**Toxic Compound Data Sheet**

**Name:** Indene

**CAS Number:** 00095-13-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Indene is acutely toxic with effects on the upper respiratory system (mucous membranes), pulmonary irritation, liver and kidney effects.

**Molecular Weight (g/mol):** 116.15

**Synonyms:** Indonaphthene

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 10 ppm or 47,505 µg/$m^3$. Critical effects include upper respiratory irritation or damage, pulmonary irritation, and liver and kidney effects.

**HSDB:** Listed in the Hazardous Substances Data Bank. Inhalation of indene vapors is expected to cause irritation of mucous membranes.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** Not listed by ATSDR.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by 7,1,1 Date: 8/16/06, 8/20/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Indium and compounds, as In

**CAS Number:** 07440-74-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Indium is acutely toxic, causing pulmonary edema, pneumonitis, bone and dental erosion, malaise, and gastro-intestinal effects.

**Molecular Weight (g/mol):** 49.00

**Synonyms:** Indium metal, Indium compounds

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.1 $mg/m^3$ or 100 $\mu g/m^3$. Critical effects included pulmonary edema, pneumonitis, bone and dental erosion, malaise, and gastrointestinal effects.

**HSDB:** Toxicity undefined in Hazardous Substances Data Base.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

Completed by: 7,1,1 Date: 8/16/06, 8/20/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Isophorone diisocyanate

**CAS Number:** 04098-71-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, cause reproductive dysfunction, are acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Isophorone diisocyanate is acutely toxic and causes dermatitis and asthma, as well as irritation of the eyes, nose, throat, lungs, and skin.

**Molecular Weight (g/mol):** 222.30

**Synonyms:** IPDI; Isocyanic acid, methylene (3,5,5 - trimethyl - 3,1 - cyclohexylene) ester; Isophorone diamine diisocyanate

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.005 ppm or 45 µg/$m^3$. Critical effects: dermatitis, asthma, sensitization.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes marked irritation of the eyes, nose, throat, lungs, and skin.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 7,1,1 Date: 8/17/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Isophorone

**CAS Number:** 00078-59-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Isophorone is acutely toxic. This compound causes eye, nose and throat irritation; leads to nausea, headache, dizziness, faintness and inebriation; and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 138.21

**Synonyms:** Isoacetophorone; Isoforon; Isophoron; alpha-Isophoron; alpha-Isophorone; 3,5,5-Trimethyl-2-cyclohexenone

**U.S. EPA Carcinogenic Classification (IRIS):** Listed in IRIS, RfD w/o RfC. Class C Possible Human Carcinogen; no inhalation unit risk factor available.

**PBT:** Not listed as Persistent, Bioaccumulative or Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV STEL (ceiling value): 5 ppm or 28,264 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Critical effects include irritation and narcosis. Eye, nose and throat irritation has been observed, along with nausea, headache, dizziness, faintness and inebriation following exposure.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with eye, nose, and throat irritation.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** 0.2 mg/kg/day, oral route, chronic exposure.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://cfpub.epa.gov/iris/quickview.cfm?substance_nmbr=0063

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/isophoro.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

5. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp138.html

Completed by: 7,1,1 Date: 8/17/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Isopropoxyethanol, 2-

**CAS Number:** 00109-59-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Isopropoxyethanol is acutely toxic and is associated with hematologic effects, central nervous depression, and kidney injury and hematuria.

**Molecular Weight (g/mol):** 104.15

**Synonyms:** Ethylene glycol isopropyl ether; beta-Hydroxyethyl isopropyl ether; Isopropyl Cellosolve; Isopropyl glycol

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 25 ppm or 106,493 µg/$m^3$. Critical effect: hematologic effects.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure causes central nervous depression, as with ethylene glycol, but ether derivatives produce more marked kidney injury and hematuria.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 7,1,1 Date: 8/17/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Isopropylamine

**CAS Number:** 00075-31-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Isopropylamine is acutely toxic and causes upper respiratory tract irritation and eye damage, including transient visual disturbances from corneal edema.

**Molecular Weight (g/mol):** 59.08

**Synonyms:** 2-Aminopropane, Monoisopropylamine, 2-Propylamine, sec-Propylamine

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent, bioaccumulative or toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Threshold quantity (TQ) listed as 10,000 lbs.

**ACGIH:** TLV: 5 ppm or 12,082 µg/$m^3$. TLV STEL: 10 ppm or 24,164 µg/$m^3$. Critical effects include upper respiratory tract irritation and eye damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure causes irritation of the nose and throat, transient visual disturbances from corneal edema.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 7, 1 Date: 8/17/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Isopropylaniline, n-

**CAS Number:** 00768-52-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. N-Isopropylaniline is acutely and chronically toxic as a skin and eye irritant and a mild dermal sensitizer. This compound also induces methemoglobinemia, headache, dizziness, weakness, lethargy, loss of coordination, dyspnea, coma, and death. Heart, liver, and kidney effects follow chronic exposure.

**Molecular Weight (g/mol):** 135.21

**Synonyms:** N-IPA, Isopropylaniline, N-(1-Methylethyl)benzenamine, N-Phenylisopropylamine

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS.

**PBT:** Not listed as persistent bioaccumulative or toxic (PBT).

**NTP:** Not listed by the National Toxicology Program (NTP).

**HAP:** Not listed by U.S. EPA as a hazardous air pollutant (HAP).

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 2 ppm or 11,060 µg/$m^3$. Potential significant contribution to the overall exposure by the cutaneous route. Critical effect: blood methemogloinemia.

**HSDB:** Listed in the Hazardous Substances Data Bank. Skin and eye irritant and a mild dermal sensitizer. It is rapidly absorbed by all routes and induces methemoglobinemia, with headache, dizziness, weakness, lethargy, loss of coordination, dyspnea, coma, and death. Heart, liver, and kidney effects may be secondary to hemolysis with chronic exposure.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

## Reference Material

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 7,1,1 Date: 8/17/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Ketene

**CAS Number:** 00463-51-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Ketene is specifically listed because it is acutely or chronically toxic and causes pulmonary edema, as well as eye, skin and respiratory irritation.

**Molecular Weight (g/mol):** 42.04

**Synonyms:** Carbomethene, Ethenone, Keto-ethylene

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on the U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.5 ppm or 860 µg/$m^3$. TLV STEL: 1.5 ppm or 2,579 µg/$m^3$. Critical effects: lung irritation, lung edema.

**HSDB:** Listed in the Hazardous Substances Data Bank. Causes severe pulmonary edema when inhaled.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 7,1,1 Date: 8/18/06, 8/24/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Lead and lead compounds, as Pb

**CAS Number:** 07439-92-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Lead compounds are specifically listed because they are reasonably anticipated to be human carcinogens, and are listed by U.S. EPA as Hazardous Air Pollutants (HAP).

**Molecular Weight (g/mol):** 207.20 (varies)

**Synonyms:** Lead, Plumbum, Lead and compounds, Lead and compounds (inorganic)

**U.S. EPA Carcinogenic Classification (IRIS):** Class B2- probable human carcinogen (based on sufficient evidence of carcinogenicity in animals).

**PBT:** Alkyl-lead listed as a PBT action plan chemical.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.05 $mg/m^3$ or 50 $\mu g/m^3$. Confirmed animal carcinogen (A3). Critical effects include central nervous system, blood, kidney, and reproductive damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Lead is listed as group 2B (possibly carcinogenic to humans); Inorganic lead compounds are listed as group 2A (probably carcinogenic to humans); Organic lead compounds are listed as group 3 (not classifiable as carcinogenic to humans).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/iris/subst/0277.htm

2. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
   http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
   http://www.epa.gov/opptintr/pbt/pubs/alkyl.htm

3. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s101lead.pdf

4. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/lead.html

5. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

6. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
   http://toxnet.nlm.nih.gov

7. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol23/volume23.pdf


Completed by: 7,2,1,1 Date: 8/18/06, 8/24/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Lindane (all isomers)

**CAS Number:** 00058-89-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Lindane is specifically listed because it is reasonably anticipated to be a human carcinogen, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

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**Molecular Weight (g/mol):** 290.85

**Synonyms:** Aalindan; Aficide; Agrisol g-20; Agronexit; Ameisenatod; Ameisenmittel merck; Aparasin; Aphtiria; Aplidal; Arbitex; BBH; Ben-hex; Bentox 10; gamma-Benzene hexachloride; Benzene hexachloride-gamma-isomer; Bexol; BHC; gamma-BHC; Celanex; Chloresene; Codechine; Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma-isomer; DBH; Detmol-extrakt; Detox 25; Devoran; Dol granule; Drill tox-spezial aglukon; ENT 7,796; Entomoxan; Exagama; Forlin; Gallogama; Gamacarbatox; Gamacid; Gamaphex; Gamene; Gamiso; Gamma-col; Gammahexa; Gammahexane; Gammalin; Gammalin 20; Gammaterr; Gammex; Gammexane; Gammopaz; Gexane; HCCH; HCH; gamma-HCH; Heclotox; Hexa; Hexachloran; Hexachlorane; gamma-Hexachlorane; gamma-Hexachloran; gamma-Hexachlor; gamma-Hexachlorobenzene; 1,2,3,4,5,6-Hexachlorocyclohexane; 1-alpha,2-alpha,3-beta,4-alpha,5-alpha,6-beta-Hexachlorocyclohexane; Hexachlorocyclohexane, gamma-; gamma-1,2,3,4,5,6-Hexachlorocyclohexane; 1,2,3,4,5,6-Hexachlorocyclohexane, gamma-isomer; Hexachlorocyclohexane, gamma-isomer; Hexatox; Hexaverm; Hexicide; Hexyclan; HGI; Hortex; Inexit; Isotox; Jacutin; Kokotine; Kwell; Lendine; Lentox; Lidenal; Lindafor; Lindagam; Lindagrain; Lindagranox; Lindane; gamma-Lindane; Lindapoudre; Lindatox; Lindosep; Lintox; Lorexane; Milbol 49; Mszycol; NA 2761; NCI-C00204; neo-Scabicidol; Nexit; Nexit-stark; Novigam; Omnitox; Pedraczak; RCRA Waste Number U129; Silvanol; Streunex; Tap 85; Tri-6; Nicochloran; Owadziak; Quellada; Sang gamma; Spruehpflanzol; Viton; Nexen fb; Nexol-e; Pflanzol; Spritz-rapidin; Hexachlorocyclohexane (gamma-HCH)

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.5 mg/$m^3$ or 500 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). The potential exists for significant cutaneous exposure (skin notation). Critical effects include central nervous system and liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/iris/subst/0065.htm

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s102lind.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/lindane.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
   http://toxnet.nlm.nih.gov


Completed by: 7,2,1,1 Date: 8/18/06, 8/24/06, 08/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Malathion

**CAS Number:** 00121-75-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Malathion is specifically listed because it is acutely or chronically toxic as a cholinesterase inhibitor, and is a respiratory and skin irritant.

**Molecular Weight (g/mol):** 330.36

**Synonyms:** American cyanamid 4,409; Cabofos; Calmathion; Carbethoxy malathion; Carbetox; Carbophos; Chemathion; Cythion; Detmol ma 96%; Dicarboethoxyethyl o,o-dimethyl phosphorodithioate; 1,2-di(Ethoxycarbonyl)ethyl o,o-dimethyl phosphorodithioate; Diethyl mercaptosuccinate, o,o-dimethyl dithiophosphate, s-ester; Diethyl mercaptosuccinate, o,o-dimethyl phosphorodithioate; Diethyl mercaptosuccinate, o,o-dimethyl thiophosphate; Dithiophosphate de o,o-dimethyle et de s-(1,2-dicarboethoxyethyle); Emmatos extra; ENT 17,034; Ethiolacar; Formal; Fosfothion; Fosfotion; Fyfanon; Karbofos; Kop-thion; Kypfos; Malacide; Malagran; Malakill; Malamar; Malamar 50; Malaphele; Malaphos; Malaspray; Malathion; Malathon; Malation; Malatol; Malatox; Maldison; Malmed; Malphos; Maltox; Mercaptothion; Mercaptotion; Mlt; NCL-C00215; Oleophosphothion; o,o-Dimethyldithiophosphate diethylmercaptosuccinate; o,o-Dimethyl s-(1,2-bis(ethoxycarbonyl)ethyl)dithiophosphate; o,o-Dimethyl-s-(1,2-dicarbethoxyethyl) dithiophosphate; o,o-Dimethyl s-(1,2-dicarbethoxyethyl)phosphorodithioate; o,o-Dimethyl s-(1,2-dicarbethoxyethyl)thiothionphosphate; o,o-Dimethyl s-1,2-di(ethoxycarbamyl)ethyl phosphorodithioate; o,o-Dimethyl-s-1,2-dikarbetoxylethylditiofosfat; Phosphothion; Sadofos; Sadophos; s-(1,2-bis(Aethoxy-carbonyl)-aethyl)-o,o-dimethyldithiophasphat; s-(1,2-bis(Ethoxy-carbonyl)-ethyl)-o,o-dimethyldithiofosfaat; s-(1,2-bis(Ethoxycarbonyl)ethyl o,o-dimethyl phosphorodithioate; s-1,2-bis(Ethoxycarbonyl)ethyl-o,o-dimethyl thiophosphate; s(1,2-bis(etossi-carbonil)-etil)-o,o-dimetil-ditiofosfato; s-(1,2-di(Ethoxycarbonyl)ethyl dimethyl phosphorothiolothionate; SF 60; Siptox 1; Sumitox; Vegfru; Zithiol

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available.

**PBT:** Not listed on U.S. EPA PBT Chemical Program list.

**NTP:** Not listed on U.S. EPA NTP list.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 1 mg/$m^3$ or 1,000 µg/$m^3$. Critical effects include cholinergic effects, as well as respiratory and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a respiratory and skin irritant, and a cholinesterase inhibitor.

**International IARC:** Not classifiable as carcinogenic to humans (Group 3).

**ATSDR (MRL):** 20 µg/$m^3$, inhalation route, intermediate exposure.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://cfpub.epa.gov/iris/quickview.cfm?substance_nmbr=0248

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol30/volume30.pdf

4 Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp154.html

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/18/06, 8/22/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Maleic anhydride

**CAS Number:** 00108-31-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Maleic anhydride is specifically listed because it is acutely or chronically toxic, causes eye and respiratory tract irritation, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight (g/mol):** 98.06

**Synonyms:** cis-Butenedioic anhydride; 2,5-Furandione; Maleic acid anhydride; Maleic anhydride; Toxilic anhydride; Butenedioic anhydride, cis-

**U.S. EPA Carcinogenic Classification (IRIS):**. Oral RfD available.

**PBT:** Not listed on U.S. EPA PBT Chemical Program list.

**NTP:** Not listed on NTP list.

**HAP:** Listed U.S. EPA Hazardous Air Pollutant (HAP) list and Health Effects Notebook

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.1 ppm or 401 µg/$m^3$. Critical effects include eye and respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes eye and respiratory irritation

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0307.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/maleican.html

3 American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 3,1 Date: 9/7/06, 9/10/06

Completed by: 7, 2 Date: 8/18/06, 08/20/06

**Toxic Compound Data Sheet**

**Name:** Manganese and Inorganic Compounds, as Mn

**CAS Number:** 07439-96-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Manganese and inorganic compounds are specifically listed because they are acutely or chronically toxic. These compounds are neurotoxic, cause respiratory and central nervous system effects, and are listed by U.S. EPA as Hazardous Air Pollutants (HAP).

**Molecular Weight (g/mol):** 54.94

**Synonyms:** Colloidal manganese, Mangan, Manganese, Tronamang, Magnacat, Mangan nitridovany

**U.S. EPA Carcinogenic Classification (IRIS):** Reference Concentration for Chronic Inhalation Exposure Inhalation RfC is 0.05 µg/$m^3$. Class D: Not classifiable as carcinogenic to humans.

**PBT:** Not listed on U.S. EPA Persistent, Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed on U.S. Department of Health and Human Services National Toxicology Program (NTP) list.

**HAP:** Listed on U.S. EPA's Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.2 mg/$m^3$ or 200 µg/$m^3$. Critical effects include respiratory irritation and central nervous system effects.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with hypotension and central nervous system effects.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** 0.04 µg/$m^3$, inhalation route, chronic exposure.

## Reference Material


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/iris/subst/0373.htm

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system (http://toxnet.nlm.nih.gov)

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/manganes.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2005. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp151.html


Completed by: 7, 2, 1 Date: 8/18/06, 8/20/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Mercury; Alkyl Compounds; Aryl Compounds; Elemental & Inorganic Forms, as Hg

**CAS Number:** 07439-97-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Mercury is specifically listed because it is neurotoxic, and it is a persistent bioaccumulative compound (PBT), and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight (g/mol):** 200.59

**Synonyms:** Hydragyrum; Mercury, elemental; Mercury, metallic; Mercury (organo) alkyl compounds; Caswell No. 546; Colloidal mercury; Kwik [Dutch]; Liquid silver; Mercure [French]; Mercurio [Italian]; Mercurio [Spanish]; Mercury compounds; NCI-C60399; Quecksilber [German]; Quicksilver; Mercury, inorganic; EPA Pesticide Chemical Code 052301; Mercury vapor

**U.S. EPA Carcinogenic Classification (IRIS):** Reference Concentration for Chronic Inhalation Exposure - Inhalation RfC is 0.3 µg/$m^3$ Class D: Not classifiable as to human carcinogenicity.

**PBT:** Listed as a persistent bioaccumulative compound.

**NTP:** Not listed on U.S. Department of Health and Human Services National Toxicology Program (NTP) list.

**HAP:** Listed on U.S. EPA Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Alkyl compounds: TLV: 0.01 mg/$m^3$ or 10 µg/$m^3$. TLV STEL: 0.03 mg/$m^3$ or 30 µg/$m^3$. Critical effect: CNS. Aryl compounds: TLV: 0.1 mg/$m^3$ or 100 µg/$m^3$. Critical effects: CNS, neuropathy, vision, kidney. Elemental and inorganic forms: TLV: 0.025 mg/$m^3$ or 25 µg/$m^3$. Critical effects: CNS, kidney, reproductive.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR (MRL):** 0.2 µg/$m^3$ inhalation route chronic exposure.

## Reference Material


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/iris/subst/0370.htm

2. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
   http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
   http://www.epa.gov/mercury/about.htm

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/mercury.html

4 American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
   http://toxnet.nlm.nih.gov

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol58/volume58.pdf

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp46.html


Completed by: 7,2,7,1 Date: 8/21/06, 08/21/06, 8/24/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methanol

**CAS Number**: 00067-56-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methanol is specifically listed because it is has the potential to cause headaches, dizziness, nausea, central and nervous system impairment, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 32.04

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Oral RfD listed in IRIS database.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP)by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV: TWA 200ppm; STEL 250ppm; Notations: Skin; BEI. Critical effects include headache and eye damage.

**HSDB:** Listed in the Hazardous Substance Data Bank.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0305.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Effects Notebook.
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methanol.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

Completed by: 2, 1 Date: 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methoxychlor

**CAS Number**: 00072-43-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methoxychlor is specifically listed because it causes reproductive dysfunction and it is acutely or chronically toxic. Methoxychlor causes liver damage and central nervous system impairment, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight**: 345.65 g/mol

**Synonyms**: 2,2-Di-p-anisyl-1,1,1-trichloroethane; DMDT; Methorcide; Methoxychlor; Moxie; 1,1,1-Trichloro-2,2-bis(p-methoxyphenyl)ethane; Marlate; Methoxy-ddt

**U.S. EPA Carcinogenic Classification (IRIS)**: D - Not classifiable as carcinogenic to humans; reference concentration for chronic inhalation exposure information available.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 10,000 ug/$m^3$. Critical effects include liver damage and central nervous system impairment.

**International IARC**: Group 3- not classifiable as carcinogenic to humans.

**ATSDR, MRL**: Oral, intermediate; 0.005 mg/kg/day.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0369.htm

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system (http://toxnet.nlm.nih.gov)

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methoxyc.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol20/volume20.pdf

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp47.html

Completed by: _7, 2, 1 Date: 8/21/06, 08/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: N-Methyl Aniline

**CAS Number**: 00100-61-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. N-Methyl Aniline is acutely or chronically toxic causing blood damage and central nervous system impairment.

**Molecular Weight**: 107.15 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.5 ppm or 2,191 ug/$m^3$. Critical effects include blood damage and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. Expsoure may cause cardiac and central nervous system effects.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 3 Date: 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Bromide

**CAS Number**: 00074-83-9

**Molecular Weight**: 94.95 g/mol

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Bromide is specifically listed because it is acutely or chronically toxic, and causes respiratory, eye and skin irritation. Methyl bromide is neurotoxic and is listed as a hazardous air pollutant (HAP) by U.S. EPA.

**Synonyms**: Brom-o-gas; Bromomethane; Curafume; Dowfume MC-2 Soil Fumigant; Dowfume MC-33; Edco; Embafume; Halon 1001; Haltox; Iscobrome; Kayafume; MB; MBX; MEBR; Metafume; Methane, Bromo-; Methogas; Methyl bromide; Monobromomethane; Pestmaster; Profume; R40B1; Rotox; Terabol; Terr-o-gas 100; Zytox

**U.S. EPA Carcinogenic Classification (IRIS)**: Reference concentration for chronic inhalation exposure - $5x10^{-3}$ $mg/m^3$; classified as D - not classifiable as carcinogenic to humans.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 1ppm or 3,883 $ug/m^3$; A4- not classifiable as carcinogenic to humans. Critical effects include respiratory, eye, and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a central nervous system depressant, and causes respiratory, eye, and skin irritation.

**International IARC**: Group 3- not classifiable as carcinogenic to humans.

**ATSDR, MRL**: Not available.

## Reference Material


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/iris/subst/0015.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/methylbr.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol41/volume41.pdf

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
   http://toxnet.nlm.nih.gov


Completed by: 7, 2, 1 Date: 8/21/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Chloride

**CAS Number**: 00074-87-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Chloride is specifically listed because it causes reproductive dysfunction and it is acutely or chronically toxic, and causes central nervous system, liver, and kidney damage. Methyl chloride is listed as a hazardous air pollutant (HAP) by U.S. EPA.

**Molecular Weight**: 50.49 g/mol

**Synonyms**: Chloromethane; Monochloromethane

**U.S. EPA Carcinogenic Classification (IRIS)**: Reference Concentration for Chronic Inhalation Exposure - $9x10^{-2}$ $mg/m^3$; Classified as D - not classifiable as carcinogenic to humans.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50ppm or 103,252 $ug/m^3$; A4- not classifiable as carcinogenic to humans; critical effects: central nervous system impairment, liver and kidney damage, reproductive effects.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with central nervous system, cardiovascular, liver, and kidney damage.

**International IARC**: Group 3; not classifiable as carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/1003.htm
http://www.epa.gov/iris/toxreviews/1003-tr.pdf

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylch.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol41/volume41.pdf

Completed by: _7, 2, 1_ Date: 8/21/06, 08/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Chloroform

**CAS Number**: 00071-55-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Chloroform is specifically listed because it causes reproductive dysfunction and it is acutely or chronically toxic, causing central nervous system impairment, liver and damage. Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**Molecular Weight**: 133.42 g/mol

**Synonyms**: Aerothene Tt; Chloroetene; Chloroethene; Chloroethene Nu; Chloroform, Methyl-; Chlorothane Nu; Chlorothene; Chlorothene Nu; Chlorothene Vg; Chlorten; Ethane, 1,1,1-trichloro-; Inhibisol; Methylchloroform; Methyltrichloromethane; Nci-c04626; Rcra Waste Number U226; Strobane; Alpha-t; 1,1,1-tce; 1,1,1-trichloorethaan; 1,1,1-trichloraethan; Trichloroethane, 1,1,1-; Alpha-trichloroethane; 1,1,1-tricloroetano; Tri-ethane; UN 2831

**U.S. EPA Carcinogenic Classification (IRIS)**: Classified as D; not classifiable as carcinogenic to humans.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 350 ppm or 1,909,898 ug/$m^3$. Critical effects include central nervous system, liver and kidney damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. Critical effects include central nervous system, liver and kidney damage.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

## Reference Material

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0197.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/trichlor.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/21/06, 08/22/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Hydrazine

**CAS Number**: 00060-34-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Hydrazine is specifically listed because it is acutely or chronically toxic, causes liver damage, is corrosive to skin and eyes, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight**: 46.07 g/mol

**Synonyms**: MMH; Monomethylhydrazine

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Threshold quantity (TQ) listed as 15,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.01 ppm or 19 ug/$m^3$. Critical effects include liver damage, respiratory irritation, lung cancer, and eye irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is corrosive to skin and eyes, causes respiratory irritation, and is a possible human carcinogen.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylhy.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 7,1 Date: 8/22/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Iodide (Iodomethane)

**CAS Number**: 00074-88-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Iodide is specifically listed because it is acutely or chronically toxic, causing eye damage and central nervous system impairment, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight**: 141.95 g/mol

**Synonyms**: Iodomethane; Methyl iodide; HSDB 1336; Iodometano; Iodure de methyle; Jod-methan; Methyljodid; Methyljodide; Metylu jodek; Monoioduro di metile; Yoduro de metilo; Methane, iodo-; Ccris 395; Iodomethane; Joodmethaan; RCRA Waste Number U138

**U.S. EPA Carcinogenic Classification (IRIS)**: Listed in IRIS but no data available.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 2 ppm or 11,611 ug/$m^3$. Critical effects include eye damage and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with central nervous system depression and eye and skin irritation.

**International IARC**: Group 3; not classifiable as carcinogenic to Humans.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0650.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylio.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol41/volume41.pdf

Completed by: 7,2,1 Date: 8/22/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Isobutyl Ketone (MIBK)

**CAS Number**: 00108-10-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl isobutyl ketone is specifically listed because it is acutely or chronically toxic; causing respiratory tract irritation or damage and central nervous system impairment. It is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 100.16 g/mol

**Synonyms**: Hexon; Hexone; Isobutyl methyl ketone; Isopropylacetone; Ketone, isobutyl methyl; Methylisobutylketon; Methyl isobutyl ketone; 4-Methyl-pentan-2-on; 2-Methyl-4-pentanone; 4-Methyl-2-pentanone; 4-Metilpentan-2-one; Metyloizobutyloketon; MIBK; 2-Pentanone, 4-methyl-; Shell MIBK; UN 1245; 108-10-1; Isobutyl-methylketon; Methyl-isobutyl-cetone; Metilisobutilchetone; MIK; RCRA Waste Number U161

**U.S. EPA Carcinogenic Classification (IRIS)**: Data for MIBK are inadequate for an assessment of human carcinogenic potential.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed on the U.S. EPA Hazardous Air Pollutant (HAP) List and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ppm or 204,826 ug/$m^3$. Critical effects include respiratory and eye irritation, as well as central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with gastrointestinal disturbances and central nervous system impairment.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0173.htm
http://www.epa.gov/iris/toxreviews/0173-tr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methyl-k.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/22/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Isocyanate

**CAS Number**: 00624-83-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Inhalation of methyl isocyanate results in injury to lungs, leading to pulmonary edema. This compound is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 57.05 g/mol

**Synonyms**: Methane, isocyanato-; iso-Cyanatomethane; Isocianato de metilo; Isocyanatomethane; Isocyanic acid, methyl ester; Methane, isocyanato-; Methyl isocyanat; Methyl isocyanate; Methylisocyanaat; Metil isocianato; MIC; NSC 64323; RCRA Waste Number P064; TL 1450; HSDB 1165; Isocyanate de methyle; Methylisokyanat; UN 2480; Methyl isocyanate

**U.S. EPA Carcinogenic Classification (IRIS)**: Listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.02 ppm or 47 ug/$m^3$. Critical effect is respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with respiratory effects and excess eye irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0052.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylis.html

3. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/22/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl isopropyl ketone

**CAS Number**: 00563-80-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl isopropyl ketone is specifically listed because it is acutely or chronically toxic, causing respiratory and eye irritation.

**Molecular Weight(g/mol):** 86.14

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV: 200 ppm or 704; 622 ug/$m^3$. Critical effects: include respiratory and eye irritation.

**HSDB:** Not listed in the Hazardous Substances Data Bank.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

Completed by: 3 Date: 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Mercaptan

**CAS Number**: 00074-93-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Mercaptan is specifically listed because it is acutely or chronically toxic; causing respiratory paralysis, liver damage, and central nervous system impairment.

**Molecular Weight**: 48.11 g/mol

**Synonyms**: Mercaptomethane; Methanethiol; Methyl Sulfhydrate; Thiomethyl alchohol

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.5 ppm or 984 ug/$m^3$.

**HSDB:** Listed in the Hazardous Substances Data Bank. Critical effect is damage to the respiratory central nervous systems.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

3. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 7,1 Date: 8/22/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Methacrylate

**CAS Number**: 00080-62-6

**Justification**: This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Methacrylate is specifically listed because it is acutely or chronically toxic. This compound causes eye damage and respiratory tract and skin irritation, and it is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 100.13 g/mol

**Synonyms**: Methacrylic acid, methyl ester; Methacrylate monomer; Methyl a-methylacrylate; Methyl 2-methyl-2-propenoate; Methyl methacrylate

**U.S. EPA Carcinogenic Classification (IRIS)**: Evidence of non-carcinogenicity for humans; RfC $7x10^{-1}$ mg/m3.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ppm or 204,765 ug/$m^3$. Critical effects include respiratory, eye and skin damage or irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with neurologic effects and eye damage, as well as respiratory, eye, and skin irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/1000.htm
http://www.epa.gov/iris/toxreviews/1000-tr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylme.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/22/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: alpha-Methyl Styrene

**CAS Number**: 00098-83-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. alpha-Methyl Styrene is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment; respiratory tract and skin irritation.

**Molecular Weight**: 118.18 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ppm or 241,677 ug/$m^3$. Critical effects include respiratory irritation and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes central nervous system impairment and respiratory and skin irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/23/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl tert-butyl ether (MTBE)

**CAS Number**: 01634-04-4

**Molecular Weight**: 88.17 g/mol

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl tert-butyl ether is specifically listed because it is acutely or chronically toxic, and causes central nervous system effects, kidney damage, and respiratory irritation. This compound is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Synonyms**: Propane, 2-methoxy-2-methyl-; Methyl tert-butyl ether; t-Butyl methyl ether; Ether methyl tert-butylique; Ether, tert-butyl methyl; HSDB 5847; Methyl 1,1-dimethylethyl ether; Methyl-tert-butyl ether; Methyl-tert-butylether; Metil-terc-butileter; tert-Butyl methyl ether; 2-Methoxy-2-methylpropane; 2-Methyl-2-methoxypropane; Methyl tert-butyl ether (MTBE)

**U.S. EPA Carcinogenic Classification (IRIS)**:Reference concentration for chronic inhalation exposure - RfC 3 mg/$m^3$.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ppm or 180,307 ug/$m^3$. A3- confirmed animal carcinogen. Critical effects include respiratory irritation and kidney damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with central nervous system effects and eye and skin irritation.

**International IARC**: Group 3; not classifiable as carcinogenic to humans.

**ATSDR, MRL**: Not available.

## Reference Material

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0545.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylte.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol73/volume73.pdf

Completed by: 7,2,1 Date: 8/23/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methyl Vinyl Ketone

**CAS Number**: 00078-94-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methyl Vinyl Ketone is specifically listed because it is acutely or chronically toxic and causes central nervous system impairment and respiratory irritation.

**Molecular Weight**: 70.10 g/mol

**Synonyms**: Acetyl ethylene; 3-Buten-2-one; 3-Butene-2-one; Butenone; delta(3)-2-Butenone; Methylene acetone; Methyl vinyl acetone; gamma-Oxo-alpha-Butylene

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant by (HAP) U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA ceiling 0.2 ppm or 573 ug/$m^3$. Critical effects include respiratory irritation and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with central nervous system impairment, as well as respiratory and skin irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/23/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methylamine

**CAS Number**: 00074-89-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methylamine is specifically listed because it is acutely or chronically toxic, causing respiratory, eye and skin irritation.

**Molecular Weight**: 31.06 g/mol

**Synonyms**: Aminomethane; Methanamine; Monomethylamine

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 5 ppm or 6,352 ug/$m^3$. Critical effects include eye, skin, and respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes respiratory, eye and skin irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 7,2,1 Date: 8/23/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Methylene bis(2-Chloroaniline), 4,4- (MBOCA; MOCA)

**CAS Number**: 00101-14-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 4,4- Methylene bis(2-Chloroaniline is specifically listed because it is bioaccumulative and it is reasonably anticipated to be a human carcinogen. This compound is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 267.17 g/mol

**Synonyms**: DACPM; 4,4-Methylenebis(2-chlorobenzenamine); MBOCA; MOCA

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Listed as persistent, bioaccumulative and toxic..

**NTP**: Listed as reasonably anticipated to be a human carcinogen by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA and Health Effects Notebook.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.01 ppm or 109 ug/$m^3$. A2- suspected human carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2A; probably carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**


1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s106mboc.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/methyl-b.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2005. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
   http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol57/volume57.pdf

6. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
   http://www.epa.gov/glnpo/bns/levelii/leviisubsus.html


Completed by: 7,2,1 Date: 8/23/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Methylene dianiline, 4,4-

**CAS Number:** 101-77-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methylene dianiline, 4,4- is specifically listed because it is reasonably anticipated to be a human carcinogen, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight (g/mol):** 198.26

**Synonyms:** p,p'-Diaminodiphenylmethane; MDA; DDM; DADPM

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed on U.S. EPA's Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.1 ppm or 811 µg/$m^3$. Confirmed animal carcinogen. Critical effect is liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR ,MRL:** 0.08 mg/kg/day, oral route, intermediate exposure.

**Reference Material**


1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s108meth.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/meth-dia.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
   http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol39/volume39.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol71/volume71.pdf
   http://monographs.iarc.fr/ENG/Monographs/suppl7/suppl7.pdf

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp122.html
   http://www.atsdr.cdc.gov/toxprofiles/tp122.pdf


Completed by: 8,2,1 Date: 8/16/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Methylene diphenyl diisocyanate (monomeric MDI)

**CAS Number:** 00101-68-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Methylene diphenyl diisocyanate is specifically listed because it is acutely or chronically toxic; causes eye, skin and respiratory irritation. This compound listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 250.26

**Synonyms:** Methylene bisphenyl isocyanate (MDI); 1,1' - Methylenebis (4-isocyanatobenzene); 4,4' - Diisocianato de difenilmetano (Spanish); 4,4' - Diisocyanate de diphenylmethane (French); 4,4' - Diisocyanathodiphenylmethane; 4,4' - Diphenylmethane dilsocyanate; 4,4' - Methylenebis (phenyl isocyanate); 4,4' - Methylenediphenyl diisocyanate; 4,4' - Methylenediphenylene isocyanate; 4,4' - Methylenedi - p- phenylene diisocyanate; Benzene, 1,1' -methylenebis(4-isocyanato-; bis (1,4-Isocyanathophenyl) methane; bis (4-Isocyanatophenyl) methane; bis (p-Isocyanatophenyl) methane; Caradate 30, Desmodur 44; di-(4-Isocyanatophenyl) methane; Difenil-methan-diisocianato (Italian); Difenylmethaan-dissocyanaat (Dutch); Diisocyanate de diophenylmethane-4,4' (french); Diphenylmethan-4,4' -diisocyanat (German); Diphenylmethane 4,4' -diisocyanate; Diphenylmethane-4,4' -diisocyanate; Diphenyl methane diisocyanate; Diphenylmethane diisocyanate; HSDB 2630; Hylene m50; Isocyanic acid < methylenedi-p-phenylene ester; Isonate 125m; Isonate 125 mf; MDI; Methylenebis (4-isocyanatobenene); Methylenebis (4-phenylene isocyanate); Methylenebis (4-phenyl isocyanate); Methylenebis (4-phenylisocyanate); Methylenebis (p-phenylene isocyanate); Methylenebis (p-phenyl isocyanate); Methylene di (phenylene isocyanate); Methylenedi-p-phenylene diisocyanate; Methylenedi-p-phenylene isocyanate; Nacconate 300, NCI-C50668; NSC 9596; p,p' -Dipohenylmethane diisocyanate; p,p' -Methylenebis (phenyl isocyanate); UN 2489; Methylene Diphenyl Diisocyanate (monomeric MDI) and polymeri MDI (PMDI); 9016-87-9

**U.S. EPA Carcinogenic Classification (IRIS):** Inhalation RfC is 0.6 µg/$m^3$. Class D: not classifiable as carcinogenic to humans.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed on the National Toxicology Program (NTP) list.

**HAP:** Listed on U.S. EPA's Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV-TWA: 0.005 ppm or 51 µg/$m^3$. Critical effects include respiratory irritation, edema, and sensitization.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes eye, skin, and respiratory irritation.

**International IARC:** Not classifiable as carcinogenic to humans (Group 3).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0529.htm
http://www.epa.gov/IRIS/toxreviews/0529-tr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methyl-d.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol19/volume19.pdf
http://monographs.iarc.fr/ENG/Monographs/suppl7/suppl7.pdf
http://monographs.iarc.fr/ENG/Monographs/vol71/volume71.pdf

Completed by: 8,2,1 Date: 8/16/06, 8/23/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Mineral fibers, fine

**CAS Number:** *

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Mineral fibers are specifically listed because they are acutely or chronically toxic, causing eye, skin and respiratory irritation. This compound is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight (g/mol):**

**Synonyms:** Synthetic vitreous fibers, fibrous glass

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on IRIS database.

**PBT:** Not listed on U.S. EPA's PBT Chemical Program list.

**NTP:** Not listed by the National Toxicology Program (NTP).

**HAP:** Listed on U.S. EPA's Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes eye, skin, and respiratory irritation

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/finemineral.html

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 8,2,1 Date: 8/16/06, 8/21/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Mirex

**CAS Number**: 2385-85-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Mirex is specifically listed because it is acutely or chronically toxic; and reasonably anticipated to be a human carcinogen. This compound is listed by U.S. EPA as Persistent, Bioaccumulative and Toxic (PBT).

**Molecular Weight(g/mol):** None

**Synonyms**: Bichlorendo; Cyclopentadiene, hexachloro-, dimer; Dechlorane; Dechlorane 4070; 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachlorooctahydro-1,3,4-metheno-1h-cyclobuta(cd)pentalene; Dodecachlorooctahydro-1,3,4-metheno-2h-cyclobuta (c,d)pentalene; Dodecachloropentacyclo(3.2.2.0(sup 2,6),0(sup 3,9),0(sup 5,10))decane; Dodecachloropentacyclodecane; Ferriamicide; Hexachlorocyclopentadiene dimer; 1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene dimer; 1,3,4-Metheno-1h-cyclobuta(cd)pentalene, dodecachlorooctahydro-; Mirex; NCI-C06428; Perchlorodihomocubane; Perchloropentacyclo(5.2.1.0(sup 2,6).0(sup 3,9).0(sup 5,8))decane; Perchloropentacyclodecane; 2385-85-5; CG-1283; decane,Perchloropentacyclo-; ENT 25,719; GC 1283; HRS l276; 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro- 1,3,4-Metheno-1h-cyclobuta(cd) pentalene,

**U.S. EPA Carcinogenic Classification (IRIS)**: Oral Toxicity available, No Inhalation information available.

**PBT**: Listed as Persistent, Bioaccumulative and Toxic by U.S. EPA.

**NTP**: Listed as Reasonably Anticipated to be a Human Carcinogen.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: Not Listed by ACGIH.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Grouped as 2B; Possibly Carcinogenic to Humans.

**ATSDR, MRL**: Oral Chr. 0.0008 mg/kg/day

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

4. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances and Toxicological Profiles. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA.
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxpro2.html

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3, 2, 1 Date: 9/12/06, 09/13/06, 9/13/06

**Toxic Compound Data Sheet**

**Name:** Molybdenum metal, soluble compounds, and insoluble compounds, as Mo

**CAS Number:** 07439-98-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Molybdenum is specifically listed because it is acutely or chronically toxic, depending on chemical form. This compound is neurotoxic and the endpoints are respiratory and central nervous system effects after exposure.

**Molecular Weight (g/mol):** 95.94

**Synonyms:** (Under molybdenum): Molybdenum, HSDB 5032, MCHVL, TSM1

**U.S. EPA Carcinogenic Classification (IRIS):** No inhalation RfC or carcinogenicity information available. Oral RfD available.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV-TWA(R): 0.5mg/$m^3$ or 500 µg/$m^3$. Critical effects include respiratory and central nervous system irritation or damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. Critical effects are respiratory irritation and anemia (depends on chemical form).

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0425.htm

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

Completed by: 8, 2, 1 Date; 8/16/06, 8/25/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Naphthalene

**CAS Number:** 00091-20-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Naphthalene is listed by U.S. EPA as a HAP and is acutely and chronically toxic.

**Molecular Weight (g/mol):** 128.19

**Synonyms:** Albocarbon; caswell No. 587; Dezodorator; EPA Pesticide Chemical Code 055801; HSDB 184; Moth Balls; Moth Flakes; Naftalen [Polish]; Naftaleno [Spanish]; Naphtalene [French]; Naphthalene; Naphthalin; Naphthaline; Naphthene; Napthalene, molten; NCI-C52904; NSC 37565; RCRA Waste Number U165; Tar Camphor; UN 1334; UN 2304; White Tar

**U.S. EPA Carcinogenic Classification (IRIS):** Inhalation RfC is 3 µg/$m^3$. Class C-possible human carcinogen.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 10 ppm or 52,429 µg/$m^3$. TLV STEL: 15 ppm or 78,644 µg/$m^3$. Not classifiable as a human carcinogen (A4). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects include hematologic, respiratory, and eye damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. Vapors can cause eye irritation.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR, MRL:** 3.67 µg/$m^{3,}$ inhalation route, chronic exposure.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/0436.htm
   http://www.epa.gov/IRIS/toxreviews/0436-tr.pdf

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s116znph.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/naphthal.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
   http://toxnet.nlm.nih.gov

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol82/volume82.pdf

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp67.html
   http://www.atsdr.cdc.gov/toxprofiles/tp67.pdf


Completed by: 8, 7, 2, 1 Date: 8/25/06, 8/27/06, 9/05/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Naphthylamine, 2- or B-

**CAS Number:** 00091-59-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Naphthylamine, 2- or B- is chronically toxic and carcinogenic, causing bladder cancer.

**Molecular Weight (g/mol):** 143.18

**Synonyms:** 2-Aminonaphthalene, 2-Naphthylamine, beta-Naphthylamine

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Known to be human carcinogen (Part A).

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: lowest possible. Confirmed human carcinogen (A1). Critical effect is cancer (bladder).

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Carcinogenic to humans (Group 1).

**ATSDR,(MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s117naph.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol4/volume4.pdf
http://monographs.iarc.fr/ENG/Monographs/suppl7/suppl7.pdf

Completed by: 8,7,2,1 Date: 8/24/06, 8/27/06, 9/5/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nickel carbonyl

**CAS Number:** 13463-39-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nickel carbonyl is chronically toxic and carcinogenic (causes lung and nasal tumors).

**Molecular Weight (g/mol):** 170.73

**Synonyms:** Nichel tetracarbonile; Nickel carbonyle; Nickel tetracarbonyle; Nikkeltetracarbonyl; RCRA Waste Number P073; UN 1259; Nickel tetracarbonyl

**U.S. EPA Carcinogenic Classification (IRIS):** Class B2: probable human carcinogen (based on sufficient evidence of carcinogenicity in animals). No inhalation unit risk factor available. No inhalation RfC available.

**PBT:** Not listed as persistent, bioaccumulative and toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r:** Threshold quantity (TQ) listed as 1,000 lbs.

**ACGIH:** TLV: 0.05 ppm or 349 µg/$m^3$. Critical effects include lung and nasal cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is carcinogenic.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0274.htm

2. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system
http://toxnet.nlm.nih.gov

Completed by: 8,7,2,1 Date; 8/25/06, 8/27/06, 9/5/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nickel, Ni; elemental; soluble inorganic compounds; insoluble inorganic compounds (NOS); nickel subsulfide, as Ni

**CAS Number:** 7440-02-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nickel compounds are carcinogenic, and are listed by U.S. EPA as Hazardous Air Pollutants (HAP).

**Molecular Weight (g/mol):** 240.19

**Synonyms:** (Under nickel subsulfide, which has CAS 12035-72-2): Heazlewoodite; Nickel subsulfide; Nickel sulfide; alpha-Nickel sulfide (3:2) crystalline; Nickel sulphide; Nickel subsulphide; Nickel tritadisulphide

**U.S. EPA Carcinogenic Classification (IRIS):** (Under nickel subsulfide, CAS 12035-72-2): Class A Human Carcinogen. Inhalation unit risk factor is 4.8E-4 $\mu g/m^3$. No inhalation RfC available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Known to be human carcinogen (Part A).

**HAP:** Listed as a Hazardous Air Pollutant (HAP) by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** (Under nickel subsulfide): TLV: 0.1 $mg/m^3$ or 100 $\mu g/m^3$. Confirmed human carcinogen (A1). Critical effects: cancer, lung, irritation, dermatitis.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Carcinogenic to humans (Group 1).

**ATSDR, MRL:** 0.09 $\mu g/m^3$ inhalation route chronic exposure.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s118nick.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nickel.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol49/volume49.pdf

8. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances and Toxicological Profiles. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA.
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxpro2.html

Completed by: 8,7,2,1 Date: 8/25/06, 8/27/06, 9/5/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitric acid

**CAS Number:** 7697-37-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nitric acid is acutely and chronically toxic, causing skin and eye irritation.

**Molecular Weight (g/mol):** 63.02

**Synonyms:** Aqua fortis, Engravers acid, Hydrogen nitrate, Red fuming nitric acid (RFNA), White fuming nitric acid (WFNA)

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program (NTP).

**HAP:** Not listed on the U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Threshold quantity (TQ) listed as 15,000 lbs.

**ACGIH:** TLV: 2 ppm or 5,155 $\mu g/m^3$. Critical effects include respiratory and eye irritation, as well as dental corrosion.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a skin and eye irritant.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR. MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 8,7,1 Date; 8/25/06, 8/27/07, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitroaniline, para-

**CAS Number:** 100-01-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. para-Nitroaniline, is acutely and chronically toxic, effecting hemoglobin, causing liver damage, and respiratory irritation.

**Molecular Weight (g/mol):** 138.12

**Synonyms:** para-Aminonitrobenzene, 4-Nitroaniline, 4-Nitrobenzenamine, p-Nitrophenylamine, PNA

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 3 $mg/m^3$ or 3,000 $\mu g/m^3$. Not classifiable as a human carcinogen (A4). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). $BEI_M$ also recommended. Critical effects: effects hemoglobin, liver damage, respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Irritating to eyes, nose and throat.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 8,7,1 Date: 8/25/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitrobenzene

**CAS Number:** 98-95-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nitrobenzene damages the blood system, and is listed by U.S. EPA as a Hazardous Air Pollutant (HAP).

**Molecular Weight (g/mol):** 123.11

**Synonyms:** Benzene, nitro-; Essence of Mirbane; Essence of Myrbane; Mirbane oil; NCI-c60082; Nitrobenzene; Nitrobenzol; Oil of Mirbane; Oil of Myrbane

**U.S. EPA Carcinogenic Classification (IRIS):** Class D: Not classifiable as to human carcinogenicity. No inhalation RfC available; oral RfD available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 1 ppm or 5,035 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). BEI also recommended. Critical effect: effects hemoglobin**.**

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s121zntb.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitroben.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol65/volume65.pdf

Completed by: 8,7,1 Date; 8/25/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitrodiphenyl, 4-

**CAS Number:** 92-93-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nitrodiphenyl, 4- is listed by U.S. EPA as a HAP and is considered carcinogenic to the bladder.

**Molecular Weight (g/mol):** 199.20

**Synonyms:** p-Nitrobiphenyl, p-Nitrodiphenyl, p-Phenylnitrobenzene, 4-Phenylnitrobenzene, PNB, 4-Nitrodiphenyl

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: lowest possible. Suspected human carcinogen (A2). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effect: cancer of the bladder.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitrobip.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 8,7,1 Date: 8/24/06, 8/27/06, 9/10/06

# Toxic Compound Data Sheet

**Name:** Nitrophenol, 4-

**CAS Number:** 100-02-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Nitrophenyl, 4- is listed by U.S. EPA as a HAP and causes irritation to the eyes, nose and throat.

**Molecular Weight (g/mol):** 199.20

**Synonyms:** 4-Hydroxynitrobenzene; 4-Nitrofenol [Dutch]; 4-Nitrophenol; Caswell No. 603; EPA Pesticide Chemical Code 056301; HSDB 1157; NCI-C55992; Niphen; NSC 1317; Paranitrofenol [Dutch]; Paranitrofenolo [Italian]; Phenol, 4-nitro-; Phenol, p-nitro-; p-Hydroxynitrobenzene; p-Nitrofenol [czech]; p-Nitrophenol; RCRA Waste Number U170; Nitrophenol

**U.S. EPA Carcinogenic Classification (IRIS):** Data inadequate for derivation of an inhalation RfC at this time. No oral RfD or carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure causes irritation to eyes, nose & throat.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitrophe.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 1, 8, 7 Date 8/25/06, 8/27/06

**Toxic Compound Data Sheet**

**Name:** Nitropropane, 2-

**CAS Number:** 79-46-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 2- Nitropropane, is listed by U.S. EPA as a HAP, and is chronically toxic with the effect of damaging the liver, and is an animal carcinogen.

**Molecular Weight (g/mol):** 89.09

**Synonyms:** Propane, 2-nitro-; Dimethylnitromethane; HSDB 1134; Isonitropropane; Nitroisopropane; NSC 5369; Propane, 2-nitro-; RCRA Waste Number U171; 2-Nitropropane; Nitropropane

**U.S. EPA Carcinogenic Classification (IRIS):** Inhalation RfC is 20 µg/$m^3$. No carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 10 ppm or 36,438 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Critical effects: liver damage, liver cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure causes irritation to eyes, nose and throat.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitropro.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 8,7,1 Date; 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitrosodimethylamine, n-

**CAS Number:** 62-75-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. n– Nitrosodimethylamine, is listed by U.S. EPA as a HAP and is reasonably anticipated to be a human carcinogen.

**Molecular Weight (g/mol):** 74.08

**Synonyms:** Dimethylamine, n-nitroso; Dimethylnitrosamin; Dimethylnitrosamine; Dimethylnitrosoamine; Dmna: dmn; Methylamine, n-nitrosodi-; Ndma; Nitrosodimethylamine; Nitrosodimethylamine, n-; n-Methyl-n-nitrosomethanamine; n,n-Dimethylnitrosamine; n-Nitrosodimethylamine; RCRA Waste Number P082

**U.S. EPA Carcinogenic Classification (IRIS):** Class B2 Probable Human Carcinogen (based on sufficient evidence of carcinogenicity in animals). Inhalation unit risk factor is 1.4E-2 $\mu g/m^3$. No inhalation RfC or oral RfD available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: lowest possible. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effect: liver damage, liver and kidney cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Probably carcinogenic to humans (Group 2A).

**ATSDR, MRL:** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/nitrosod.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 8,7,1 Date; 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitrosomorpholine, n-

**CAS Number:** 59-89-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. n– Nitrosomorpholine, is listed by U.S. EPA as a HAP and is reasonably anticipated to be a human carcinogen.

**Molecular Weight (g/mol):** 116.10

**Synonyms:** Morpholine, 4-nitroso-

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitrosom.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 8,7,1 Date 8/25/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Nitroso-n-methylurea, n-

**CAS Number:** 00684-93-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. n– Nitroso-n-methylurea, is listed by U.S. EPA as a HAP and is reasonably anticipated to be a human carcinogen.

**Molecular Weight (g/mol):** 103.10

**Synonyms:** Urea, n-Methyl-n-Nitroso

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s132nitr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/nitro-n-.html

3. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system (http://toxnet.nlm.nih.gov).
http://toxnet.nlm.nih.gov/cgi-bin/sis/search

Completed by: 8,7,1 Date; 8/25/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Octachlorostyrene

**CAS Number**: 29082-74-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Octachlorostyrene is specifically listed because it is acutely or chronically toxic; and may cause damage to the liver, kidney and thyroid tissues. This compound is listed by U.S. EPA as a Persistent, Bioaccumulative and Toxic (PBT) compound.

**Molecular Weight(g/mol):**

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Listed as Persistent, Bioaccumulative and Toxic by U.S. EPA.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: Not Listed by ACGIH.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC

**ATSDR, MRL**: Not Available

**Reference Material**.

1. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
http://www.epa.gov/glnpo/bns/levelii/leviisubsus.html

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,2,1 Date: 9/12/06, 9/13/06, 9/13/06

**Toxic Compound Data Sheet**

**Name:** Osmium tetroxide

**CAS Number:** 20816-12-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Osmium tetroxide is specifically listed because it is acutely or chronically toxic causing kidney damage; eye, skin and respiratory irritation.

**Molecular Weight (g/mol):** 254.20

**Synonyms:** Osmium oxide (OSO4), (T-4)-; Osmium oxide OSO4 (T-4)

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program (NTP).

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.0002 ppm or 2 µg/$m^3$. TLV STEL: 0.0006 ppm or 6 µg/$m^3$. Critical effects include eye, respiratory, and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure may cause severe eye, nose, throat, and bronchial irritation, as well as skin burns and kidney damage.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR, MRL:** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2 Date: 8/25/06,8/25/06, 8/28/06

**Toxic Compound Data Sheet**

**Name**: Parathion

**CAS Number**: 00056-38-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Parathion is specifically listed because it is acutely or chronically toxic, causing central nervous system effects, cholineterase inhibition and skin irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 291.27 g/mol

**Synonyms**: AAT; AATP; AC 3422; ACC 3422; Ai3-15108; Alkron; Alleron; American Cyanamid 3422; Aphamite; Aralo; B 404; Bay E-605; Bayer E-605; Bladan; Bladan F; Caswell No. 637; Compound 3422; Corothion; Corthion; Corthione; Danthion; Diethyl Para-nitrophenol Thiophosphate; Diethyl-p-nitrophenyl Monothiophosphate; O,o-diethyl O-(P-nitrophenyl) Phosphorothioate; Diethyl 4-nitrophenyl Phosphorothionate; Diethyl P-nitrophenyl Phosphorothionate; Diethyl P-nitrophenyl Thionophosphate; O,o-diethyl O-p-nitrophenyl Thiophosphate; Diethyl P-nitrophenyl Thiophosphate; Diethylparathion; Diethyl Parathion; Dietil Tiofosfato De P-nitrofenila; Dntp; Dpp; Drexel Parathion 8e; E 605; E 605 F; E 605 Forte; Ecatox; Ekatin Wf Wf Ulv; Ekatox; Ent 15,108; Epa Pesticide Chemical Code 057501; Ethlon; Ethyl Parathion; Etilon; Etylparation; Folidol; Folidol E; Folidol E605; Folidol E E 605; Folidol Oil; Fosferno; Fosfex; Fosfive; Fosova; Fostern; Fostox; Gearphos; Genithion; Hsdb 197; Kolphos; Kypthion; Lethalaire G-54; Lirothion; Murfos; Na 2783; Nci-c00226; Niran; Niran E-4; Nitrostigmin; Nitrostigmine; Nitrostygmine; Niuif 100; Nourithion; Oleofos 20; Oleoparaphene; Oleoparathion; Oms 19; O,o-diaethyl-o-(4-nitro-phenyl)-monothiophosphat; O,o-diethyl-o,p-nitrophenyl Phosphorothioate; O,o-diethyl-o-(4-nitro-fenil)-monothiofosfaat; O,o-diethyl-o-p-nitrofenylester Kyseliny Thiofosforecne; O,o-diethyl O-4-nitrophenyl Phosphorothioate; O,o-diethyl-o-(4-nitrophenyl) Phosphorothioate; O,o-diethyl O-(4-nitrophenyl) Phosphorothioate (9ci); O,o-diethyl O-p-nitrophenylphosphorothioate; O,o-diethyl-o-(P-nitrophenyl)thionophosphate; O,o-diethyl O-4-nitrophenyl Thiophosphate; O,o-diethyl O-p-nitrophenyl Thiophosphate; O,o-diethyl O-(P-nitrophenyl) Phosphorothioate; O,o-dietil-o-(4-nitro-fenil)-monotiofosfato; O,o-dietyl-o-p-nitrofenyltiofosfat; Orthophos; Pac; Pacol; Panthion; Paradust; Paraflow; Paramar; Paramar 50; Paraphos; Paraspray; Parathene; Parathion; Parathion-acetyl; Parathion-aethyl; Parathion-ethyl; Parathion, Liquid; Parathion Mixture, Dry; Parathion Mixture, Liquid; Parawet; Penncap E; Penphos; Pestox Plus; Pethion; Phenol, P-nitro-, O-ester With O,o-diethylphosphorothioate; Phoskil; Phosphenol; Phosphorothioic Acid, O,o-diethyl O-(4-nitrophenyl) Ester; Phosphorothioic Acid, O,o-diethyl O-(P-nitrophenyl) Ester; Phosphostigmine; Rb; Rcra Waste Number P089; Rhodiasol; Rhodiatox; Rhodiatrox; Selephos; Sixty-three Special E.c. Insecticide; Snp; Soprathion; Stabilized Ethyl Parathion; Stathion; Strathion; Sulphos; Super Rodiatox; T-47; Thiofos; Thiomex; Thiophos; Thiophos 3422; Thiophosphate De O,o-diethyle et De O-(4-nitrophenyle); Tiofos; Tox 47; Vapophor; Vapophos; Vitrex

**U.S. EPA Carcinogenic Classification (IRIS)**: C; possible human carcinogen.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ug/m^3; A4 Not Classifiable as Human Carcinogen. Critical effects: cholinesterase inhibtion.

**HSDB:** Listed in the Hazardous Substances Data Bank. Symptoms of acute intoxication by organophosphorus insecticides include muscarinic, nicotinic, and central nervous system (CNS) manifestations

**International IARC**: Group 3, Not Classifiable as to Carcinogenicity to Humans.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/iris/subst/0327.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/parathio.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol30/volume30.pdf
http://monographs.iarc.fr/ENG/Monographs/suppl7/suppl7.pdf

Completed by: 8, 7, 2, 1 Date 8/17/06, 8/25/06, 8/2606, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Pentaborane

**CAS Number**: 19624-22-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Pentaborane is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment.

**Molecular Weight**: 63.17 g/mol

**Synonyms**: Pentaborane 9; Pentaboron nonahydride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.005 ppm or 13 ug/m^3. TLV-STEL 0.015 ppm. Critical effects: central nervous system convulsion and impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. Central nervous system intoxication and impairment.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2, 1 Date: 8/17/06 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Pentachloronapthalene

**CAS Number**: 01321-64-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Pentachloronapthalene is specifically listed because it is acutely or chronically toxic, causing liver damage and chloracne.

**Molecular Weight**: 300.40 g/mol

**Synonyms**: C10H3Cl5

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 500 ug/m^3. Critical effects: liver damage, chloracne.

**HSDB:** Listed in the Hazardous Substances Data Bank. Liver damage and chloracne.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Pentachloronitrobenzene

**CAS Number**: 00082-68-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Pentachloronitrobenzene is specifically listed because it is acutely or chronically toxic, causing liver damage, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 295.36 g/mol

**Synonyms**: Avicol; Botrilex; Brassicol; Folosan; PCNB; Quintozene; Terraclor

**U.S. EPA Carcinogenic Classification (IRIS)**: Oral Exposure (RfD) 3E-3mg/kg-day, Inhalation Exposure (RfC) and Carcinogenicity Assessment for Lifetime Exposure not available.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 500 ug/m^3; Critical effects: liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0254.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/quintoze.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Pentachlorophenol

**CAS Number**: 00087-86-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Pentachlorophenol is specifically listed because it is acutely or chronically toxic, causing central nervous system and cardiovascular impairment, eye and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 266.35 g/mol

**Synonyms**: Dowicide 7; PCP; Penchorol; Penta; Santophen 20

**U.S. EPA Carcinogenic Classification (IRIS)**:B2-probable human carcinogen, Oral RfD E-2mg/kg/day.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 500 ug/m^3; A3 Confirmed Animal Carcinogen, Critical effects: respiratory and eye irritation; CNS impairment, cardiac impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Oral, Chronic; 0.001 mg/kg/day.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0086.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/pentachl.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

5. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp51.pdf

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Pentyl Acetate, all isomers

**CAS Number**: 00620-11-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Pentyl Acetate is specifically listed because it is acutely or chronically toxic, causing respiratory system, central nervous system, and cardiovascular system impairment.

**Molecular Weight**: 130.20 g/mol

**Synonyms**: C7H14O2

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 50 ppm or 266,258 ug/m^3. Critical effects: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure damages the respiratory system, central nervous system and cardiovascular system.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Perchloromethyl Mercaptan

**CAS Number**: 00594-42-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Perchloromethyl Mercaptan is specifically listed because it is acutely or chronically toxic, causing central nervous system depression, lung, liver, and heart congestion.

**Molecular Weight**: 185.87 g/mol

**Synonyms**: Clairsit(war gas); Methane sulfenyl chloride; PCM; Perchloromethanethiol; RCRA Waste Number P118; Trichloromethylsulfenyl chloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.10ppm or 760 ug/m^3. Critical effects: eye and respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Central nervous system depression, lung, liver, and heart congestion.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

3. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Perchloryl Fluoride

**CAS Number**: 07616-94-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Perchloryl Fluoride is specifically listed because it is acutely or chronically toxic, causing severe skin and respiratory irritation.

**Molecular Weight**: 102.46 g/mol

**Synonyms**: Chlorine fluoride oxide; Chlorine oxyfluoride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 3 ppm or 12,572 ug/$m^3$. TLV-STEL 6ppm. Critical effects include respiratory irritation, hemoglobin damage, and fluorosis.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a strong irritant to eyes, mucous membranes, and lungs (pulmonary edema).

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. http://toxnet.nlm.nih.gov

Completed by: 8, 7, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phenol

**CAS Number**: 00108-95-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phenol is specifically listed because it is acutely or chronically toxic, causing eye and respiratory irritation, lung damage, central nervous system impairment, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 94.11 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: D -Not classifiable as to human carcinogenicity.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 5ppm or 19,245ug/m^3; Critical effects: respiratory irritation, lung damage, central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 3, Not Classifiable at to Carcinogenicity to Humans.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0088.htm
http://www.epa.gov/IRIS/toxreviews/0088-tr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/phenol.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol47/volume47.pdf
http://monographs.iarc.fr/ENG/Monographs/vol71/volume71.pdf

Completed by: 8, 7, 2, 1 Date: 8/18/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: *para*-Phenylenediamine

**CAS Number**: 00106-50-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. para-Phenylenediamine is specifically listed because it is acutely or chronically toxic, causing asthma; skin and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 108.05 g/mol

**Synonyms**: p-Aminoaniline; 1,4-Benzenediamine; p-Diaminobenzene; Orsin

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 100ug/m^3; A4-Not Classifiable as a Human Carcinogen. Critical effects: respiration irritation, skin sensitization.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 3, Not Classifiable as to Carcinogenicity to Humans.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/phenylen.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol16/volume16.pdf
http://monographs.iarc.fr/ENG/Monographs/suppl7/suppl7.pdf

Completed by: 5, 2,1 Date: 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phenylhydrazine

**CAS Number**: 00100-63-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phenylhydrazine is specifically listed because it is acutely or chronically toxic, causing anemia, liver damage, skin and respiratory irritation.

**Molecular Weight**: 108.14 g/mol

**Synonyms**: Hydrazinobenzene

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.10 ppm or 442 ug/m^3, A3-Confirmed Animal Carcinogen Critical effects: anemia, respiration and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Causes liver damage and anemia; skin and respiratory irritation.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system http://toxnet.nlm.nih.gov

Completed by: 5, 2, 1 Date: 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phenylphosphine

**CAS Number**: 00638-21-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phenylphosphine is specifically listed because it is acutely or chronically toxic, causing headache and jaundice; eye, skin and respiratory irritation.

**Molecular Weight**: 110.10 g/mol

**Synonyms**: C6H7P

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA Ceiling 0.05ppm or 225 ug/m^3. Critical effects: dermatitis, hematologic effect, testicular damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. Headache, jaundice, and fatigue; eye, skin and respiratory irritation.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov
http://toxnet.nlm.nih.gov/cgi-bin/sis/download.txt

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phosgene

**CAS Number**: 00075-44-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosgene is specifically listed because it is acutely and chronically toxic, causing respiratory irritation; pulmonary edema, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 98.92 g/mol

**Synonyms**: Carbon Dichloride Oxide; Carbone (oxychlorure de); Carbonic dichloride; Carbonio (ossicloruro di); Carbon oxychloride; Carbonylchlorid; Carbonyl chloride; Carbonyl dichloride; CG; Chloroformyl chloride; Fosgeen; Fosgen; Fosgene; Fosgeno; HSDB 796; Koolstofoxychloride; NCI-C60219; Phosgen; Phosgene; RCRA Waste Number P095

**U.S. EPA Carcinogenic Classification (IRIS)**: RfC $3x10^{-4}$ mg/m3.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 500 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.10ppm or 405 ug/m^3. Critical effects: respiratory irritation, pulmonary edema, pulmonary emphysema.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0487.htm
http://www.epa.gov/IRIS/toxreviews/0487-tr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/phosgene.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov
http://toxnet.nlm.nih.gov/cgi-bin/sis/download.txt

5. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phosphine

**CAS Number**: 07803-51-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphine is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment, gastrointestinal and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 34.00 g/mol

**Synonyms**: Celphos; Delicia; Detia; Detia Gas Ex-B; Fosforowodor; Hydrogen phosphide; Phosphine; Phosphorus trihydride; Phosphorwasserstoff; RCRA Waste Number P096; UN 2199

**U.S. EPA Carcinogenic Classification (IRIS)**: RfC $3x10^{-4}$ mg/m3; D-Not classifiable as to human carcinogenicity.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 5,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.30 ppm or 417 ug/m^3. TLV-STEL 1 ppm. Critical effects: respiratory irritation, headache, gastro-intestinal irritation, central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/0090.htm

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/phosphin.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system.
http://toxnet.nlm.nih.gov
http://toxnet.nlm.nih.gov/cgi-bin/sis/download.txt

5. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/18/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phosphoric acid

**CAS Number**: 07664-38-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphoric acid is specifically listed because it is acutely or chronically toxic, causing corrosive and irritation damage to the eye, skin and respiratory tract.

**Molecular Weight**: 98.00 g/mol

**Synonyms**: Orthophosphoric acid; White phosphoric acid

**U.S. EPA Carcinogenic Classification (IRIS)**:Reference Concentration for Chronic Inhalation Exposure - RfC $1x10^{-2}$ mg/m3.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 1,000 ug/m^3, TLV-STEL 3,000 ug/m^3. Critical effects: respiration, eye and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Corrosive and irritating to eye, skin and respiratory tract.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/19/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phosphorous

**CAS Number**: 7723-14-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphorous is specifically listed because it is acutely or chronically toxic; causing liver damage; and irritation to the eye, skin and respiratory tract. This compound is also listed by U.S. EPA as a HAP.

**Molecular Weight**: 123.92 g/mol

**Synonyms**: White phosphorus

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 100 ug/m^3. Critical effects: toxic (eye, skin and respiratory irritation and GI irritation, liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank. GI, eye, skin and respiratory irritation.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/whitepho.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 8, 9, 2 Date: 8/17/06, 8/18/06, 8/26/06

**Toxic Compound Data Sheet**

**Name**: Phosphorous oxychloride

**CAS Number**: 10025-87-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphorous oxychloride is specifically listed because it is acutely or chronically toxic; causing severe eye, skin and respiratory irritation and pulmonary edema.

**Molecular Weight**: 153.35 g/mol

**Synonyms**: Phosphoryl chloride; Phosphoryl trichloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 5,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.10 ppm or 627 ug/m^3. Critical effects: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Intensely irritating to skin, eyes, mucous membranes. Inhalation may cause pulmonary edema.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 8, 9, 2 Date: 8/17/06, 8/18/06, 8/27/06

**Toxic Compound Data Sheet**

**Name**: Phosphorous Pentachloride

**CAS Number**: 10026-13-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphorous Pentachloride is specifically listed because it is acutely or chronically toxic; causing severe irritation to the eye, skin and respiratory tract.

**Molecular Weight**: 208.24 g/mol

**Synonyms**: Phosphoric chloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 0.10ppm or 852 ug/m^3. Critical effects: respiration and eye irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Corrosive and irritating to eye, skin and respiratory tract.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 8, 9, 2 Date: 8/17/06, 8/18/06, 8/27/06

**Toxic Compound Data Sheet**

**Name**: Phosphorous Trichloride

**CAS Number**: 07719-12-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphorous Trichloride is specifically listed because it is acutely or chronically toxic. Exposure to this compound may cause severe eye, skin and respiratory irritation.

**Molecular Weight**: 137.35 g/mol

**Synonyms**: Phosphorous chloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 15,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV -TWA 0.20 ppm or 1,124 ug/m^3, TLV-STEL 0.50 ppm. Critical effects: eye, skin and respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Highly irritating to eye, skin and respiratory tract; osteomyelitis of the jaw bones ("phossy jaw").

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 8, 9, 2 Date: 8/17/06, 8/18/06, 8/27/06

**Toxic Compound Data Sheet**

**Name**: Phosphorus Pentasulfide

**CAS Number**: 01314-80-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phosphorus pentasulfide is specifically listed because it is acutely or chronically toxic, causing severe eye, skin and respiratory irritation, leading to respiratory paralysis.

**Molecular Weight**: 222.29 g/mol

**Synonyms**: Diphosphorus pentasulfide; Phosphorus persulfide

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 1,000 ug/m^3.TLV-STEL 3,000 ug/m^3. Critical effects: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Very high vapor concentrations cause sudden collapse and unconsciousness; death from prompt respiratory paralysis.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/19/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Phthalic Anhydride

**CAS Number**: 00085-44-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Phthalic Anhydride is specifically listed because it is acutely or chronically toxic, causing eye, skin and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 148.11 g/mol

**Synonyms**: 1,3-Dihydro-1,3-dioxoisobenzofurandione; 1,3-Phthalandion; Phthalandione; Phthalic anhydride; 1,2-Benzenedicarboxylic acid anhydride

**U.S.EPA Carcinogenic Classification (IRIS)**: Listed in IRIS; No inhalation information available.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV-TWA 1ppm or 6,058 ug/m^3; Critical effects: toxic (eye, skin and respiratory irritation).

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/phthalic.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 8, 9, 2, 1 Date: 8/17/06, 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Platinum metal and soluble salts, as Pt

**CAS Number:** 7440-06-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Platinum and platinum soluble salts are acutely and chronically toxic via the inhalation and dermal routes, causing irritation of the eyes and nose; cough, dyspnea, wheezing, cyanosis; skin sensitization and lymphocytosis. The dusts of soluble platinum salts cause a burning sensation in the eyes, lacrimation, and conjunctival hyperemia, sometimes associated with photophobia.

**Molecular Weight (g/mol):** 195.09

**Synonyms:** Platinum black, Platinum metal, Platinum sponge

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 1 or 0.002 $mg/m^3$ ; 1,000 or 2 $\mu g/m^3$. Critical effect: irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure toxicity via inhalation and dermal routes include irritation of the eyes and nose; cough, dyspnea, wheezing, cyanosis; skin sensitization and lymphocytosis. The dusts of soluble platinum salts cause a burning sensation in the eyes, lacrimation, and conjunctival hyperemia, sometimes associated with photophobia.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,2,1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Polychlorinated biphenyls (PCBs, arcolors)

**CAS Number:** 1336-36-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Polychlorinated biphenyls are specifically listed because PCBs are persistent bioaccumulative compounds (PBTs) that are reasonably anticipated to be a human carcinogens, and are listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** none

**Synonyms:** Aroclor; Aroclor 1221; Aroclor 1232; Aroclor 1242; Aroclor 1248; Aroclor 1254; Aroclor 1260; Aroclor 1262; Aroclor 1268; Aroclor 2565; Aroclor 4465; Aroclor 5442; Biphenyl, polychloro-; Chlophen; Chlorextol; Chlorinated biphenyl; Chlorinated diphenyl; Chlorinated diphenylene; Chloro biphenyl; Chloro 1,1-biphenyl; Clophen; Dykanol; Fenclor; Inerteen; Kanechlor; Kanechlor 300; Kanechlor 400; Montar; Noflamol; PCB; PCBs; Phenochlor; Phenoclor; Polychlorinated biphenyl; Polychlorinated biphenyls; Polychlorobiphenyl; Pyralene; Pyranol; Santotherm; Santotherm fr; Sovol; Therminol fr-1; UN 2315; Polychlorinated biphenyls (PCBs)

**U.S. EPA Carcinogenic Classification (IRIS):** Class B2 Probable Human Carcinogen (based on sufficient evidence of carcinogenicity in animals). Inhalation unit risk factor is 1E-4 $\mu g/m^3$. Inhalation RfC and oral RfD not available.

**PBT:** Listed as a U.S. EPA Persistent Bioaccumulative and Toxic (PBT) action plan chemical.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2005 TLV and BEI indices. See Chlorinated diphenyls.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Probably carcinogenic to humans (Group 2A).

**ATSDR (MRL):** 0.00002 mg/kg/day oral route chronic exposure.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
   http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
   http://www.epa.gov/glnpo/bns/levelii/leviisubsus.html

3. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

4. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/polychlo.html

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Polychlorinated dibenzofurans (furans)

**CAS Number:** 132-64-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Polychlorinated dibenzofurans are specifically listed because furans are persistent bioaccumulative (PBT) compounds that are acutely or chronically toxic, and are listed by U.S. EPA as a hazardous air pollutants (HAP).

**Molecular Weight (g/mol):** none

**Synonyms:** (1,1'-Biphenyl)-2,2'-diyl oxide; 2,2'-Biphenylene oxide; 2,2'-Biphenylylene oxide; Dibenzofuran; Dibenzo(b,d)furan; Diphenylene oxide; HSDB 2163; NSC 1245

**U.S. EPA Carcinogenic Classification (IRIS):** (Under dibenzofuran): Class D: Not classifiable as to human carcinogenicity. No inhalation RfC or oral RfD available.

**PBT:** Listed as a U.S. EPA Persistent Bioaccumulative and Toxic (PBT) action plan chemical (under dioxins and furans).

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2005 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR (MRL):** Not listed by the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
http://www.epa.gov/glnpo/bns/levelii/leviisubsus.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Polycyclic organic matter (POM)

**CAS Number:** none

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Polycyclic organic matter are specifically listed because POMs are persistent bioaccumulative compounds that are reasonably anticipated to be a human carcinogens, and are listed by U.S. EPA as a hazardous air pollutants (HAP) and PBTs.

**Molecular Weight (g/mol):** none

**Synonyms:** Polycyclic organic matter (CAA 112B), Polycyclic organic material; Polycyclic aromatic hydrocarbons (PAH) a subset of POM

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Listed individually in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Not Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/polycycl.html

Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Polymeric methylene diphenyl diisocyanate (PMDI)

**CAS Number:** 9016-87-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Polymeric methylene diphenyl diisocyanate is specifically listed because it is acutely or chronically toxic to the eyes, skin, and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** none

**Synonyms:** 101-68-8; 1,1' - Methylenebis (4-isocyanatobenzene); 4,4' - Diisocianato de difenilmetano (Spanish); 4,4' - Diisocyanate de diphenylmethane (French); 4,4' - Diisocyanathodiphenylmethane; 4,4' - Diphenylmethane dilsocyanate; 4,4' - Methylenebis (phenyl isocyanate); 4,4' - Methylenediphenyl diisocyanate; 4,4' - Methylenediphenylene isocyanate; 4,4' - Methylenedi - p- phenylene diisocyanate; Benzene, 1,1' -methylenebis(4-isocyanato-; bis (1,4-Isocyanathophenyl) methane; bis (4-Isocyanatophenyl) methane; bis (p-Isocyanatophenyl) methane; Caradate 30; Desmodur 44; di-(4-Isocyanatophenyl) methane; Difenil-methan-diisocianato (Italian); Difenylmethaan-dissocyanaat (Dutch); Diisocyanate de diophenylmethane-4,4' (french); Diphenylmethan-4,4' -diisocyanat (German); Diphenylmethane 4,4' -diisocyanate; Diphenylmethane-4,4' -diisocyanate; Diphenyl methane diisocyanate; Diphenylmethane diisocyanate; HSDB 2630; Hylene m50; Isocyanic acid < methylenedi-p-phenylene ester; Isonate 125m; Isonate 125 mf; MDI; Methylenebis (4-isocyanatobenene); Methylenebis (4-phenylene isocyanate); Methylenebis (4-phenyl isocyanate); Methylenebis (4-phenylisocyanate); Methylenebis (p-phenylene isocyanate); Methylenebis (p-phenyl isocyanate); Methylene di (phenylene isocyanate); Methylenedi-p-phenylene diisocyanate; Methylenedi-p-phenylene isocyanate; Nacconate 300; NCI-C50668; NSC 9596; p,p' -Dipohenylmethane diisocyanate; p,p' -Methylenebis (phenyl isocyanate); UN 2489; Methylene Diphenyl Diisocyanate (monomeric MDI) and polymeri MDI (PMDI)

**U.S. EPA Carcinogenic Classification (IRIS):** (Under Methylene Diphenyl Diisocyanate (monomeric MDI) and polymeric MDI (PMDI); Inhalation RfC is 0.6 µg/$m^3$.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2005 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 1,3- Propane sultone,

**CAS Number:** 1120-71-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 1,3- Propane sultone is specifically listed because it is reasonably anticipated to be a human carcinogen, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 122.14

**Synonyms:** 3-Hydroxy-1-propanesulphonic acid sultone; 1,3-Propane sultone

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: lowest possible. A3. Confirmed animal carcinogen. Critical effect: Cancer

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/pro-sult.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf

Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** beta-Propiolactone,

**CAS Number:** 57-57-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. beta-Propiolactone is specifically listed because it is reasonably anticipated to be a human carcinogen, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 72.06

**Synonyms:** 2-Oxetanone; beta-Propiolactone; beta-Propiolakton [Czech]; beta-Propionolactone; beta-Proprolactone; Betaprone; BPL; Caswell No. 709; EPA Pesticide Chemical Code 010901; HSDB 811; Hydracrylic acid beta-lactone; Hydracrylic acid, beta-lactone; NSC-21626; Propanoic acid, 3-hydroxy-, beta-lactone; Propanolide; Propiolactona [Spanish]; Propiolactone; Propiolactonum [Latin]; Propiolattone; 1,3-Propiolactone; 2-Oxetanone; 3-Hydroxypropionic acid lactone; 3-Propanolide; 3-Propiolactone; Propiolactone

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC. No oral RfD or carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.5 ppm or 1,474 µg/$m^3$. Confirmed animal carcinogen (A3). Critical effect: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/propiola.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propionaldehyde

**CAS Number:** 123-38-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propionaldehyde is specifically listed because it is acutely or chronically toxic, causing eye, skin and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 58.10

**Synonyms:** Aldehyde C(3); Methylacetaldehyde; propaldehyde; propanal; Propionaldehyde; Propionaldhyde; Propionic aldehyde; Proprionaldehyde; Propyl aldehyde; propylic aldehyde

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 20 ppm or 47,526 µg/$m^3$. Critical effects: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/propiona.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propoxur

**CAS Number:** 114-26-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propoxur is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment, cholinesterase inhibition, respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 209.24

**Synonyms:** Aprocarb; o-Isopropoxyphenyl-N-methylcarbamate; N-Methyl-2-isopropoxyphenyl-carbamate

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA(IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.5 $mg/m^3$ or 500 $\mu g/m^3$. Confirmed animal carcinogen (A3). Critical effect: cholinergic.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/propoxur.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,2,1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propylene dichloride

**CAS Number:** 78-87-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propylene dichloride is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment; eye, skin and respiratory irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 112.99

**Synonyms:** Dichloro-1,2-propane; 1,2-Dichloropropane

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 75 ppm or 346,595 µg/$m^3$. TLV STEL: 110 ppm or 508,339 µg/$m^3$. Critical effects: respiratory irritation; body weight effects.

**HSDB:** Listed in the Hazardous Substances Data Bank. CNS effects; eye, skin and respiratory irritation.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/di-propa.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,2,1 Date 8/18/06, 08/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propylene glycol dinitrate

**CAS Number:** 6423-43-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propylene glycol dinitrate is specifically listed because it is acutely or chronically toxic; and causes headache and central nervous system damage.

**Molecular Weight (g/mol):** 166.09

**Synonyms:** PGDN; Propylene glycol-1,2-dinitrate; 1,2-Propylene glycol dinitrate

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.05 ppm or 340 µg/$m^3$. Critical effects include headache and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes headaches and central nervous system impairment, and is mildly irritating to eyes.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** 0.27 µg/$m^3$, inhalation route, chronic exposure.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances http://www.atsdr.cdc.gov/mrls.html

Completed by: 3, 2, 1 Date; 8/22/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propylene oxide

**CAS Number:** 75-56-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propylene oxide is specifically listed because it is reasonably anticipated to be a human carcinogen and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 58.08

**Synonyms:** Ad 6 (suspending agent); Caswell No. 713a; EPA Pesticide Chemical Code 042501; Epoxypropane; 1,2-Epoxypropane; Ethylene oxide, methyl-; HSDB 173; Methyl ethylene oxide; Methyl oxirane; Methyloxirane; NCI-C50099; Oxido de propileno [Spanish]; Oxirane, methyl-; Oxyde de propylene [French]; Propane, epoxy-; Propane, 1,2-epoxy-; Propene oxide; Propylene epoxide; Propylene oxide; 1,2-Propylene oxide; UN 1280

**U.S. EPA Carcinogenic Classification (IRIS):** Inhalation RfC is 30 µg/$m^3$. Class B2 Probable Human Carcinogen (based on sufficient evidence of carcinogenicity in animals). Inhalation unit risk factor is 3.7E-6 µg/$m^3$.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Threshold quantity (TQ) listed as 10,000 lbs.

**ACGIH:** TLV: 2 ppm or 4,751 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential for an agent to produce sensitization (SEN notation). Critical effects: irritation, cancer (nasal).

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/prop-oxi.html

4. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
   http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

5. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

6. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

7. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 3, 2, 1 Date; 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Propylenimine (methyl aziridine, 2-)

**CAS Number:** 75-55-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Propylenimine is specifically listed because it is reasonably anticipated to be a human carcinogen and is listed as a HAP by U.S. EPA.

**Molecular Weight (g/mol):** 57.09

**Synonyms:** 1,2-Propyleneimine; 1,2-Propylenimine; 2-Methylaziridine; 2-Methylethylenimine; Aziridine, 2-methyl-; Methylethylenimine; Propylene imine; AI3-50325; Propilenimina (Spanish); Propyleneimine; 2-Methylazacyclopropane; Propylenimine

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Threshold quantity (TQ) listed as 10,000 lbs.

**ACGIH:** TLV: 2 ppm or 4,670 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: irritation, CNS.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** (Under 2-methyl aziridine): Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/propylen.html

4. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
   http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

5. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

6. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

7. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 3, 2, 1 Date 8/18/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Quinoline

**CAS Number:** 91-22-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Quinoline is specifically listed because it is acutely or chronically toxic, causing respiratory distress; eye damage, skin ulcerations and gastrointestinal irritation. This compound is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 129.16

**Synonyms:** 1-Azanaphthalene, 1-Benzazine, Benzopyridine, Leucoline, Benzo[b]pyridine, 1-Benzine, Chinoleine, Chinoline, Leucol, Leukol, B-500

**U.S. EPA Carcinogenic Classification (IRIS):** Class B2- probable human carcinogen (based on sufficient evidence of carcinogenicity in animals); RfD oral slope factor available. Inhalation reviewed, but unit risk factor not estimated.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program (NTP).

**HAP:** Listed on U.S. EPA Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

## Reference Material

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/quinolin.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3, 2, 1 Date 8/21/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Quinone

**CAS Number:** 106-51-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Quinone is specifically listed because it is acutely or chronically toxic, causing respiratory distress; eye damage, skin ulcerations and gastrointestinal irritation. This compound and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):** 108.09

**Synonyms:** 1,4-Benzoquine; Benzoquinona [Spanish]; Benzoquinone; 1,4-Benzoquinone; para-Benzoquinone; Caswell No. 719C; Chinone; p-Chinon [German]; Cyclohexadienedione; 1,4-Cyclohexadienedione; 1,4-Cyclohexadiene dioxide; 1,4-Diossibenzene [Italian]; 1,4-Dioxybenzene; 1,4-Dioxy-benzol [German]; EPA Pesticide Chemical Code 059805; HSDB 1111; NSC 36324; RCRA Waste Number U197; USAF P-220; Benzo-chinon [German]; p-Benzoquinone; Chinon [Dutch, German]; 2,5-Cyclohexadiene-1,4-dione; NCI-C55845; p-Quinone; Steara pbq

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC. No oral RfD or carcinogenicity information available.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed on the U.S. EPA Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.1 ppm or 442 µg/$m^3$. Critical effects include eye damage, skin ulcerations, and gastrointestinal irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as carcinogenic to humans (Group 3).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

## Reference Material


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/quinone.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 3, 2, 1 Date 8/21/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Radionuclides

**CAS Number**: None

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Radionuclides are carcinogenic and are listed as Hazardous Air Pollutants (HAPs) by U.S. EPA.

**Molecular Weight(g/mol):**

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: Not Listed by ACGIH.

**HSDB:** Not Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available

**Reference Material**.

1. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook.
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttnatw01/hlthef/hapindex.html

Completed by: 3, 1 Date: 9/12/06, 9/13/06

**Toxic Compound Data Sheet**

**Name:** Selenium and compounds, as Se

**CAS Number:** 7782-49-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Selenium is specifically listed because it is reasonably anticipated to be a human carcinogen, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight (g/mol):**78.96

**Synonyms:** Selenium; Caswell No. 732; Elemental Selenium; HSDB 4493; Selen [polish]; Selenio [Spanish]; Selenium; Selenium alloy; Selenium base; Selenium dust; Selenium homopolymer; UN 2658; 13410-01-0; Caswell No. 791; Disodium selenate; EPA Pesticide Chemical Code 072002; Natriumseleniat [German]; NSC 378348; Selenic acid, disodium salt; 10102-18-8; Selenious acid, disodium salt; Disodium selenite; HSDB 768; Natriumselenit [German]; Selenious acid, disodium salt; Sodium selenite; UN 2630; 7783-00-8; Selenious acid; HSDB 6065; Monohydrated Selenium Dioxide; Selenious acid; 7783-08-6; Selenic acid; Acide selenique [French]; Acido selenico [Spanish]; HSDB 675; Selenic acid; UN 1905; 1313-85-5; Sodium selenide [na2se]; Disodium monoselenide; Sodium selenide; C.I. 77805; EPA Pesticide Chemical Code 072001; Selenium elemental; Selenic acid, disodium salt; Sodium selenate; Disodium selenium trioxide; Selenium and Compounds

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available; evidence for selenium sulfide is sufficient for a class B2 (probable human carcinogen) rating.

**PBT:** Not listed on U.S. EPA Persistent, Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed on U.S. EPA Hazardous Air Pollutant (HAP) list and Health Effects Notebook.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.2 mg/m$^3$ or 200 µg/m$^3$. Critical effects include eye and respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as carcinogenic to humans (Group 3).

**ATSDR (MRL):** 0.005 mg/kg/day, oral route, chronic exposure.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/selenium.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol9/volume9.pdf

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp92.html


Completed by: 3,2,1 Date 8/21/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Selenium hexafluoride

**CAS Number:** 7783-79-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Selenium hexafluoride is specifically listed because it is acutely or chronically toxic, causing eye and skin irritation and pulmonary edema.

**Molecular Weight (g/mol):**192.96

**Synonyms:** Selenium fluoride

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed on U.S. Department of Health and Human Services National Toxicology Program (NTP) list.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.05 ppm or 395 µg/$m^3$. Critical effect is pulmonary edema.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes eye and skin irritation, as well as pulmonary edema.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov

Completed by: 3,2,1 Date 8/21/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Silver metal and soluble compounds, as Ag

**CAS Number:** 7440-22-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Silver soluble compounds are specifically listed because these compounds are acutely or chronically toxic, causing eye, skin and respiratory system irritation.

**Molecular Weight (g/mol):** None

**Synonyms:** Silver metal: Argentum; synonyms of soluble silver compounds such as silver nitrate ($AgNO_3$) vary depending upon the specific compound.

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed on U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program list.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed on U.S. EPA Hazardous Air Pollutant (HAP) list.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 0.01 $mg/m^3$ or 10 $\mu g/m^3$. Critical effect is argyria (skin, eyes, mucosa).

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is associated with eye, skin and respiratory irritation.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov

Completed by: 3,2,1 Date 8/21/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Sodium Hydroxide

**CAS Number**: 01310-73-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Sodium hydroxide is specifically listed because it is acutely or chronically toxic, causing severe eye, skin and respiratory irritation.

**Molecular Weight**: 40.01 g/mol

**Synonyms**: Caustic soda; Lye

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 2,000 ug/$m^3$. Critical effects include respiratory, eye, and skin irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is caustic to the eyes, skin, and respiratory system.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov

Completed by: 5,2,1 Date: 8/23/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Stoddard Solvent

**CAS Number**: 08052-41-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Stoddard Solvent is specifically listed because it is acutely or chronically toxic, causing central nervous system and kidney impairment; eye and skin irritation.

**Molecular Weight**: 140.00 g/mol

**Synonyms**: Mineral spirits; White spirits

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a Hazardous Air Pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 100 ppm or 606,135 ug/$m^3$. Group A2- suspected human carcinogen. Critical effects include: eye, skin and kidney damage; nausea; and central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes central nervous system and kidney impairment, as well as eye and skin irritation.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov

3. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances http://www.atsdr.cdc.gov/toxprofiles/tp79.html

Completed by: 5, 2, 1 Date: 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Styrene Oxide

**CAS Number**: 00096-09-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Styrene Oxide is specifically listed because it reasonably anticipated to be a human carcinogen. This compound is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 120.15 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Listed as reasonably anticipated to be a human carcinogen.

**HAP**: Listed on the U.S. EPA Hazardous Air Pollutant (HAP) List and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: Not Listed by ACGIH.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2A- probably carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s165styr.pdf

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/styreneo.html

3. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol60/volume60.pdf

Completed by: 5, 2, 1 Date: 8/25/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Styrene, monomer

**CAS Number**: 00100-42-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Styrene is specifically listed because it is acutely or chronically toxic, causing central nervous system impairment, eye and respiratory system irritation, and is listed by U.S. EPA as a hazardous air pollutant (HAP).

**Molecular Weight**: 104.16 g/mol

**Synonyms**: Vinyl- Benzene; Cinnamene; Cinnamenol; Cinnamol; Diarex Hf 77; Ethenylbenzene; Phenyl- Ethylene; Nci-c02200; Phenethylene; Phenylethene; Phenylethylene; Stirolo; Styreen; Styren; Styrene; Styrene, Monomer; Styrol; Styrole; Styrolene; Styropol; Styropor; UN 2055

**U.S. EPA Carcinogenic Classification (IRIS)**: Reference concentration for chronic inhalation exposure - 1 $mg/m^3$.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed on the U.S. EPA Hazardous Air Pollutant (HAP) List and Health Effects Notebook.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 20ppm or 85,202 $ug/m^3$; A4- not classifiable as a human carcinogen. Critical effects include central nervous system impairment, upper respiratory tract irritation, and peripheral neuropathy.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2B- possibly carcinogenic to humans.

**ATSDR, MRL**: Inhalation, chronic - 255.62 ug/$m^3$.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/styrene.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol60/volume60.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol82/volume82.pdf

5. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp53.pdf


Completed by: 5, 2,1 Date: 8/23/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Sulfur Tetrafluoride

**CAS Number**: 07783-60-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Sulfur tetrafluoride is specifically listed because it is acutely or chronically toxic, causing lung damage, eye and respiratory irritation.

**Molecular Weight**: 108.07 g/mol

**Synonyms**: $SF_4$

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the national toxicology program.

**HAP**: Not listed as a hazardous air pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 2,500 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- ceiling 0.1 ppm or 442 ug/$m^3$. Critical effects include lung damage and respiratory and eye irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is corrosive to the respiratory tract.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

Completed by: 5, 2, 1 Date: 8/23/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Sulfuric acid

**CAS Number**: 07664-93-9

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Sulfuric acid is specifically listed because it is acutely or chronically toxic, causing lung damage, along with eye and respiratory irritation.

**Molecular Weight**: 98.08 g/mol

**Synonyms**: $H_2SO_4$

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic (PBT).

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 200 ug/$m^3$; A2- suspected human carcinogen. Critical effect is pulmonary function interference.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a suspected human carcinogen and is associated with upper respiratory system effects.

**International IARC**: Not listed as an agent reviewed by IARC

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances http://www.atsdr.cdc.gov/toxprofiles/tp117.html

Completed by: 5, 2, 1 Date: 8/23/06, 8/26/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tellurium Hexafluoride

**CAS Number**: 07783-80-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tellurium hexafluoride is acutely and chronically toxic. Exposure to this compound may cause headache, chest pain, and dyspnea, and may produce pulmonary edema and death.

**Molecular Weight**: 241.61 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 0.02 ppm or 198 ug/m^3. Critical effects include: Cholineterase inhibition.

**HSDB:** Listed in the Hazardous Substances Data Bank. Tellurium hexafluoride causes headache, chest pain, and dyspnea. It is considered toxic by inhalation and may produce pulmonary edema and death.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 5,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetrachlorodibenzo-p-dioxin, 2,3,7,8-

**CAS Number**: 01746-01-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Dioxins are PBTs, are highly carcinogenic, and are listed by U.S. EPA as a hazardous air pollutants (HAP).

**Molecular Weight**: 321.98 g/mol

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Listed as Known to be a Human Carcinogen (Part A).

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: Not Listed by ACGIH.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Listed in Group 1; Carcinogenic to Humans.

**ATSDR, MRL**: Oral Chronic; 1E-09 mg/kg/day.

**Reference Material**


1. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
http://www.epa.gov/opptintr/pbt/pubs/dioxins.htm

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s168tcdd.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/dioxin.html

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol69/volume69.pdf

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp104.html


Completed by: 5,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetrachloroethane, 1,1,2,2-

**CAS Number**: 00079-34-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tetrachloroethane is listed by U.S. EPA as a HAP and is carcinogenic.

**Molecular Weight**: 167.86 g/mol

**Synonyms**:1,1,1,2-tetrachloro- Ethane; 1,1,1,2-tetrachloro- (8ci)(9ci) Ethane; HSDB 4148; NCI-C52459; RCRA Waste Number U208; 1,1,1,2-Tetrachloroethane; Tetrachloroethane, 1,1,1,2-; Tetrachloroethane

**U.S. EPA Carcinogenic Classification (IRIS)**: C; possible human carcinogen; Air Unit Risk $7.4x10^{-6}$ per ug/m3.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Listed in Part B as Reasonably Anticipated to be a Human Carcinogen.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 1 ppm or 6,061 ug/m^3; A3-Confirmed Animal Carcinogen with Unknown Relevance to Humans. Critical effects include: Skin and liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 3; Not Classifiable as to Carcinogenicity to Humans.

**ATSDR, MRL**: Inhalation, Intermediate; 271.25 ug/m^3.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/tetrachl.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp93.html


Completed by: 5,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetrachloroethylene (perchloroethylene)

**CAS Number**: 00127-18-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tetrachloroethylene (perchloroethylene) is listed as a HAP by U.S. EPA and is carcinogenic.

**Molecular Weight**: 165.80 g/mol

**Synonyms**: Ankilostin; Antisol 1; Carbon bichloride; Czterochloroetylen; Didakene; Dowclene ec; ENT 1,860; tetrachloro- Ethylene; Fedal-UN; NCI-C04580; Nema; Perawin; Perchlor; Perchloraethylen, per; Perchlorethylene, per; Perclene; Percloroetilene; Percosolv; Percosolve; Perk; Perklone; Persec; Tetlen; Tetracap; Tetrachlooretheen; Tetrachloraethen; Tetrachlorethylene; Tetrachloroethene; Tetrachloroethylene; 1,1,2,2-Tetrachloroethylene; Tetracloroetene; Tetraguer; Tetraleno; Tetralex; Tetravec; Tetroguer; Tetropil; Wln: gyguygg; Carbon dichloride; Didokene; Dow-Per; Ethylene tetrachloride; PCE; PER; PERC; Perchloorethyleen, per; Perchloroethylene; Antisal 1; Dee-Solv; Ethene, tetrachloro-; Perchlorethylene; Tetrachlroethylene

**U.S. EPA Carcinogenic Classification (IRIS)**: Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Listed as Reasonably Anticipated to be a Human Carcinogen.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 25 ppm or 169,530 ug/m^3; A3 Confirmed Animal Carcinogne with Unknown Relevance to Humans. Critical effects include: Central nervous system impairment.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2A; Probably Carcinogenic to Humans.

**ATSDR, MRL**: Inhalation, Intermediate- 271.25 ug/m^3.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s169tetr.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/tet-ethy.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol63/volume63.pdf

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxprofiles/tp18.html


Completed by: 5,1,1, Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetrafluoroethylene

**CAS Number**: 00116-14-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tetrafluoroethylene is acutely and chronically toxic. Exposure causes kidney and liver damage, and kidney and liver cancer (carcinogenic).

**Molecular Weight**: 100.20 g/mol

**Synonyms**: Fluoroplast 4; Perfluoroethene; Perfluoroethylene; Tetrafluoroethene; 1,1,2,2-Tetrafluoroethylene; TFE

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Listed as Reasonably Anticipated to be a Human Carcinogen(Part B).

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 2 ppm or 8,196 ug/m^3; A3-Confirmed Animal Carcinogen with Unknown Relevance to Humans . Critical effects include: Kidney and liver damage, and kidney and liver cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank. Inhalation causes irritation of respiratory system. Contact with eyes causes slight irritation.

**International IARC**: Group 2B; Possibly Carcinogenic to Humans.

**ATSDR, MRL**: Not Available.

**Reference Material**


1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s170tfe.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol19/volume19.pdf
http://monographs.iarc.fr/ENG/Monographs/vol71/volume71.pdf

5. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf


Completed by: 5,1,1 Date: 8/24/06, 8/27/06. 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetramethyl succinonitrile

**CAS Number**: 03333-52-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tetramethyl succinonitrile is acutely and chronically toxic; causing central nervous system damage, convulsions, headaches, excessive salivation, nausea, and vomiting.

**Molecular Weight**: 136.20 g/mol

**Synonyms**: Tetramethylsuccinic acid dinitrile; TMSN

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 0.5 ppm or 2,785 ug/m^3. Critical effects include: Skin irritation or damage, headache, nausea, and central nervous system convulsion.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure can cause frequent headaches, excessive salivation, nausea, and vomiting.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 5,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Tetranitromethane

**CAS Number**: 00509-14-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tetranitromethane is acutely and chronically toxic, is a confirmed animal carcinogen, and causes eye irritation, respiratory irritation, and respiratory cancer, liver damage, pulmonary edema, methemoglobinemia, and fatty degeneration of the liver and kidneys.

**Molecular Weight**: 196.04 g/mol

**Synonyms**: TNM

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Listed in Part B as Reasonably Anticipated to be a Human Carcinogen.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold 10,000 pounds Listed in Section 112r of the Clean Air Act

**ACGIH**: TLV, TWA- 0.005 ppm or 40 ug/m^3; A3- Confirmed Animal Carcinogen with Unknown Relevance to Humans. Critical effects include: Eye irritation, respiratory irritation, and lung cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank. Tetranitromethane irritates eyes and respiratory passages and does serious damage to the liver, causes pulmonary edema, methemoglobinemia, and fatty degeneration of the liver and kidneys.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

4. U.S. Department of Health and Human Services. 11th Report on Carcinogens. National Toxicology Program (NTP) http://ntp.niehs.nih.gov/ntp/roc/toc11.html

Completed by: 5,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Tin as Sn; metal, oxide & inorganic compounds; organic compounds

**CAS Number:** 7440-31-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Tin is acutely and chronically toxic, with the following critical effects: central nervous system effects, immunotoxicity, irritation, benign pneumoconiosis (stannosis).

**Molecular Weight (g/mol):** 118.69

**Synonyms:** Synonyms vary depending upon the specific organic tin compound.

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA IRIS database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not classifiable as a human carcinogen (A4). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: central nervous system effects, immunotoxicity, irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 5,1,1 Date 8/17/06, 8/25/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Titanium tetrachloride

**CAS Number:** 7550-45-0

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Titanium tetrachloride is listed by U.S. EPA as a HAP, and is chronically toxic.

**Molecular Weight (g/mol):** 189.73

**Synonyms:** Titanium chloride (TiCl4) (T-4)-

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed in Section 112r of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** 0.1 µg/$m^3$ inhalation route chronic exposure. Toxicity Profile available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/titanium.html

2. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

4. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxpro2.html

Completed by: 5,1,1 Date 8/24/06, 8/27/06, 9/10/06

# Toxic Compound Data Sheet

**Name:** Toluene

**CAS Number:** 108-88-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Toluene is listed by U.S. EPA as a HAP and is acutely and chronically toxic.

**Molecular Weight (g/mol):** 92.13

**Synonyms:** Antisal 1a; Benzene, methyl; Methacide; Methylbenzene; Methylbenzol; NCI-C07272; Phenylmethane; RCRA Waste Number U220; Tolueen; Toluen; Toluene; Toluol; Toluolo; Tolu-sol; UN 1294; Monomethylbenzene

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available. Inhalation RfC is 5,000 µg/$m^3$. There is inadequate information to assess the carcinogenic potential of toluene.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 50 ppm or 188,405 µg/$m^3$. Not classifiable as a human carcinogen (A4). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). BEI also recommended. Critical effect: respiratory irritation; central nervous system impairment; eye irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR (MRL):** 301.45 µg/$m^3$ inhalation route chronic exposure. Toxicity Profile available.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/toluene.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances and Toxicological Profiles. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA.
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date 8/25/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Toluene-2,4-diamine

**CAS Number:** 95-80-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Toluene-2,4-diamine is listed as a HAP by U.S. EPA and is acutely and chronically toxic.

**Molecular Weight (g/mol):** 122.17

**Synonyms:** 4-Methyl-m-phenylenediamine, Diaminotoluene, Methylphenylene diamine, TDA, Toluenediamine isomers, m-Tolylenediamine (Note: Various isomers of TDA exist.)

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/diamino.html

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date 8/17/06, 8/27/06, 9/10/06

# Toxic Compound Data Sheet

**Name:** Toluene-2,4-diisocyanate or 2,6-diisocyanate (or as a mixture)

**CAS Numbers:** 584-84-9; 91-08-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Listed by U.S. EPA as a HAP and is reasonably anticipated to be a carcinogen.

**Molecular Weight (g/mol):** 174.15

**Synonyms:** TDI; 2,4-TDI; 2,4-Toluene diisocyanate

**U.S. EPA Carcinogenic Classification (IRIS):** (Under 2,4-/2,6- Toluene diisocyante mixture (TDI)): Inhalation RfC is 0.07 µg/$m^3$. No oral RfD or carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** (Under toluene diisocyanate): Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Threshold quantity (TQ) listed as 10,000 lbs.

**ACGIH:** TLV: 0.005 ppm or 36 µg/$m^3$. TLV-STEL: 0.02 ppm or 142 µg/$m^3$. Not classifiable as a human carcinogen (A4). Potential for an agent to produce sensitization (SEN notation). Critical effects: respiratory system sensitization, asthma, and eye irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** (Under toluene diisocyanates): Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic

Substances and Disease Registry (ATSDR).

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
http://cfpub.epa.gov/iris/quickview.cfm?substance_nmbr=0503

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/toluene2.html

4, U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

6. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

7. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php


Completed by: 3,1,1 Date 8/17/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** o-Toluidine,

**CAS Number:** 95-53-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. o-Toluidine is listed by U.S. EPA as a HAP and is chronically toxic, causing methemoglobinemia.

**Molecular Weight (g/mol):** 107.15

**Synonyms:** o-Aminotoluene, 2-Aminotoluene, 1-Methyl-2-aminobenzene, o-Methylaniline, 2-Methylaniline, ortho-Toluidine, o-Tolylamine

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 2 ppm or 8,765 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: methemaglobinemia.

**HSDB:** Listed in the Hazardous Substances Data Bank. Causes methemaglobinemia.

**International IARC:** Probably carcinogenic to humans (Group 2A).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/methylan.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 3,1,1 Date 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Toxaphene

**CAS Number:** 8001-35-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Toxaphene is listed as a Hazardous Air Pollutant (HAP) and a Persistent Bioaccumulative and Toxic (PBT) compound by U.S. EPA, and is carcinogenic.

**Molecular Weight (g/mol):** 414.00

**Synonyms:** Alltox, Chlorinated-camphene, Geniphene, Penphene, Phenacide, Toxadust, Toxakil

**U.S. EPA Carcinogenic Classification (IRIS):** No inhalation RfC or oral RfD available. Class B2 Probable Human Carcinogen (based on sufficient evidence of carcinogenicity in animals). Inhalation unit risk factor is 3.2E-4 $\mu g/m^3$.

**PBT:** Listed as a U.S. EPA Persistent Bioaccumulative and Toxic (PBT) action plan chemical.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** (Under chlorinated camphene): TLV: 0.5 $mg/m^3$ or 500 $\mu g/m^3$. TLV-STEL: 1 $mg/m^3$ or 1,000 $\mu g/m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: seizures, liver.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Possibly carcinogenic to humans (Group 2B).

**ATSDR (MRL):** 0.001 mg/kg/day oral route intermediate exposure.
**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Persistent Bioaccumulative and Toxic (PBT) Chemical Program
   http://www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
   http://www.epa.gov/glnpo/bns/levelii/leviisubsus.html

3. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

4. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/toxaphen.html

5. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

6. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

7. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

8. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date 8/17/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 1,2,4-Trichlorobenzene,

**CAS Number:** 120-82-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 1,2,4-Trichlorobenzene is listed by U.S. EPA as a HAP and is acutely and chronically toxic, irritating to the skin, conjunctiva, and mucous membranes of the upper respiratory tract.

**Molecular Weight (g/mol):** 181.46

**Synonyms:** Benzene, 1,2,4-trichloro-; 1,2,4-Trichlorobenzene; Trichlorobenzene, 1,2,4-; Trojchlorobenzen; UN 2321; Unsym-trichlorobenzene; Trichlorobenzene

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available; inhalation RfC not available. Class D: Not classifiable as to human carcinogenicity.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV-STEL (ceiling value): 5 ppm or 37,108 µg/$m^3$. Critical effect: eye & respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Irritating to the skin, conjunctiva, and mucous membranes of the upper respiratory tract.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/tri-zene.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 1,1,2-Trichloroethane

**CAS Number:** 79-00-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 1,1,2 - Trichloroethane is listed by U.S. EPA as a HAP and is chronically toxic, and carcinogenic.

**Molecular Weight (g/mol):** 133.41

**Synonyms:** Ethane trichloride; Ethane, 1,1,2-trichloro-; NCI-C04579; RCRA Waste Number U227; RCRA Waste Number U359; Beta-t; 1,1,2-Trichlorethane; 1,1,2-Trichloroethane; 1,2,2-Trichloroethane; Trichloroethane, 1,1,2-; beta-Trichloroethane; Trojchloroetan(1,1,2); Vinyl Trichloride; Trichloroethane

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available; inhalation RfC not available. Class C Possible Human Carcinogen. Inhalation unit risk factor is 1.6E-5 $\mu g/m^3$.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 10 ppm or 54,564 $\mu g/m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: Central nervous system impairment, and liver damage.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR (MRL):** 0.04 mg/kg/day oral route intermediate exposure. Toxicity Profile available.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/tri-etha.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Trichloroethylene

**CAS Number:** 79-01-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Trichloroethylene is listed by U.S. EPA as a HAP, and may be carcinogenic, causing liver damage.

**Molecular Weight (g/mol):** 131.40

**Synonyms:** Acetylene trichloride; Algylen; Anamenth; Benzinol; Blacosolv; Blancosolv; Cecolene; Chlorilen; 1-Chloro-2,2-dichloroethylene; Chlorylea; Chlorylen; Chorylen; Circosolv; Crawhaspol; Densinfluat; 1,1-Dichloro-2-chloroethylene; Dow-tri; Dukeron; Ethinyl trichloride; Ethylene trichloride; Fleck-flip; Flock flip; Fluate; Germalgene; Lanadin; Narcogen; Narkosoid; NCI-C04546; Perm-a-chlor; Petzinol; Philex; TCE; Threthylen; Threthylene; Trethylene; Trial; Trichlooretheen; Trichloraethen; Trichloraethylen, tri; Trichloran; Trichloren; Trichlorethylene; Trichlorethylene, tri; Trichloroethene; 1,1,2-Trichloroethylene; 1,2,2-Trichloroethylene; Tri-Clene; Tricloroetilene; Trielene; Trielina; TrikloneTM 'Triklone' is a trade mark of INEOS Chlor Limited.; Trilene; Trimar; Tri-plus; UN 1710; Vitran; Westrosol; Ethylene, trichloro-; Gemalgene; Lethurin; Narkogen; Nialk; Perm-a-clor; RCRA Waste Number U228; Tri Triad; Triasol; Trichloorethyleen, tri; Trichlorethene; Trichloroethylene; Tricloretene; Trielin; Trilen; Triline; Triol; Tri-plus m; Vestrol

**U.S. EPA Carcinogenic Classification (IRIS):** Cancer assessment withdrawn following further review. No inhalation RfC or oral RfD available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 50 ppm or 268,712 µg/$m^3$. TLV-STEL: 100 ppm or 537,423 µg/$m^3$. Not suspected as a human carcinogen (A5). BEI also recommended. Critical effects: Liver

damage, headache.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Probably carcinogenic to humans (Group 2A).

**ATSDR (MRL):** 537.42 µg/$m^3$ inhalation route intermediate exposure.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttn/atw/hlthef/tri-ethy.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

7. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 2,4,5-Trichlorophenol

**CAS Number:** 95-95-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 2,4,5-Trichlorophenol is listed by U.S. EPA as a HAP and is acutely and chronically toxic, causing a variety of skin afflictions.

**Molecular Weight (g/mol):** 197.45

**Synonyms:** Collunosol; Dowicide 2; Dowicide b; NCI-C61187; Nurelle; Preventol I; 2,4,5-Trichlorophenol; Trichlorophenol, 2,4,5-; RCRA Waste Number U230; Trichlorophenol

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC. Oral RfD available. No carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank. Dermatoses, including photoallergic contact dermatitis, have been reported after exposure to 2,4,5-trichlorophenol, including papulofollicular lesions, comedones, sebaceous cysts, and marked hyperkeratosis.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/trichl-p.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date 8/25/08, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 2,4,6-Trichlorophenol

**CAS Number:** 88-06-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 2,4,6-Trichlorophenol is listed by U.S. EPA as a HAP, and is chronically toxic as a carcinogen.

**Molecular Weight (g/mol):** 197.45

**Synonyms:** Dowicide 2s; NCI-C02904; Phenol, 2,4,6-trichloro-; RCRA Waste Number U231; Trichlorophenol, 2,4,6-; Omal; Phenachlor; 2,4,6-Trichlorophenol; Trichlorophenol

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC. No oral RfD available. Class B2 Probable Human Carcinogen (based on sufficient evidence of carcinogenicity in animals). Inhalation unit risk factor is 3.1E-6 $\mu g/m^3$.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/tri-phen.html

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 1,2,3-Trichloropropane

**CAS Number:** 96-18-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 1,2,3-Trichloropropane is chronically toxic, implicated as a carcinogen, and causes liver and kidney damage.

**Molecular Weight (g/mol):** 147.43

**Synonyms:** Allyl trichloride; Glyceryl trichlorohydrin; NCI-c60220; Propane, 1,2,3-trichloro-; Trichlorohydrin; 1,2,3-Trichloropropane; 96-18-4; Glycerol trichlorohydrin; Trichloropropane, 1,2,3-; Trichloropropane

**U.S. EPA Carcinogenic Classification (IRIS):** Oral RfD available. No inhalation RfC or carcinogenicity information available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Reasonably anticipated to be a human carcinogen (Part B).

**HAP:** Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 10 ppm or 60,299 µg/$m^3$. Confirmed animal carcinogen with unknown relevance to humans (A3). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: liver & kidney damage, eye & respiratory tract irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank. Central nervous system damage.

**International IARC:** Probably carcinogenic to humans (Group 2A).

**ATSDR (MRL):** 1.81 µg/$m^3$ inhalation route acute exposure.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date; 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Triethylamine

**CAS Number:** 121-44-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Triethylamine is listed by U.S. EPA as a HAP and is acutely and chronically toxic.

**Molecular Weight (g/mol):** 101.19

**Synonyms:** Ethanamine, n,n-diethyl-; (Diethylamino)ethane; Ethanamine, n,n-diethyl-; HSDB 896; n,n-Diethylethanamine; Triaethylamin [German]; Triethylamine; Trietilamina [Italian]; Trietilamina [Spanish]; UN 1296; Triethylamine

**U.S. EPA Carcinogenic Classification (IRIS):** Inhalation RfC is 7 µg/$m^3$. No oral RfD. No carcinogenicity information.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV: 1 ppm or 4,139 µg/$m^3$. TLV-STEL: 3 ppm or 12,416 µg/$m^3$. Not classifiable as a human carcinogen (A4). Potential significant contribution to the overall exposure by the cutaneous route (skin notation). Critical effects: respiratory irritation.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttn/atw/hlthef/tri-lami.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date; 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Trifluralin

**CAS Number:** 1582-09-8

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Trifluralin is listed by U.S. EPA as a HAP and is carcinogenic.

**Molecular Weight (g/mol):** 335.30

**Synonyms:** Agreflan; Agriflan 24; Benzenamine, 2,6-dinitro-n,n-dipropyl-4-(trifluoromethyl)-; Crisalin; Digermin; 2,6-Dinitro-n,n-dipropyl-4-(trifluoromethyl)benzenamine; 2,6-Dinitro-n,n-di-n-propyl-alpha,alpha,alpha-trifluoro-p-toluidine; 2,6-Dinitro-4-trifluormethyl-n,n-dipropylanilin; 4-(di-n-Propylamino)-3,5-dinitro-1-trifluoromethylbenzene; Elancolan; l-36352; Lilly 36,352; NCI-C00442; Nitran; n,n-Dipropyl-2,6-dinitro-4-trifluormethylanilin; n,n-di-n-Propyl-2,6-dinitro-4-trifluoromethylaniline; n,n-Dipropyl-4-trifluoromethyl-2,6-dinitroaniline; Olitref; Su seguro carpidor; Trefanocide; Treficon; Treflam; Treflan; Treflanocide elancolan; s-Triazine, 2-chloro-4,6-bis(ethylamino)-; alpha,alpha,alpha-Trifluoro-2,6-dinitro-n,n-dipropyl-p-toluidine; Trifluralin; Trifurex; Trikepin; Trifluoralin; Trifluraline; Trim

**U.S. EPA Carcinogenic Classification (IRIS):** Class C Possible Human Carcinogen. Only oral cancer risk information available; inhalation unit risk factor not available. Oral RfD available; inhalation RfC not available.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not classifiable as to carcinogenicity to humans (Group 3).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

4. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

Completed by: 3,1,1 Date; 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** Trimellitic anhydride

**CAS Number:** 552-30-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Trimellitic anhydride is acutely and chronically toxic. Exposure can cause pulmonary disease anemia syndrome, characterized by dyspnea, hemoptysis, pulmonary infiltrates, restrictive lung function, and hemolytic anemia.

**Molecular Weight (g/mol):** 192.12

**Synonyms:** 1,2,4-Benzenetricarboxylic anhydride; 4-Carboxyphthalic anhydride; TMA; TMAN; Trimellic acid anhydride (Note: TMA is also a synonym for Trimethylamine.)

**U.S. EPA Carcinogenic Classification (IRIS):** Not listed on U.S. EPA Integrated Risk Information System (IRIS) database.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Not listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** TLV-STEL (ceiling value): 0.04 $mg/m^3$ or 40 $\mu g/m^3$. Critical effects: respiratory sensitization.

**HSDB:** Listed in the Hazardous Substances Data Bank. Can cause pulmonary disease anemia syndrome, characterized by dyspnea, hemoptysis, pulmonary infiltrates, restrictive lung function, and hemolytic anemia.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date; 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name:** 2,2,4-Trimethylpentane, (isooctane)

**CAS Number:** 540-84-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 2,2,4-Trimethylpentane is listed by U.S. EPA as a HAP and is chronically toxic, and a severe irritant.

**Molecular Weight (g/mol):** 114.22

**Synonyms:** Iso-octane; 2,2,4-Trimethylpentane; AI3-23976; HSDB 5682; Isobutyltrimethylmethane; 2,4,4-Trimethylpentane; pentane, 2,2,4-Trimethyl-; Isooctane; Trimethylpentane

**U.S. EPA Carcinogenic Classification (IRIS):** Data determined to be inadequate for derivation of an inhalation RfC.

**PBT:** Not listed as Persistent, Bioaccumulative and Toxic.

**NTP:** Not listed by the National Toxicology Program.

**HAP:** Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r:** Not listed under Section 112(r) of the Clean Air Act.

**ACGIH:** Not listed in American Conference of Governmental Industrial Hygienists (ACGIH) 2006 TLV and BEI indices.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC:** Not listed by International Agency for Research on Cancer (IARC).

**ATSDR (MRL):** No minimum risk level (MRL) available from the Agency for Toxic Substances and Disease Registry (ATSDR).

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date; 8/25/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vanadium pentoxide, as $V_2O_5$ dust or fume

**CAS Number**: 01314-62-1

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vanadium pentoxide is a toxic respiratory system irritant.

**Molecular Weight (g/mol):** 181.90

**Synonyms**: Divanadium Pentaoxide; Divanadium Pentoxide; Vanadic Anhydride; Vanadium Oxide; Vanadium Pentaoxide; Vanadium Pentoxide

**U.S. EPA Carcinogenic Classification (IRIS)**: The NTP (1985) has approved vanadium pentoxide for carcinogenicity testing.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 50 ug/$m^3$; A4- not classifiable as a human carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is a respiratory system irritant.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/22/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vinyl Acetate

**CAS Number**: 00108-05-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vinyl Acetate is listed by U.S. EPA as a HAP and is acutely and chronically toxic, and potentially carcinogenic.

**Molecular Weight (g/mol):** 86.09

**Synonyms**: Acetate De Vinyle; Acetato De Vinilo; Acetic Acid Ethenyl Ester; Acetic Acid, Ethenyl Ester; Acetic Acid Vinyl Ester; 1-acetoxyethylene; Ethenyl Acetate; Hsdb 190; Nsc 8404; Octan Winylu; Un 1301; Vac; Vinile (Acetato Di); Vinylacetaat; Vinylacetat; Vinyl Acetate; Vinyl Acetate, Inhibited; Vinyl a Monomer; Vinyle (Acetate De); Vinylester Kyseliny Octove; Vyac

**U.S. EPA Carcinogenic Classification (IRIS)**: Listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 15,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 10 ppm or 35,211 ug/$m^3$; A3- confirmed animal carcinogen with unknown relevance to humans.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2B- possibly carcinogenic to humans.

**ATSDR, MRL**: Inhalation, Intermediate; 76.69 ug/$m^3$.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol63/volume63.pdf

5. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html

6. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

7. U.S. EPA 2001. List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA-550-B-01-003. October 2001.
   http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf


Completed by: 3,1,1 Date: 8/23/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vinyl Bromide

**CAS Number**: 00593-60-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vinyl Bromide is listed as a HAP by U.S. EPA and is acutely and chronically toxic, and is a suspected human carcinogen.

**Molecular Weight (g/mol):** 160.96

**Synonyms**: Bromoethene; Bromoethylene; bromo- Ethene; bromo- Ethylene; Vinyl bromide; Bromure de vinyle; Bromuro de vinilo; HSDB 1030; Monobromoethylene; NCI-C50373; Vinile (bromuro di); Vinyl bromide, inhibited; Vinylbromid; Vinyle (bromure de)

**U.S. EPA Carcinogenic Classification (IRIS)**: Critical Effects include hypertrophy, basophilic, and eosinophilic foci in the liver; RfC 3E-3 mg/cu.m.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Listed as reasonably anticipated to be a human carcinogen (Part B).

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 0.5 ppm or 2,187 ug/$m^3$; A2- suspected human carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 2A; probably carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
   http://ntp.niehs.nih.gov/ntp/roc/toc11.html
   http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s185viny.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
   http://www.epa.gov/ttn/atw/188polls.html

4. American Conference of Governmental Industrial Hygienists (ACGIH) 2005. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

6. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol39/volume39.pdf
   http://monographs.iarc.fr/ENG/Monographs/vol71/volume71.pdf


Completed by: 3,1,1 Date: 8/23/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vinyl Chloride

**CAS Number**: 00075-01-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vinyl Chloride is listed by U.S. EPA as a HAP and is a human carcinogen.

**Molecular Weight (g/mol):** 62.50

**Synonyms**: vinyl chloride; vinyl chloride monomer; chloroethylene; chloroethene; VC; VCM

**U.S. EPA Carcinogenic Classification (IRIS)**: A -Human carcinogen; RfC $1x10^{-1}$ $mg/m^3$.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Listed as known to be a human carcinogen (Part A).

**HAP**: Listed as a Hazardous Air Pollutant (HAP) by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 1 ppm or 2,556 $ug/m^3$; A1- confirmed human carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 1- carcinogenic to humans.

**ATSDR, MRL**: Inhalation, intermediate; 76.69 $ug/m^3$. Toxicological Profile available.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
http://www.epa.gov/IRIS/subst/index.html

2. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s186viny.pdf

3. U.S. EPA Hazardous Air Pollutant (HAP) List
http://www.epa.gov/ttn/atw/188polls.html

4. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

5 American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

6 U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

7 International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol19/volume19.pdf

8. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
http://www.atsdr.cdc.gov/mrls.html
http://www.atsdr.cdc.gov/toxprofiles/tp20.html


Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: 4-Vinyl Cyclohexene

**CAS Number**: 00100-40-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 for the following reason(s): it is a compound that has been determined to be carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, and causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 4-Vinyl Cyclohexene is acutely and chronically toxic, causes keratitis, rhinitis, headache, hypotonia, leukopenia, neutrophilia, and lymphocytosis, and is a suspected carcinogen.

**Molecular Weight (g/mol):** 108.18

**Synonyms**: 4-Ethenylcyclohexene; VCH; 1-Vinylcyclohexene-3; 4-Vinyl-1-cyclohexene; 4-Venylcyclohex-1-ene

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic (PBT).

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 0.1 ppm or 442 ug/$m^3$; A3- confirmed animal carcinogen with unknown relevance to humans.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure causes keratitis, rhinitis, headache, hypotonia, leukopenia, neutrophilia, and lymphocytosis.

**International IARC**: Group 2B- possibly carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

3. International Agency for Research on Cancer (IARC) http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf http://monographs.iarc.fr/ENG/Monographs/vol60/volume60.pdf

Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vinyl Fluoride

**CAS Number**: 00075-02-5

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vinyl Fluoride is acutely and chronically toxic, causing central nervous system effects, and is reasonably anticipated to be a human carcinogen.

**Molecular Weight (g/mol):** 108.18

**Synonyms**: Fluoroethene; Fluoroethylene; Monofluoroethylene

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Listed as reasonably anticipated to be a human carcinogen (Part B).

**HAP**: Not listed as a hazardous air pollutant by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 1 ppm or 1,883 ug/$m^3$; A2- suspected human carcinogen, liver damage, liver cancer.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound causes central nervous system effects.

**International IARC**: Group 2A- probably carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**


1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP)
http://ntp.niehs.nih.gov/ntp/roc/toc11.html
http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s188viny.pdf

2. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001.
http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
http://monographs.iarc.fr/ENG/Monographs/vol63/volume63.pdf


Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: 4-Vinyl-1-cyclohexene dioxide

**CAS Number**: 00106-87-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. 4-Vinyl-1-cyclohexene dioxide is acutely and chronically toxic and is reasonably anticipated to be a human carcinogen.

**Molecular Weight (g/mol):** 140.18

**Synonyms**: None

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Listed as reasonably anticipated to be a human carcinogen.

**HAP**: Not listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 0.1 ppm or 573 ug/$m^3$; A3- confirmed animal carcinogen with unknown significance to humans.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound is toxic by ingestion and skin absorption, and is a strong skin and eye irritant.

**International IARC**: Group 2B- possibly carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**

1. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP) http://ntp.niehs.nih.gov/ntp/roc/toc11.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

4. International Agency for Research on Cancer (IARC) http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf http://monographs.iarc.fr/ENG/Monographs/vol60/volume60.pdf

Completed by: 3,1,1 Date: 8/15/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Vinylidene Chloride

**CAS Number**: 00075-35-4

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Vinylidene chloride is listed as a HAP by U.S. EPA and is acutely and chronically toxic.

**Molecular Weight (g/mol):** 96.95

**Synonyms**: 1,1-Dichloroethene; 1,1-Dichloroethylene; VDC; Vinylidene dichloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Listed as a hazardous air pollutant (HAP) by U.S. EPA.

**112r**: Threshold quantity (TQ) listed as 10,000 lbs in section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 5 ppm or 19,826 ug/$m^3$; A4- not classifiable as a human carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 3- not classifiable as carcinogenic to humans.

**ATSDR, MRL**: Not available.

**Reference Material**


1. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook. http://www.epa.gov/ttn/atw/188polls.html http://www.epa.gov/ttnatw01/hlthef/hapindex.html

2. U.S. EPA 2001. *List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act*. EPA-550-B-01-003. October 2001. http://www.epa.state.oh.us/dapc/atu/112%28r%29/list.pdf

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. *11th Report on Carcinogens*. National Toxicology Program (NTP) http://ntp.niehs.nih.gov/ntp/roc/toc11.html

5. International Agency for Research on Cancer (IARC) http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.


Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Xylenes, meta-

**CAS Number**: 00108-38-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Xylenes are listed as HAPs by U.S. EPA and are acutely and chronically toxic.

**Molecular Weight (g/mol):** 106.16

**Synonyms**: 1,3-Dimethylbenzene, o-Dimethylbenzene, m-Methyl toluene; 1,3-Xylene; m-Xylene; m-Xylol

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 100 ppm or 434,192 ug/m^3; A4 Not Classifiable as a Human Carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook. http://www.epa.gov/ttn/atw/188polls.html
http://www.epa.gov/ttnatw01/hlthef/hapindex.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: o-Xylenes

**CAS Number**: 00095-47-6

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Xylenes are listed as HAPs by U.S. EPA and are acutely and chronically toxic.

**Molecular Weight (g/mol):** 106.16

**Synonyms**: 1,2- Dimethylbenzene, o-Dimethylbenzene; o-Methyl toluene; 1,2-Xylene; o-Xylene; o-Xylol

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 100 ppm or 434,192 ug/m^3; A4- Not Classifiable as a Human Carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook. http://www.epa.gov/ttn/atw/188polls.html http://www.epa.gov/ttnatw01/hlthef/hapindex.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/24/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Xylenes, para-

**CAS Number**: 00106-42-3

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Xylenes are listed as HAPs by U.S. EPA and are acutely and chronically toxic.

**Molecular Weight (g/mol):** 106.16

**Synonyms**: 1,4-Dimethylbenzene; p-Dimethylbenzene; p-Methyl toluene; 1,4-Xylene; p-Xylene; p-Xylol

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 100 ppm or 434,192 ug/m^3; A4 Not Classifiable as a Human Carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**

1. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook. http://www.epa.gov/ttn/atw/188polls.html http://www.epa.gov/ttnatw01/hlthef/hapindex.html

2. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/24/06, 8/28/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Xylenes

**CAS Number**: 01330-20-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Xylenes are listed as HAPs by U.S. EPA and are acutely and chronically toxic.

**Molecular Weight (g/mol):** 106.16

**Synonyms**: Dimethylbenzene; 1,3-Dimethylbenzene; 1,4-Dimethylbenzene; Mixed xylenes; meta-Xylene; o-Xylene; p-Xylene; para-Xylene; 108-38-3; 95-47-6; 1,2-Dimethylbenzene; m-Xylene; ortho-Xylene; Xylenes

**U.S. EPA Carcinogenic Classification (IRIS)**:Impaired motor coordination (decreased rotarod performance); RfC 0.1 mg/m3.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 100 ppm or 434,192 ug/m^3; A4- Not Classifiable as a Human Carcinogen.

**HSDB:** Listed in the Hazardous Substances Data Bank.

**International IARC**: Group 3; Not Classifiable as to Carcinogenicity to Humans.

**ATSDR, MRL**: Inhalaltion, Chronic; 217.1 ug/m^3.

**Reference Material**


1. U.S. EPA Integrated Risk Information System (IRIS)
   http://www.epa.gov/IRIS/subst/index.html

2. U.S. EPA Hazardous Air Pollutant (HAP) List and Health Affects Notebook.
   http://www.epa.gov/ttn/atw/188polls.html
   http://www.epa.gov/ttnatw01/hlthef/hapindex.html

3. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD.
   http://toxnet.nlm.nih.gov.

5. International Agency for Research on Cancer (IARC)
   http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf
   http://monographs.iarc.fr/ENG/Monographs/allmonos30.php

6. Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels (MRLs) for Hazardous Substances
   http://www.atsdr.cdc.gov/mrls.html
   http://www.atsdr.cdc.gov/toxpro2.html


Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Zinc Chloride Fume

**CAS Number**: 07646-85-7

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria; substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. Zinc Chloride Fume is acutely or chronically toxic and causes pulmonary fibrosis.

**Molecular Weight (g/mol):** 136.29

**Synonyms**: Butter of Zinc; Tinning flux; Zinc dichloride

**U.S. EPA Carcinogenic Classification (IRIS)**: Not listed in IRIS.

**PBT**: Not listed as persistent, bioaccumulative and toxic.

**NTP**: Not listed by the National Toxicology Program.

**HAP**: Not listed as a Hazardous Air Pollutant (HAP) by U.S. EPA.

**112r**: Not listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 1,000 ug/$m^3$.

**HSDB:** Listed in the Hazardous Substances Data Bank. This compound can cause severe respiratory inflammation and pulmonary fibrosis.

**International IARC**: Not listed as an agent reviewed by IARC.

**ATSDR, MRL**: Not available.

**Reference Material**

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06

**Toxic Compound Data Sheet**

**Name**: Zinc Oxide

**CAS Number**: 01314-13-2

**Justification:** This compound is listed in Ohio Administrative Code 3745 - 114 - 01 because it fulfills one or more of the following criteria: substances that are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, or neurotoxic, causes reproductive dysfunction, is acutely or chronically toxic, or causes the threat of adverse environmental effects through ambient concentrations, bioaccumulation, or atmospheric deposition. This compound is acutely and chronically toxic, as exposure to zinc oxide causes metal fume fever.

**Molecular Weight (g/mol):** 81.37

**Synonyms**: Zincite; Zinc white

**U.S. EPA Carcinogenic Classification (IRIS)**: Not Listed in IRIS.

**PBT**: Not Listed as Persistent, Bioaccumulative and Toxic.

**NTP**: Not Listed by the National Toxicology Program.

**HAP**: Not Listed as a Hazardous Air Pollutant by U.S. EPA.

**112r**: Not Listed in Section 112r of the Clean Air Act.

**ACGIH**: TLV, TWA- 2,000 ug/m^3. Causes metal fume fever.

**HSDB:** Listed in the Hazardous Substances Data Bank. Exposure metal fume fever may result from the inhalation of zinc oxide fume. The symptoms include fever, chills, muscular pain, nausea and vomiting.

**International IARC**: Not Listed as an Agent Reviewed by IARC.

**ATSDR, MRL**: Not Available.

**Reference Material**.

1. American Conference of Governmental Industrial Hygienists (ACGIH) 2006. *TLVs and BEIs: Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. Cincinnati, OH: ACGIH Worldwide.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB), a database of the National Library of Medicine's TOXNET system. Bethesda, MD. http://toxnet.nlm.nih.gov.

Completed by: 3,1,1 Date: 8/24/06, 8/27/06, 9/10/06