

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **112010-008** Project Number: 2010-10-011

Parent Company: David Arndt's Cabinets

Parent Company Address: HCR #1 Box 182, Grandin, MO 63943

Installation Name: David Arndt's Cabinets

Installation Number: 035-0028

Installation Address: Highway 21 South, Hunter, MO 63943

Location Information: Carter County, S22, T26N, R2E

Application for Authority to Construct was made for:
The installation of a new wood cabinet manufacturing facility. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

NOV 23 2010

EFFECTIVE DATE

Handwritten signature of Kya L. Thorne in black ink.

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

David Arndt's Cabinets
Carter County, S22, T26N, R2E

1. Emission Limitation
 - A. David Arndt's Cabinets shall emit less than 40.0 tons of Volatile Organic Compounds (VOCs) in any consecutive 12-month period from the entire installation (see Table 1).
 - B. David Arndt's Cabinets shall emit less than the Screen Modeling Action Levels, found in Attachment D, or five (5.0) tons individually of Hazardous Air Pollutants (HAPs), whichever is smaller, in any consecutive 12-month period from the entire installation (see Table 1).
 - C. David Arndt's Cabinets shall emit less than twelve and a half (12.5) tons combined of Hazardous Air Pollutants (HAPs) in any consecutive 12-month period from the entire installation (see Table 1).

Table 1: All Emission Points Reported at David Arndt's Cabinets

Emission Point Number:	Description:
EP-01	37" Belt Sander (Controlled by Cyclone Dust Collector)
EP-02	12" Planer (2) (Controlled by Cyclone Dust Collector)
EP-03	Chop Saws (4)
EP-04	Shapers (4) (3 Shapers Controlled by Cyclone Dust Collector)
EP-05	Laminator/ Edge Bander
EP-06	Band Saw
EP-07	Hand Sanders
EP-08	Edge Sander (Controlled by Cyclone Dust Collector)
EP-08	Spray Booth (Controlled by Particulate Filter)
EP-09	Glue Table
EP-10	Haul Road
EP-11	Routers (2)
EP-12	Table Saws (2)
EP-13	Hand Applied Stains

- D. Attachment A, Attachment B and Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A., 1.B., and 1.C.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

2. Control Device Requirement-Cyclone Dust Collector(100% Capture Efficiency, 99% Control Efficiency)
 - A. David Arndt's Cabinets shall control emissions from the listed equipment in Table 2 using a cyclone dust collector as specified in the permit application.

Table 2: Emission Points Controlled by Cyclone Dust Collector

Emission Point Number:	Description:
EP-01	37" Belt Sander (Controlled by Cyclone Dust Collector)
EP-02	12" Planer (Controlled by Cyclone Dust Collector)
EP-04	Shapers (4) (3 Shapers Controlled by Cyclone Dust Collector)
EP-08	Edge Sander (Controlled by Cyclone Dust Collector)

- B. The cyclone dust collector shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. If any openings or holes should appear on the ductwork to the cyclone dust collector due to normal wear prior to proper maintenance activities these openings or holes shall maintain negative pressure.
 - D. David Arndt's Cabinets shall demonstrate negative pressure at all controlled wood working processes by using visual indicators such as streamers, talc puff test, negative pressure gauges, flags, etc. at openings that are not closed during normal operations. All openings, when operating, must indicate the presence of negative pressure for compliance.
 - E. David Arndt's Cabinets shall maintain an operating and maintenance log for the cyclone dust collector which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3. Control Device Requirement – Particulate Filter (100% Capture Efficiency, 97% Control Efficiency)
 - A. David Arndt's Cabinets shall control PM₁₀ emissions from the paint booth (EP-08) using particulate filters as specified in the permit application. The filter(s) shall be operated and maintained in accordance with the manufacturer's specifications.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. Replacement particulate filters for the paint booths shall be kept on hand at all times. The particulate filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
- C. David Arndt's Cabinets shall maintain an operating and maintenance log for the filters which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 4. **Cleaning Solutions**
David Arndt's Cabinets shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. David Arndt's Cabinets shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.
- 5. **Operational Requirement – Spray Guns**
David Arndt's Cabinets shall only operate one spray gun at a time in paint booth (EP-08).
- 6. **Record Keeping and Reporting Requirements**
 - A. David Arndt's Cabinets shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used
 - B. David Arndt's Cabinets shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2010-10-011
Installation ID Number: 035-0028
Permit Number:

David Arndt's Cabinets
Highway 21 South
Hunter, MO 63943

Complete: October 6, 2010

Parent Company:
David Arndt's Cabinets
HCR #1 Box 182
Grandin, MO 63943

Carter County, S22, T26N, R2E

REVIEW SUMMARY

- David Arndt's Cabinets has applied for authority to install a new wood cabinet manufacturing facility.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are Xylene (1330-20,7), Ethyl Benzene (100-41-4), Toluene (108-86-3), Methanol (67-56-1), 2-Butoxyethyl Acetate (112-07-2), Formaldehyde (50-00-0), and Methyl Isobutyl Ketone (108-10-1) .
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations applies to the proposed equipment. Since the wood furniture component of the manufacturing operations account for a least 90 percent of annual HAP emissions at the plant site, the facility is allowed via the MACT to take HAP emission limitations of 5 tons per year on individual HAPs and 12.5 tons per year on combined HAPs in order to be identified as an area source per the MACT and not be subject to the other provisions of this subpart.
- Cyclone dust collector and particulate filters are being used to control the PM₁₀ and PM_{2.5} emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of VOC are conditioned below de minimis levels.

- This installation is located in Carter County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are limited below de minimis levels.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

David Arndt's Cabinets is a new installation that manufactures wood cabinets. The facility is located on Highway 21 South by Hunter, Missouri. They will be considered a de minimis source for construction permitting and considered a basic state operating permit source because a MACT standard applies to the facility and are required to submit a basic operating permit application within 30 days of receiving their construction permit.

No permits have been issued to David Arndt's Cabinets from the Air Pollution Control Program.

PROJECT DESCRIPTION

David Arndt's Cabinets is a new installation therefore all the equipment at the facility will be considered in this permit. There are multiple wood working pieces of equipment in the facility including a belt sander, two 12" planers, four chop saws, four shapers, one laminator/edge bander, one band saw, four hand sanders, two routers and two table saws. The belt sander, edge sander, planers, chop saws, shapers, band saw, and hand saw emit PM₁₀ and PM_{2.5}. The belt sander, edge sander, planers and shapers are controlled by a cyclone dust collector. The maximum hourly design rate (MDHR) for the wood working processes was calculated using the maximum completed work in one week (one and a half kitchens per week, approximately 350 board feet per kitchen) divided by maximum hours worked in a week (60 hour per week). To be conservative it was assumed that every wood working piece of equipment processed every board foot that entered the facility. By taking the 525 board feet per week and dividing by the 60 hours worked per week the MHDR is calculated to be 8.75 board feet per hour or 0.73 cubic feet of wood processed per hour.

Missouri State rule 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes* applies to this facility. David Arndt's Cabinets is in compliance with this rule by having a fabric filter on the spray coating operations that controls at least 95 percent of the particulate emissions. Furthermore each emission unit that emits particulate matter has either a federally enforceable requirement (via this permit) to have control equipment that controls at least 90 percent of the particulate emissions or they have the potential to emit less than 0.5 pounds per hour.

Multiple wood glues and adhesives are used at the David Arndt's Cabinets facility. These glues and adhesive are either hand applied or heated and applied by a machine where no spraying is required. Therefore the emissions from these processes are simply the Volatile Organic Compounds (VOC) or Hazardous Air Pollutants (HAPs) that evaporate during application. The MHDR for the wood glue and adhesive application was calculated by taking the actual usage and dividing by the actual hours of operation. The wood glues and adhesive that were reviewed and potential emissions calculated for at the David Arndt's Cabinet facility are listed in the table below.

Table 3: Glues and Adhesives

Name:	Product Number/Code:
Canplast HOTMELT – Granular and Cartridge	2022-2031-2041
Wilsonart 900 Series	950,951,970,971,980,981 - Adhesive
Con-Bond 2725	C2725

David Arndt's Cabinets also perform coating applications on their products using a spray gun inside a paint booth. The paint booth is equipped with particulate filters to control the PM₁₀ and PM_{2.5} emission from the spraying. David Arndt's Cabinets use two different types of paint guns which include the Magnum XR7 Airless Paint Gun and the Husky HDS790 HVLP Paint Gun. During operation David Arndt's Cabinets is limited to the use of one paint gun at a time in their spray booth. The MHDR of the Magnum XR7 Airless Paint Gun was taken from the manufacture specifications and was found to be 18.6 gallons per hour with a transfer rate of 75 percent. The MHDR of the Husky HDS790 HVLP Paint Gun could not be found in the manufacture specification so a similar paint was found and the MHDR from that spray gun was used. The MDHR used for the Husky HDS790 HVLP Paint Gun was 15 gallons per hour with a transfer rate of 50 percent. The coatings that were reviewed in each paint gun are listed in the table below.

Table 4: Paint Gun Coatings

Name:	Product Number/Code:
R7K119 Lacquer Thinner	K119-SW
SHER-WOOD Pigmented Conversion Varnish	H65W32
SHER-WOOD KEMVAR Primer Surfacer	E63W5
*SHER-WOOD Super KEMVAR Catalyst	V66V26
*SHER-WOOD Acrylic Conversion Coating	T77F63

*The Magnum XR7 Airless Paint Gun can only spray the SHER-WOOD Super KEMVAR Catalyst and the SHER-WOOD Acrylic Conversion Coating

David Arndt's Cabinets also hand applies a wiping stain to their products. The MHDR for this process was found to be 0.17 gallons per hour. The only product reviewed by this permit is the SHER-WOOD BAC Wiping Stain, Product Number S64N51.

EMISSIONS/CONTROLS EVALUATION

The project's potential emissions are primarily VOCs and HAPs that are associated with the spray booth, wiping stains and wood glues/adhesives. Potential emissions for these processes were estimated using a mass balance approach and information obtained from the HAP Compliance Worksheet supplied by the applicant. 100 percent of the VOC and non-PM₁₀ HAP content of the coating mixtures are assumed to be emitted into the atmosphere. The potential emissions of each individual HAP was determined for each material proposed. The highest potential emissions for total VOCs, combined HAPs, each individual HAPs and PM₁₀ were then used to determine the worst case potential emissions for the project.

David Arndt's Cabinets will be taking a 5.0 ton individual HAP limit and a 12.5 ton total HAP limit in order to stay in compliance with Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart JJ, and National Emission Standards for Wood Furniture Manufacturing Operations. David Arndt's Cabinets will also be taking a 40.0 ton VOC limit.

The PM₁₀ and PM_{2.5} emissions were calculated using a mass balance approach. It was assumed that all solids within each coating are PM₁₀ and PM_{2.5}. The particle size distribution of the solids during coating applications was taken from the CALIFORNIA EMISSION INVENTORY AND REPORTING SYSTEM (CEIDARS). The particle size distribution was found to 96% PM₁₀ and 92.5% PM_{2.5}. The control efficiency of the PM₁₀ and PM_{2.5} emissions were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Appendix B.2. The control efficiencies were found to 97% for PM₁₀ and 92% for PM_{2.5}.

The PM₁₀ and PM_{2.5} potential emission from the wood working processes were calculated using emission factors that were obtained from the Factor Information Retrieval (FIRE) Data System Version 6.25 (SCC 3-07-016-60) and using the particle size distribution found in the CALIFORNIA EMISSION INVENTORY AND REPORTING SYSTEM (CEIDARS).

Table 5: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	N/A	N/A	15.04	*2.24
PM ₁₀	15.0	N/A	N/A	6.50	*1.19
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	457.53	<40.00
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	301.36	**<5.0/12.5
Xylene	10.0	N/A	N/A	46.52	**<5.0
Ethyl Benzene	10.0	N/A	N/A	5.81	**<5.0
Toluene	10.0	N/A	N/A	144.12	**<5.0
Methanol	10.0	N/A	N/A	17.45	**<5.0
2-Butoxyethyl Acetate	5.0	N/A	N/A	6.67	**<5.0
Formaldehyde	2.0	N/A	N/A	0.67	<2.0
Methyl Isobutyl Ketone	10.0	N/A	N/A	80.02	**<5.0
N-Hexane	10.0	N/A	N/A	0.10	**<5.0

N/A = Not Applicable

* PM₁₀ and PM_{2.5} emissions are proportionally reduced.

**Conditioned potential emissions based on voluntary HAP limits taken to stay in compliance with the Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

David Arndt's Cabinets shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110

The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous

year's emissions.

- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Furniture Manufacturing Operations*, 40 CFR Part 63, Subpart JJ

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Gerad Fox
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 30, 2010, received October 6, 2010, designating David Arndt's Cabinets as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated October 19, 2010.

Attachment D
Hazardous Air Pollutant (HAP) Screening Model Action Levels (SMAL)

Chemical	CAS#	SMAL (tons/ year)	Synonyms
Acetaldehyde	75-07-0	9	Acetic Aldehyde, Aldehyde, Ethanal, Ethyl Aldehyde
Acetamide	60-35-5	1	Acetic Acid Amide, Ethanamide
Acetonitrile	75-05-8	4	Methyl Cyanide, Ethanenitrile, Cyanomethane
Acetophenone	98-86-2	1	Acetylbenzene, Methyl Phenyl Ketone, Hypnone
Acetylaminofluorine, [2-]	53-96-3	0.005	N-2-Fluorenyl Acetaminde, N-Fluorene-2-yl Acetamide, 2-Acetamideofluorene
Acrolein	107-02-8	0.04	Acrylaldehyde, Acrylic Aldehyde, Allyl Aldehyde, Propenal
Acrylamide	79-06-1	0.02	Propenamamide, Acrylic Amide, Acrylamide Monomer, Ethylenecarboxamide
Acrylic Acid	79-10-7	0.6	Propenoic Acid, Ethylene Carboxylic Acid, Vinylformic Acid
Acrylonitrile	107-13-1	0.3	Vinyl Cyanide, Cyanoethylene, Propenenitrile
Allyl Chloride	107-05-1	1	1-Chloro-2-Propene, 3-Chloropropylene, Chloroallylene, Alpha-Propylene
Aminobiphenyl, [4-]	92-67-1	1	Biphenylene, P -Phenylaniline, Xenylamine, 4-Aminodiphenyl, 4-Biphenylamine
Aniline	62-53-3	1	Aminobenzene, Phenylamine, Aniline Oil, Aminophen, Arylamine
Anisidine, [Ortho-]	90-04-0	1	O-Methoxyaniline
Antimony Compounds (except those specifically listed)		5	Antimony (Pentachloride, Tribromide, Trichloride, Trifluoride)
Antimony Pentafluoride	7783-70-2	0.1	
Antimony Potassium Tartrate	28300-74-5	1	
Antimony Trioxide	1309-64-4	1	
Antimony Trisulfide	1345-04-6	0.1	
Arsenic and Inorganic Arsenic Compounds		0.005	Arsenic (Diethyl, Disulfide, Pentoxide, Trichloride, Trioxide, Trisulfide), Arsinine, Arsenous Oxide
Benz(a)Anthracene	56-55-3	0.01	
Benz(c)acridine	225-51-4	0.01	
Benzene	71-43-2	2	Benzol, Phenyl Hydride, Coal Naphtha, Phene, Benxole, Cyclohexatriene
Benzidine	92-87-5	0.0003	4,4'-Biphenyldiamine, P-Diaminodiphenyl, 4,4'-Diaminobiphenyl, Benzidine Base
Benzo(a)pyrene	50-32-8	0.01	
Benzo(b)fluoranthene	205-992	0.01	
Benzotrichloride	98-07-7	0.006	Benzoic Trichloride, PhenylChloroform, Trichloromethylbenzene
Benzyl Chloride	100-44-7	0.1	Alpha-Chlorotoluene, Toly Chloride
Beryllium Compounds (except Beryllium Salts)		0.008	Beryllium (Acetate, Carbonate, Chloride, Fluoride, Hydroxide, Nitrate, Oxide)
Beryllium Salts		0.00002	

Biphenyl*	92-52-4	10	
Bis(Chloroethyl)Ether	111-44-4	0.06	Dichloroethyl ether, Dichloroether, Dichloroethyl Oxide, BCEE
Bis(Chloromethyl)Ether	542-88-1	0.0003	BCME, Sym-Dichloromethyl ether, Dichloromethyl Ether, Oxybis-(Chloromethane)
Bromoform*	75-25-2	10	Tribromomethane
Butadiene, [1,3-]	106-99-0	0.07	Biethylene, Bivinyll, Butadiene Monomer, Divinyl Erythrene, Vinylethylene
Butylene Oxide, [1,2-]	106-88-7	1	1,2-Epoxybutane, 1-Butene Oxide, 1,2-Butene Oxide, Butylene Oxide, Ethylethylene
Cadmium Compounds		0.01	Cadmium (Dust, Fume, Acetate, Chlorate, Chloride, Fluoride, Oxide, Sulfate, Sulfide)
Calcium Cyanamide*	156-62-7	10	
Caprolactam*	105-60-2	10	
Captan*	133-06-2	10	
Carbaryl*	63-25-2	10	
Carbon Disulfide	75-15-0	1	Carbon Bisulfide, Dithiocarbonic Anhydride
Carbon Tetrachloride	56-23-5	1	Tetrachloromethane, Perchloromethane
Carbonyl Sulfide	463-58-1	5	Carbon Oxide Sulfide, Carbonoxysulfide
Catechol	120-80-9	5	Pyrocatechol, O-Dihydroxybenzene
Chloramben	133-90-4	1	3-Amino-2,5-Dichlorobenzoic Acid, Amben, Amiben*, Vegiben* (*Trademark)
Chlordane	57-74-9	0.01	ENT9932, Octachlor
Chlorine	7782-50-5	0.1	Bertholite
Chloroacetic Acid	79-11-8	0.1	Monochloroacetic Acid, Chloroethanoic Acid
Chlorobenzene	108-90-7	10	
Chloroacetophenone, [2-]	532-27-4	0.06	Phenacyl Chloride, Chloromethyl Phenyl Ketone, Tear Gas, Mace
Chlorobenzilate	510-15-6	0.4	Ethyl-4,4'-Dichlorobenzilate, Ethyl-4,4'-Dichlorophenyl Glycollate
Chloroform	67-66-3	0.9	Trichloromethane
Chloromethyl Methyl Ether	107-30-2	0.1	CMME, Methyl Chloromethyl Ether, Chloromethoxymethane, Monochloromethyl Ether
Chloroprene	126-99-8	1	2-Chloro-1,3-Butadiene, Chlorobutadiene, Neoprene Rubber Compound
Chromic Chloride	10025-73-7	0.1	
Chromium Compounds (except Hexavalent)		5	Chromium, Chromium(II) Compounds, Chromium (III) Compounds
Chromium Compounds, Hexavalent		0.002	Chromium (VI)
Chrysene	218-01-9	0.01	
Cobalt Carbonyl	12010-68-1	0.1	
Cobalt Metal (and compounds, except those specifically listed)		0.1	Cobalt (Bromide, Chloride, Diacetate, Formate, Nitrate, Oxide, Sulfamate)
Coke Oven Emissions	8007-	0.03	Coal Tar, Coal Tar Pitch, Coal Tar Distillate

	45-2		
Cresol, [Meta-]	108-39-4	1	3-Cresol, M-Cresylic Acid, 1-Hydroxy-3-Methylbenzene, M-Hydroxytoluene
Cresol, [Ortho-]	95-48-7	1	2-Cresol, O-Cresylic Acid, 1-Hydroxy-2-Methylbenzene, 2-Methylphenol
Cresol, [Para-]	106-44-5	1	4-Cresol, P-Cresylic Acid, 1-Hydroxy-4-Methylbenzene, 4-Hydroxytoluene
Cresols/ Cresylic Acid (isomers and mixture)	1319-77-3	1	
Cumene	98-82-8	10	
Cyanide Compounds (except those specifically listed) ¹	20-09-7	5	Cyanide (Barium, Chlorine, Free, Hydrogen, Potassium, Silver, Sodium, Zinc)
DDE (p,p'-Dichlorodiphenyl Dichloroethylene)	72-55-9	0.01	
Di(2-Ethylhexyl)Phthalate, (DEHP)	117-81-7	5	Bis(2-ethylhexyl)Phthalate, Di(2-Ethylhexyl)Phthalate, DOP, Di-Sec-Octyl Phthalate
Diaminotoluene, [2,4-]	95-80-7	0.02	2,4-Toluene Diamine, 3-Amino-Para-Toluidine, 5-Amino-Ortho-Toluidine
Diazomethane	334-88-3	1	Azimethylene, Diazirine
Dibenz(a,h)anthracene	53-70-3		
Dibenzofuran	132-64-9	5	Diphenylene Oxide
Dibenzopyrene, [1,2:7,8]	189-55-9		
Dibutylphthalate*	84-74-2	10	
Dibromo-3-Chloropropane, [1,2-]	96-12-8	0.01	DBCP
Dibromomethane, [1,2-]	106-93-4	0.1	Ethylene Dibromide, Ethylene Bromide, Sym-Dibromoethane
Dichlorobenzene, [1,4-]	106-46-7	3	1,4-Dichloro-P-DCB, 1-4-DCB, PDB, PDCB
Dichlorobenzidene, [3,3-]	91-94-1	0.2	4,4'-Diamino-3,3'-Dichlorobiphenyl, 3,3'-Dichlorobiphenyl-4,4'-Diamine, DCB
Dichloroethane, [1,1-]	75-34-3	1	Ethylidene Dichloride, 1,1-Ethylidene Dichloride, Asymmetrical Dichlorethane
Dichloroethane, [1,2-]	107-06-2	0.8	Ethylene Dichloride, Glycol Dichloride, Ethylene Chloride
Dichloroethylene, [1,1-]	75-35-4	0.4	Vinylidene Chloride, DCE, VDC
Dichlorophenoxyacetic acid, [2,4], salt and esters*	94-75-7	10	
Dichloropropane, [1,2-]	78-87-5	1	Propylene Dichloride
Dichloropropene [1,3-]	542-75-6	1	1,3-Dichloropropylene, Alpha-Chlorallyl Chloride
Dichlorvos	62-73-7	0.2	DDVP, 2,2-Dichlorovinyl dimethylphosphate
Diethanolamine	11-42-2	5	Bis(2-Hydroxyethyl)Amine, 2,2'-Dihydroxydiethylamine, Di(2-Hydroxyethyl)Amine
Diethyl Sulfate	64-67-5	1	Diethyl Ester Sulfuric Acid, Ethyl Sulfate
Dimethoxybenzidine, [3,3-]	119-90-4	0.1	Fast Blue B Base, Dianisidine, O-Dianisidine
Dimethylbenz(a)anthracene, [7,12]	57-97-6	0.01	
Dimethyl Benzidine, [3,3-]	119-93-7	0.008	O-Tolidine, Bianisidine, 4,4'-Diamino-3,3'-Dimethylbiphenyl, Diaminoditoyl
Dimethyl Carbamoyl Chloride	79-44-7	0.02	DMCC, Chloroformic Acid Dimethyl Amide, Dimethyl Carbamyl Chloride
Dimethyl Formamide	68-12-2	1	DMF, Formyldimethylamine

Dimethyl Hydrazine, [1,1-]	57-14-7	0.008	Unsymmetrical Dimethylhydrazine, UDMH, Dimazine
Dimethyl Phthalate*	131-11-3	10	
Dimethyl Sulfate	77-78-1	0.1	Sulfuric Acid Dimethyl Ester, Methyl Sulfate
Dimethylaminoazobenzene, [4-]	60-11-7	1	N,N-Dimethyl-P-Phenylazo-Aniline, Benzeneazo Dimethylaniline
Dimethylaniline, [N,N-]	121-69-7	1	N,N-Diethyl Aniline, N,N-Dimethylphenylamine, DMA
Dinitro-O-Cresol, [4,6-] and salts	534-52-1	0.1	DNOC, 3,5-Dinitro-O-Cresol, 2-Methyl-4,6-Dinitrophenol
Dinitrophenol, [2,4-]	51-28-5	1	DNP
Dinitrotoluene, [2,4-]	121-14-2	0.02	Dinitrotoluol, DNT, 1-Methyl-2,4-Dinitrobenzene
Dioxane, [1,4-]	123-91-1	6	1,4-Diethyleneoxide, Diethylene Ether, P-Dioxane
Diphenylhydrazine, [1,2-]	122-66-7	0.09	Hydrazobenzene, N,N'-Diphenylhydrazine, N,N'-Bianiline, 1,1'-Hydrodibenzene
Diphenylmethane Diisocyanate, [4,4-]	101-68-8	0.1	Methylene Bis(Phenylisocyanate), Methylene Diphenyl Diisocyanate, MDI
Epichlorohydrin	106-89-8	2	1-Chloro-2,3-Epoxypropane, EPI, Chloropropylene Oxide, Chloromethyloxirane
Ethoxy Ethanol [2-]*	110-80-5	10	
Ethyl Acrylate	140-88-5	1	Ethyl Propenoate, Acrylic Acid Ethyl Ester
Ethyl Benzene*	100-41-4	10	
Ethyl Chloride*	75-00-3	10	
Ethylene Glycol*	107-21-1	10	
Ethylene Imine (Aziridine)	151-56-4	0.003	Azacyclopropane, Dimethyleneimine, Ethylenimine, Vinylamine, Azirane
Ethylene Oxide	75-21-8	0.1	1,2-Epoxyethane, Oxirane, Dimethylene Oxide, Anprolene
Ethylene Thiourea	96-45-7	0.6	2-Imidazolidinethione, ETU
Fluomine	62207-76-5	0.1	
Formaldehyde	50-00-0	2	Oxymethylene, Formic Aldehyde, Methanal, Methylene Oxide, Oxomethane
Glycol Ethers (except those specifically listed) ²		5	
Heptachlor	76-44-8	0.02	1,4,5,6,7,8,8A-Heptachloro-3A,4,7,7A-Tetrahydro-4,7-Methanoindiene
Hexachlorobenzene	118-74-1	0.01	Perchlorobenzene, HCB, Pentachlorophenyl Benzene, Phenyl Perchloryl
Hexachlorobutadiene	87-68-3	0.9	Perchlorobutadiene, 1,3-Hexachlorobutadiene, HCB
Hexachlorocyclopentadiene	77-47-4	0.1	HCCPD, HEX
Hexachloroethane	67-72-1	5	Perchloroethane, Carbon Hexachloride, HCE, 1,1,1,2,2,2-Hexachloroethane
Hexamethylene Diisocyanate, 1,6-	822-06-0	0.02	1,6-Diisocyanatohexane, 1,6-Hexanediol Diisocyanate
Hexamethylphosphoramide	680-31-9	0.01	Hexamethylphosphoric Triamide, HEMPA, Hexametapol, Hexamethylphosphoramide
Hydrazine	302-01-2	0.004	Methylhydrazine, Diamide, Diamine, Hydrazine Base
Hydrochloric Acid*	7647-01-0	10	

Hydrogen Fluoride	7664-39-3	0.1	Hydrofluoric Acid Gas, Fluorhydric Acid Gas, Anhydrous Hydrofluoric Acid
Hydrogen Selenide	7783-07-5	0.1	
Hydroquinone	123-31-9	1	Quinol, Hydroquinol, P-Diphenol, 1,4-Benzenediol, Hydrochinone, Arctuin
Indeno(1,2,3-cd)Pyrene	193-39-5	0.01	
Isophorone*	78-59-1	10	
Lead and Compounds (except those specifically listed)	20-11-1	0.01	Lead (Acetate, Arsenate, Chloride, Fluoride, Iodide, Nitrate, Sulfate, Sulfide)
Lindane [Gamma-Hexachlorocyclohexane]	58-89-9	0.01	Benzene Hexachloride – Gamma Isomer
Maleic Anhydride	108-31-6	1	2,5-Furandiene, Cis-Butenedioic Anhydride, Toxilic Anhydride
Manganese and Compounds (except those specifically listed)	20-12-2	0.8	Manganese (Acetate, Chloride, Dioxide, (II)-Oxide, (III)-Oxide, (II)-Sulfate)
Mercury Compounds (except those specifically listed)	20-13-3	0.01	Mercury Compounds (Methyl-, Ethyl-, Phenyl-)
Mercury Compounds (Inorganic)	20-13-3	0.01	Mercury (Chloride, Cyanide, (I,II)-[Bromide, Iodide, Nitrate, Sulfate], Oxide)
Methanol*	67-56-1	10	
Methoxychlor*	72-43-5	10	
Methoxy Ethanol, [2-]*	108-86-4	10	
Methyl Bromide*	74-83-9	10	Bromomethane
Methyl Chloride*	74-87-3	10	Chloromethane
Methyl Chloroform*	71-55-6	10	1,1,1,-Trichloroethane
Methyl Hydrazine	60-34-4	0.06	Monomethylhydrazine, Hydrozomethane, 1-Methylhydrazine
Methyl Iodide	74-88-4	1	Idomethane
Methyl Isobutyl Ketone*	108-10-1	10	
Methyl Isocyanate	624-83-9	0.1	Isocyanatomethane, Isocyanic Acid, Methyl Ester
Methyl Methacrylate*	80-62-6	10	
Methyl Tert-Butyl Ether*	12108-13-3	10	
Methylcyclopentadienyl Manganese	12108-13-3	0.1	
Methylene Bis(2-Chloroaniline), [4,4-]	101-14-4	0.2	Curene, MOCA, 4,4'-Diamino-3,3'-Dichlorodiphenylmethane
Methylene Chloride*	75-09-2	10	Dichloromethane
Methylenedianiline, [4,4-]	101-77-9	1	4,4'-Diaminodipheylmethane, DDM, MDA, Bis(4-Aminophenyl)Methane, DAPM
Naphthalene*	91-20-3	10	
Nickel Carbonyl	13463-39-3	0.1	
Nickel Compounds (except those specifically listed)		1	Nickel (Acetate, Ammonium Sulfate, Chloride, Hydroxide, Nitrate, Oxide, Sulfate)
Nickel Refinery Dust	12035-72-2	0.08	
Nickel Subsulfide		0.04	
Nitrobenzene	98-95-3	1	Nitrobenzoi, Oil of Mirbane, Oil of Bitter Almonds
Nitrobiphenyl, [4-]	92-93-3	1	4-Nitrodiphenyl, P-Nitrobiphenyl, P-Nitrophenyl, PNB
Nitrophenol, [4-]	100-02-	5	4-Hydroxynitrobenzene, Para-Nitrophenol

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Nitropropane, [2-]	79-46-9	1	Dimethylnitromethane, Sec-Nitropropane, Isonitropropane, Nitroisopropane
Nitroso-N-Methylurea, [N-]	684-93-5	0.0002	N-Methyl-N-Nitrosourea, N-Nitroso-N-Methylcarbamide
Nitrosodimethylamine, [N-]	62-75-9	0.001	Dimethylnitrosamine, DMN, DMNA
Nitrosomorpholine, [N-]	59-89-2	1	4-Nitrosomorpholine
Parathion	56-38-2	0.1	DNTP, Monothiophosphate, Diethyl-P-Nitrophenyl
PCB (Polychlorinated Biphenyls)	1336-36-3	0.009	Aroclors
Pentachloronitrobenzene	82-68-8	0.3	Quintobenzene, PCNB, Quiniozene
Pentachlorophenol	87-86-5	0.7	PCP, Penchlorol, Pentachlorophenate, 2,3,4,5,6-Pentachlorophenol
Phenol	108-95-2	0.1	Carbolic Acid, Phenic Acid, Phenylic Acid, Phenyl Hydrate, Hydroxybenzene
Phenyl Mercuric Acetate	62-38-4	0.01	
Phenylenediamine, [p-]*	106-50-3	10	
Phosgene	75-44-5	0.1	Carbonyl Chloride, Carbon Oxychloride, Carbonic Acid Dichloride
Phosphine	7803-51-2	5	Hydrogen Phosphide, Phosphoretted Hydrogen, Phosphorus Trihydride
Phosphorous (Yellow or White)	7723-14-0	0.1	
Phthalic Anhydride	85-44-9	5	Phthalic Acid Anhydride, Benzene-O-Dicarboxylic Acid Anhydride, Phthalandione
Polycyclic Organic Matter (except those specifically listed)	TP15	0.01	POM, PAH, Polyaromatic Hydrocarbons,
Potassium Cyanide	151508	0.1	
Propane Sultone, [1,3-]	1120-71-4	0.03	1,2-Oxathiolane-2,2-Dioxide, 3-Hydroxy-1-Propanesulphonic Acid Sultone
Propiolactone, [Beta-]	57-57-8	0.1	2-Oxeatanone, Propiolactone, BPL, 3-Hydroxy-B-Lactone-Propanoic Acid
Propionaldehyde	123-38-6	5	Propanal, Propyl Aldehyde, Propionic Aldehyde
Propoxur*	114-26-1	10	Baygone
Propylene Oxide	75-56-9	5	1,2-Epoxypropane, Methylethylene Oxide, Methyl Oxirane, Propene Oxide
Propyleneimine, [1,2-]	75-55-8	0.003	2-Methyl Aziridine, 2-Methylazacyclopropane, Methylethyleneimine
Quinoline	91-22-5	0.006	1-Azanaphthalene, 1-Benzazine, Benzo(B)Pyridine, Chinoleine, Leucoline
Quinone	016-51-4	5	Benzoquinone, Chinone, P-Benzoquinone, 1,4-Benzooquinone
Selenium and Compounds (except those specifically listed)	7782-49-2	0.1	Selenium (Metal, Dioxide, Disulfide, Hexafluoride, Monosulfide)
Sodium Cyanide	143339	0.1	
Sodium Selenate	134100	0.1	
Sodium Selenite	101020	0.1	
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Styrene	100-42-5	1	Cinnamene, Cinnamol, Phenethylene, Phenylethylene, Vinylbenzene
Styrene Oxide	96-09-3	1	Epoxyethylbenzene, Phenylethylene Oxide, Phenyl Oxirane, Epoxystyrene

Tetrachlorodibenzo-P-Dioxin	1746-01-6	6.00E-07	
Tetrachloroethane, [1,1,2,2-]	79-34-5	0.3	Sym-Tetachloroethane, Acetylene Tetrachloride, Ethane Tetrachloride
Tetrachloroethylene*	127-18-4	10	Perchloroethylene
Tetraethyl Lead	78-00-2	0.01	
Tetramethyl Lead	75-74-1	0.01	
Titanium Tetrachloride	7550-45-0	0.1	Titanium Chloride
Toluene*	108-88-3	10	
Toluene Diisocyanate, [2,4-]	584-84-9	0.1	TDI, Tolyene Diisocyanate, Diisocyanatoluene
Toluidine, [Ortho-]	95-53-4	4	Ortho-Aminotoluene, Ortho-Methylaniline, 1-Methyl-1,2-Aminobenzene
Toxaphene	8001-35-2	0.01	Chlorinated Camphene, Camphechlor, Polychlorcamphene
Trichlorobenzene*	120-82-1	10	
Trichloroethane, [1,1,2-]	79-00-5	1	Vinyl Trichloride, Beta-Trichloroethane
Trichloroethylene*	79-01-6	10	
Triethylamine*	121-44-8	10	
Trichlorophenol, [2,4,5-]	95-95-4	1	2,4,5-TCP
Trichlorophenol, [2,4,6-]	88-06-2	6	2,4,6-TCP
Trifluralin	1582-09-8	9	2,6-Dinitro-N-N-Dipropyl-4-(Trifluoromethyl)Benzeneamine
Trimethylpentane, [2,2,4-]	540-84-1	5	Isobutyltrimethylethane, Isoctane
Urethane [Ethyl Carbamate]	51-79-6	0.8	Ethyl Urethane, O-Ethylurethane, Leucothane, NSC 746, Urethan
Vinyl Acetate	108-05-4	1	Acetic Acid Vinyl Ester, Vinyl Acetate Monomer, Ethenyl Ethanoate
Vinyl Bromide	593-60-2	0.6	Bromoethylene, Bromoethene
Xylenes (isomers and mixtures)*	1330-20-7	10	
Xylene, m-*	108-38-3	10	
Xylene, o-*	95-47-6	10	
Xylene, p-*	106-42-3	10	

¹X'CN where X'H' or any other group where a formal dissociation may occur, for example, KCN or Ca(CN)₂

²Includes mono- and diethers of ethylene glycol, diethylene glycol and triethylene glycol R-(OCH₂CH₂)_n-OR' where n = 1, 2, or; R=Alkyl or oryl groups; R' R, H or groups which, when removed, yield glycol ethers with the structure R-(OCH₂CH₂)_n-OH. Polymers and ethylene glycol monobutyl ether are excluded from the glycol category.