support of Evaluation of<br>Carcinogenic Potential of<br>1,4-Dioxane/SRC TR-82-64/<br>1983                   |
| Ethyl benzene<br>(100-41-4)            | 4 mg/L<br>Verified RFD                                                 |                                                                                                                                                                                                          | Verified Reference Doses of<br>the U.S. EPA/Jan. 1986                                                                                         |
| Di-n-butyl phthalate<br>(84-74-2)      | 4 mg/L<br>RFD                                                          | 13 mg/L (25°C)                                                                                                                                                                                           | Health and Environmental<br>Effects Profile for<br>Phthalic Acid, Alkyl,<br>Aryl, and Alkyl/Aryl<br>Esters/First Draft/ECNO-<br>Cin/July 1986 |
| Diethyl phthalate<br>(84-66-2)         | 455 mg/L<br>Verified RFD                                               | 129 mg/L <sup>1</sup> (20°C)<br>896 mg/L (25°C)<br>from<br>Health and Environmental<br>Effects Profile for<br>Phthalic Acid, Alkyl,<br>Aryl, and Alkyl/Aryl<br>Esters/First Draft/ECNO-<br>Cin/July 1986 | Verified Reference Doses of<br>the U.S. EPA/1986                                                                                              |

| <u>Chemical Name</u>         | <u>Health-based Number</u>                               | <u>Water Solubility</u> | <u>Reference</u>                                                                                 |
|------------------------------|----------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------|
| Quinoline<br>(91-22-5)       | $3 \times 10^{-6}$ mg/L<br>RSD at the 10-6<br>risk level | 6110 mg/L (25°C)        | Health and Environmental<br>Effects Profile for<br>Quinoline/Final Draft/<br>ECHO-CIn/Sept. 1985 |
| 2,4-D<br>(94-75-7)           | 0.4 mg/L<br>RED                                          |                         | ODW Health Advisory for<br>2,4-D/Draft/Sept. 30, 1985                                            |
| Allyl Alcohol<br>(107-18-60) | 0.2 mg/L<br>RED                                          | miscible                | Verified Reference Doses of<br>the U.S. EPA/1986                                                 |

10-18-86



**EPA TENTATIVE LIST OF HAZARDOUS WASTE CONSTITUENTS  
TO BE PROPOSED FOR TESTING FOR POSSIBLE CONTROL UNDER RCRA  
(Undated)**

Table 1 -- HAZARDOUS WASTE CONSTITUENTS SUBJECT TO TESTING

| CHEMICAL                                | CAS NO.    | Subchronic<br>Toxicity Testing |                | Hydrolysis<br>Testing |                | Biodegradation<br>Testing |                | Soil Sorption<br>Testing |                |
|-----------------------------------------|------------|--------------------------------|----------------|-----------------------|----------------|---------------------------|----------------|--------------------------|----------------|
|                                         |            | NO<br>data                     | Insuf.<br>data | NO<br>data            | Insuf.<br>data | NO<br>data                | Insuf.<br>data | NO<br>data               | Insuf.<br>data |
| Acetamide,<br>N-(asimethioisomethyl)    | 591-08-2   | X                              |                |                       | X              | X                         |                | X                        |                |
| Acetamide, 2-fluoro                     | 640-19-7   | X                              |                | X                     |                |                           | X              | X                        |                |
| Acetophenone                            | 98-86-2    |                                |                |                       |                | X                         |                |                          |                |
| Ammonium vanadate                       | 7803-35-6  |                                |                |                       |                |                           |                | X                        |                |
| Benzal chloride                         | 98-87-3    |                                |                |                       |                | X                         |                |                          |                |
| p-Benzoquinone                          | 106-51-6   | X                              |                |                       |                |                           |                |                          |                |
| 2,2'-Bioxirane                          | 1464-53-5  |                                |                |                       | X              |                           |                |                          |                |
| Bis(2-chloroethoxy)methane              | 111-91-1   | X                              |                |                       | X              |                           |                |                          |                |
| Bis(2-chloroisopropyl)ether             | 108-60-1   |                                |                | X                     |                |                           |                |                          |                |
| Bromacetone                             | 598-31-2   | X                              |                |                       |                |                           |                |                          |                |
| 4-Bromobenzylcyanide                    | 16532-79-9 | X                              |                | X                     |                | X                         |                | X                        |                |
| Bromofors                               | 75-25-2    |                                |                |                       | X              |                           | X              |                          |                |
| 1-Bromo-4-phenoxy benzene               | 101-55-3   | X                              |                |                       |                |                           |                |                          |                |
| Carbonyl fluoride                       | 353-50-4   | X                              |                |                       |                |                           |                |                          |                |
| Chloral                                 | 75-87-6    |                                |                |                       |                | X                         |                |                          |                |
| 2-Chlorobenzotrichloride                | 2136-89-2  | X                              |                | X                     |                | X                         |                | X                        |                |
| 4-Chlorobenzotrichloride                | 5216-25-1  | X                              |                | X                     |                | X                         |                | X                        |                |
| 2-Chloroethyl vinyl ether               | 110-75-8   | X                              |                |                       | X              |                           |                |                          |                |
| Chloronaphazine                         | 494-03-1   | X                              |                |                       |                |                           |                |                          |                |
| 1-(o-Chlorophenyl)thiourea              | 5344-82-1  | X                              |                |                       |                |                           |                |                          |                |
| Cyanogen bromide                        | 506-66-3   | X                              |                |                       |                |                           |                |                          |                |
| 2,4-D, salts and esters                 | 94-75-7    |                                |                | X                     |                |                           |                |                          |                |
| Daunomycin                              | 20830-81-3 | X                              |                |                       |                |                           |                |                          |                |
| Dibromomethane                          | 74-95-3    |                                |                | X                     |                | X                         |                |                          |                |
| Dibutyl phthalate                       | 84-74-2    |                                |                |                       |                |                           | X              |                          |                |
| 1,2-Dichlorobenzene                     | 95-50-1    |                                |                |                       |                |                           | X              |                          |                |
| 1,3-Dichlorobenzene                     | 541-71-1   |                                |                |                       |                | X                         |                |                          |                |
| 1,4-Dichlorobenzene                     | 106-46-7   |                                |                |                       |                |                           | X              |                          |                |
| 1,1-Dichloroethane                      | 75-34-3    |                                |                | X                     |                |                           | X              |                          |                |
| 1,3-Dichloropropenol                    | 96-23-1    | X                              |                |                       | X              | X                         |                |                          | X              |
| 2,3-Dichloropropenol                    | 616-23-9   |                                |                |                       | X              | X                         |                |                          | X              |
| 6,6-Diethyl-<br>s-methyldithiophosphate | 3280-58-2  | X                              |                | X                     |                |                           |                |                          |                |
| Dihydroacrolein                         | 94-58-6    |                                |                | X                     |                |                           |                |                          |                |
| α,α-Dimethylp-nitroethylamine           | 77-09-8    | X                              |                |                       |                |                           |                |                          |                |

Table 1 -- HAZARDOUS WASTE CONSTITUENTS SUBJECT TO TESTING (Con't)

| CHEMICAL                         | CAS NO.   | Subchronic Toxicity Testing |             | Hydrolysis Testing |             | Biodegradation Testing |             | Soil Sorption Testing |             |
|----------------------------------|-----------|-----------------------------|-------------|--------------------|-------------|------------------------|-------------|-----------------------|-------------|
|                                  |           | No data                     | Insuf. data | No data            | Insuf. data | No data                | Insuf. data | No data               | Insuf. data |
| Dimethyl phthalate               | 131-11-3  |                             |             |                    |             |                        | X           |                       |             |
| 4,6-Dinitro-o-cyclohexylphenol   | 131-89-5  | X                           |             | X                  |             |                        |             |                       |             |
| 2,6-Dinitrotoluene               | 606-20-2  |                             |             | X                  |             | X                      |             | X                     |             |
| Endrin                           | 72-20-8   |                             |             | X                  |             | X                      |             |                       |             |
| Ethylene-bis-dithiocarbamic acid | 111-54-4  | X                           |             |                    |             |                        |             |                       |             |
| Ethylmethacrylate                | 97-63-2   |                             |             | X                  |             |                        |             |                       |             |
| Glycidylaldehyde                 | 765-34-4  |                             |             | X                  |             |                        |             |                       |             |
| Hexachlorophene                  | 70-30-4   |                             |             |                    |             | X                      |             |                       |             |
| Hexaethyl-tetra-phosphate        | 757-58-4  | X                           |             |                    |             |                        |             |                       |             |
| Isosafrole                       | 120-58-1  |                             |             | X                  |             |                        |             |                       |             |
| Maleic anhydride                 | 108-31-6  |                             | X           |                    |             | X                      |             |                       |             |
| Maleic hydrazide                 | 123-33-1  |                             |             | X                  |             | X                      |             | X                     |             |
| Malononitrile                    | 109-77-3  | X                           |             |                    |             |                        |             |                       |             |
| Methacrylonitrile                | 126-98-7  |                             |             | X                  |             |                        |             |                       |             |
| Methanethiol                     | 74-83-1   |                             |             | X                  |             |                        | X           |                       |             |
| Methyl chloride                  | 75-07-3   |                             |             |                    |             | X                      |             |                       |             |
| Methyl chlorocarbonate           | 79-22-1   | X                           |             |                    |             |                        |             |                       |             |
| 1-Naphthylamine                  | 134-32-7  |                             |             | X                  |             |                        | X           | X                     |             |
| Nicotine and salts               | 54-11-5   |                             |             |                    |             | X                      |             |                       |             |
| p-Nitroaniline                   | 100-01-6  |                             |             |                    |             |                        | X           |                       |             |
| p-Nitrophenol                    | 100-02-7  | X                           |             |                    |             |                        |             |                       |             |
| Paraldehyde                      | 123-63-7  |                             |             |                    |             | X                      |             |                       |             |
| Pentachlorobenzene               | 608-93-5  |                             |             | X                  |             |                        | X           |                       |             |
| Pentachloroethane                | 76-01-7   |                             |             | X                  |             | X                      |             |                       |             |
| Phenacetin                       | 62-44-2   |                             |             | X                  |             |                        |             |                       |             |
| n-Phenylthiourea                 | 103-85-5  |                             |             | X                  |             |                        |             |                       |             |
| Phosgene                         | 75-44-5   | X                           |             |                    |             |                        |             |                       |             |
| Phthalic anhydride               | 85-44-9   |                             |             |                    |             | X                      |             |                       |             |
| 2-Picoline                       | 109-06-4  |                             |             |                    |             |                        | X           |                       |             |
| 1-Propanamine                    | 107-10-8  | X                           |             |                    |             |                        |             |                       |             |
| Propanenitrile                   | 107-12-0  |                             |             | X                  |             |                        |             |                       |             |
| Propanenitrile, 3-chloro         | 542-76-7  | X                           |             |                    |             |                        |             |                       |             |
| Saccharin and salts              | 81-07-2   |                             |             | X                  |             |                        |             |                       | X           |
| 1,2,4,5-Tetrachlorobenzene       | 95-94-J   |                             |             | X                  |             |                        |             |                       |             |
| Tetraethyldithiopyrophosphate    | 3689-24-5 |                             |             | X                  |             |                        |             |                       |             |
| Thiosemicarbazide                | 79-19-6   |                             |             | X                  |             |                        |             |                       | X           |
| o-Toluidine hydrochloride        | 636-21-5  |                             |             |                    |             | X                      |             |                       |             |
| Trichloromethanethiol            | 594-42-3  | X                           |             | X                  |             |                        |             |                       |             |
| Trypan blue                      | 72-57-1   |                             |             |                    |             |                        |             |                       | X           |

# APPENDIX A

## REFERENCE AIR CONCENTRATIONS (RACs) FOR THRESHOLD CONSTITUENTS

| Constituent                | Maximum Annual Average<br>Ground Level Concentration<br>( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|--------------------------------------------------------------------------------------|
| acetonitrile               | 10                                                                                   |
| acetophenone               | 500                                                                                  |
| acrolein                   | 0.25                                                                                 |
| aluminum phosphide         | 0.25                                                                                 |
| allyl alcohol              | 5                                                                                    |
| antimony                   | 0.25                                                                                 |
| barium                     | 50                                                                                   |
| barium cyanide             | 50                                                                                   |
| benzidine                  | $0.5 \times 10^{-5}$                                                                 |
| bis(2-ethylhexyl)phthalate | 17                                                                                   |
| bromomethane               | 0.7                                                                                  |
| calcium cyanide            | 25                                                                                   |
| * carbon disulfide         | 200                                                                                  |
| chlordane                  | $5 \times 10^{-3}$                                                                   |
| 2-chloro-1,3-butadiene     | 2.5                                                                                  |
| chloromethane              | 0.7                                                                                  |
| * chromium III             | 1,000                                                                                |
| copper cyanide             | 50                                                                                   |
| * cresols                  | 100                                                                                  |
| * cyanide (free)           | 17                                                                                   |
| cyanogen                   | 25                                                                                   |
| di-n-butyl phthalate       | 10                                                                                   |
| o-dichlorobenzene          | 10                                                                                   |
| dichlorodifluoromethane    | 170                                                                                  |
| 2,4-dichlorophenol         | 2.5                                                                                  |
| 1,3-dichloropropene        | 0.25                                                                                 |
| diethyl phthalate          | 10                                                                                   |
| dimethoate                 | 1.0                                                                                  |
| 2,4-dinitrophenol          | 1.0                                                                                  |
| diphenylamine              | 225                                                                                  |
| endosulfan                 | 0.01                                                                                 |
| endrin                     | 0.05                                                                                 |
| flourine                   | 50                                                                                   |
| * formaldehyde             | $2 \times 10^{-3}$                                                                   |
| formic acid                | 1700                                                                                 |

APPENDIX A (continued)

|                            |                                     | Maximum Annual Average<br>Ground Level Concentration<br>( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|-------------------------------------|--------------------------------------------------------------------------------------|
| Constituent                |                                     |                                                                                      |
|                            | heptachlor                          | 0.1                                                                                  |
|                            | hexachlorocyclopentadiene           | 5                                                                                    |
|                            | hydrocyanic acid                    | 17                                                                                   |
| LAB *                      | hydrogen chloride                   | maximum of 150<br>for three minute<br>average                                        |
| BYPRODUCT<br>OF REFINING * | hydrogen sulfide                    | 2.5                                                                                  |
|                            | isobutyl alcohol                    | 250                                                                                  |
|                            | lead                                | 0.09                                                                                 |
|                            | mercury                             | 1.7                                                                                  |
|                            | methanol                            | 23                                                                                   |
|                            | methoxychlor                        | 50                                                                                   |
| *                          | methyl ethyl ketone                 | 75                                                                                   |
|                            | methyl hydrazine                    | $7 \times 10^{-3}$                                                                   |
|                            | methyl parathion                    | 2.5                                                                                  |
|                            | nickel                              | 10                                                                                   |
|                            | nickel cyanide                      | 17                                                                                   |
|                            | nitric oxide                        | 25                                                                                   |
|                            | nitrobenzene                        | 0.5                                                                                  |
|                            | pentachlorobenzene                  | 1.7                                                                                  |
|                            | pentachlorophenol                   | 25                                                                                   |
| *                          | phenol                              | 100                                                                                  |
|                            | m-phenylenediamine                  | 5                                                                                    |
|                            | phenylmercuric acetate              | 0.08                                                                                 |
|                            | phosphine                           | 0.25                                                                                 |
| *                          | PCBs                                | $2 \times 10^{-4}$                                                                   |
|                            | Potassium cyanide                   | 50                                                                                   |
|                            | potassium silver cyanide            | 170                                                                                  |
|                            | pyridine                            | 5                                                                                    |
|                            | selenious acid                      | 2.5                                                                                  |
|                            | selenourea                          | 5                                                                                    |
|                            | silver                              | 5                                                                                    |
|                            | silver cyanide                      | 100                                                                                  |
|                            | sodium cyanide                      | 25                                                                                   |
|                            | strychnine                          | 0.25                                                                                 |
|                            | 1,2,4,5-tetrachlorobenzene          | 0.25                                                                                 |
|                            | 2,3,7,8-tetrachlorodibenzo-p-dioxin | $5 \times 10^{-9}$                                                                   |
|                            | 2,3,7,8-tetrachlorophenol           | 10                                                                                   |
| *                          | tetraethyl lead                     | $1 \times 10^{-4}$                                                                   |

APPENDIX A (continued)

| Constituent                | Maximum Annual Average<br>Ground Level Concentration<br>( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|--------------------------------------------------------------------------------------|
| thallic oxide              | 0.25                                                                                 |
| thallium                   | 500                                                                                  |
| thallium (I) acetate       | 0.5                                                                                  |
| thallium (I) carbonate     | 0.25                                                                                 |
| thallium (I) chloride      | 0.5                                                                                  |
| thallium (I) nitrate       | 0.5                                                                                  |
| thallium selenite          | 0.5                                                                                  |
| thallium (I) sulfate       | 0.5                                                                                  |
| * toluene                  | 500                                                                                  |
| 1,2,4-trichlorobenzene     | 17                                                                                   |
| trichloromonofluoromethane | 250                                                                                  |
| 2,4,5-trichlorophenol      | 100                                                                                  |
| vanadium pentoxide         | 17                                                                                   |
| * vinyl chloride           | 0.05                                                                                 |

# APPENDIX B

## RISK SPECIFIC DOSES FOR CARCINOGENIC CONSTITUENTS AT 10<sup>-5</sup> RISK LEVEL

| Constituent                       | Risk Specific Dose<br>(ug/m <sup>3</sup> ) |
|-----------------------------------|--------------------------------------------|
| Acrylamide                        | 9 x 10 <sup>-3</sup>                       |
| Acrylonitrile                     | 1 x 10 <sup>-1</sup>                       |
| Aldrin                            | 2 x 10 <sup>-3</sup>                       |
| Aniline                           | 1                                          |
| Arsenic                           | 2 x 10 <sup>-3</sup>                       |
| * Benz(a)anthracene               | 1 x 10 <sup>-2</sup>                       |
| * Benzene                         | 1                                          |
| * Benzo(a)pyrene                  | 3 x 10 <sup>-3</sup>                       |
| Beryllium                         | 4 x 10 <sup>-3</sup>                       |
| Bis(2-chloroethyl)ether           | 3 x 10 <sup>-2</sup>                       |
| Bis(2-chloromethyl)ether          | 4 x 10 <sup>-3</sup>                       |
| Cadmium                           | 6 x 10 <sup>-3</sup>                       |
| Carbon tetrachloride              | 7 x 10 <sup>-1</sup>                       |
| 1-Chloro-2,3-epoxypropane         | 8                                          |
| Chloroform                        | 4 x 10 <sup>-7</sup>                       |
| Chloromethyl methyl ether         | 4 x 10 <sup>-3</sup>                       |
| Chromium (hexavalent)             | 8 x 10 <sup>-4</sup>                       |
| DDT                               | 3 x 10 <sup>-2</sup>                       |
| * Dibenz(a,h)anthracene           | 7 x 10 <sup>-4</sup>                       |
| 1,2-Dibromo-3-chloropropane       | 2 x 10 <sup>-3</sup>                       |
| 1,2-Dibromobethane                | 8 x 10 <sup>-4</sup>                       |
| 1,4-Dichlorobenzene               | 2                                          |
| * 1,2-Dichloroethane              | 4 x 10 <sup>-1</sup>                       |
| * 1,1-Dichloroethylene            | 2 x 10 <sup>-1</sup>                       |
| Dieldrin                          | 2 x 10 <sup>-3</sup>                       |
| Diethylstilbestrol                | 7 x 10 <sup>-5</sup>                       |
| Dimethylnitrosamine               | 1 x 10 <sup>-4</sup>                       |
| 2,4-Dinitrotoluene                | 1 x 10 <sup>-1</sup>                       |
| Dioxane                           | 7                                          |
| Ethylene oxide                    | 1 x 10 <sup>-1</sup>                       |
| Hexachlorobenzene                 | 2                                          |
| Hexachlorobutadiene               | 5 x 10 <sup>-1</sup>                       |
| Hydrazine                         | 3 x 10 <sup>-3</sup>                       |
| Hydrazine Sulfate                 | 3 x 10 <sup>-3</sup>                       |
| 3-Methylcholanthrene              | 4 x 10 <sup>-3</sup>                       |
| * Methylene chloride              | 2                                          |
| 4,4-Methylene-bis-2-chloroaniline | 2 x 10 <sup>-1</sup>                       |

APPENDIX B (continued)

| Constituent                              | Risk Specific Dose<br>( $\mu\text{g}/\text{m}^3$ ) |
|------------------------------------------|----------------------------------------------------|
| CATALYST * Nickel (carbonyl & Disulfide) | $3 \times 10^{-2}$                                 |
| 2-Nitropropane                           | $4 \times 10^{-3}$                                 |
| N-Nitroso-n-methylurea                   | $1 \times 10^{-5}$                                 |
| N-Nitrosopyrrolidine                     | $2 \times 10^{-2}$                                 |
| Pentachloronitrobenzene                  | $1 \times 10^{-1}$                                 |
| Pronamide                                | 2                                                  |
| Reserpine                                | $3 \times 10^{-3}$                                 |
| 1,1,2,2-Tetrachloroethane                | $2 \times 10^{-5}$                                 |
| Tetrachloroethylene                      | 21                                                 |
| Thiourea                                 | $2 \times 10^{-2}$                                 |
| * Trichloroethylene                      | 6                                                  |