

**STATE OF WYOMING
ANNUAL EMISSION INVENTORY
OF HAZARDOUS AIR POLLUTANTS**

**Instruction Sheet
Calendar Year 2011**

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
122 WEST 25TH STREET
CHEYENNE, WY 82002

Responses to questions on AQD HAP FORM A represent data collected for the calendar year 2011. Complete Form A for each emission unit which emits HAPs at a level of 1000 lb/yr or such smaller level identified for the pollutant by regulation, using the amended listing of the 188 hazardous air pollutants identified in the 1990 CAAA that are attached to this instruction sheet.

FORM A

1. Form A is to be filled out for all sources at the facility that emit any of the attached hazardous chemicals.
2. Indicate company and facility name, as appropriate, and identify the specific unit emitting the pollutants. Include fugitive hazardous chemical emissions if they are not tied to a specific unit.
3. Indicate the CAS number and chemical name in the appropriate column (copy and use additional pages as necessary).
4. Estimate the amount of emissions for each pollutant in pounds per year (to the nearest 10 pounds) and enter that amount in the appropriate space.
5. Indicate in the "Method of Estimating" column the method of emissions estimation, selecting from the options provided below. If "other" is used, please describe this method on a separate sheet of paper.

A = Emissions monitoring

B = Published emission factors (AP-42, etc.)

C = Mass balance

D = Engineering estimate

E = Source test results

F= Other

6. Enter the total amount of HAP emissions for the specific source by summing the amounts of each applicable pollutant listed.

<u>CAS number</u>	<u>Chemical name</u>	<u>CAS number</u>	<u>Chemical name</u>
75070	Acetaldehyde	64675	Diethyl sulfate
60355	Acetamide	119904	3,3-Dimethoxybenzidine
75058	Acetonitrile	60117	Dimethyl aminoazobenzene
98862	Acetophenone	119937	3,3-Dimethyl benzidine
53963	2-Acetylaminofluorene	79447	Dimethyl carbamoyl chloride
107028	Acrolein	68122	Dimethyl formamide
79061	Acrylamide	57147	1,1-Dimethyl hydrazine
79107	Acrylic acid	131113	Dimethyl phthalate
107131	Acrylonitrile	77781	Dimethyl sulfate
107051	Allyl chloride	534521	4,6-Dinitro o cresol, and salts
92671	4-Aminobiphenyl	51285	2,4-Dinitrophenol
62533	Aniline	121142	2,4-Dinitrotoluene
90040	o-Anisidine	123911	1,4-Dioxane (1,4-Diethyleneoxide)
1332214	Asbestos	122667	1,2-Diphenylhydrazine
71432	Benzene (including benzene from gasoline)	106898	Epichlorohydrin (1-Chloro 2,3-epoxypropane)
92875	Benzidine	106887	1,2-Epoxybutane
98077	Benzotrichloride	140885	Ethyl acrylate
100447	Benzyl chloride	100414	Ethyl benzene
92524	Biphenyl	51796	Ethyl carbamate (Urethane)
117817	Bis(2-ethylhexyl)phthalate (DEHP)	75003	Ethyl chloride (Chloroethane)
542881	Bis(chloromethyl)ether	106934	Ethylene dibromide (Dibromoethane)
75252	Bromoform	107062	Ethylene dichloride (1,2-Dichloroethane)
106990	1,3-Butadiene	107211	Ethylene glycol
156627	Calcium cyanamide	151564	Ethylene imine (Aziridine)
133062	Captan	75218	Ethylene oxide
63252	Carbaryl	96457	Ethylene thiourea
75150	Carbon disulfide	75343	Ethylidene dichloride (1,1-Dichloroethane)
56235	Carbon tetrachloride	50000	Formaldehyde
463581	Carbonyl sulfide	76448	Heptachlor
120809	Catechol	118741	Hexachlorobenzene
133904	Chloramben	87683	Hexachlorobutadiene
57749	Chlordane	77474	Hexachlorocyclopentadiene
7782505	Chlorine	67721	Hexachloroethane
79118	Chloroacetic acid	822060	Hexamethylene 1,6-diisocyanate
532274	2-Chloroacetophenone	680319	Hexamethylphosphoramide
108907	Chlorobenzene	110543	Hexane
510156	Chlorobenzilate	302012	Hydrazine
67663	Chloroform	7647010	Hydrochloric acid
107302	Chloromethyl methyl ether	7664393	Hydrogen fluoride (Hydrofluoric acid)
126998	Chloroprene	123319	Hydroquinone
1319773	Cresols/Cresylic acid (isomers and mixture)	78591	Isophorone
95487	o-Cresol	58899	Lindane (all isomers)
108394	m-Cresol	108316	Maleic anhydride
106445	p-Cresol	67561	Methanol
98828	Cumene	72435	Methoxychlor
94757	2,4-D, salts and esters	74839	Methyl bromide (Bromomethane)
3547044	DDE	74873	Methyl chloride (Chloromethane)
334883	Diazomethane	71556	Methyl chloroform (1,1,1-Trichloroethane)
132649	Dibenzofurans	60344	Methyl hydrazine
96128	1,2-Dibromo-3-chloropropane	74884	Methyl iodide (Iodomethane)
84742	Dibutylphthalate	108101	Methyl isobutyl ketone (Hexone)
106467	p-Dichlorobenzene	624839	Methyl isocyanate
91941	3,3-Dichlorobenzidine	80626	Methyl methacrylate
111444	Dichloroethyl ether(Bis(2-chloroethyl)ether)	1634044	Methyl tert-butyl ether
542756	1,3-Dichloropropene	101144	4,4-Methylenebis(2-chloroaniline)
62737	Dichlorvos	75092	Methylene chloride (Dichloromethane)
111422	Diethanolamine	101688	Methylene diphenyl diisocyanate (MDI)
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)	101779	4,4-Methylenedianiline

<u>CAS number</u>	<u>Chemical name</u>	<u>CAS number</u>	<u>Chemical name</u>
91203	Naphthalene	95534	o-Toluidine
98953	Nitrobenzene	8001352	Toxaphene (chlorinated camphene)
92933	4-Nitrobiphenyl	120821	1,2,4-Trichlorobenzene
100027	4-Nitrophenol	79005	1,1,2-Trichloroethane
79469	2-Nitropropane	79016	Trichloroethylene
684935	N-Nitroso-N-methylurea	95954	2,4,5-Trichlorophenol
62759	N-Nitrosodimethylamine	88062	2,4,6-Trichlorophenol
59892	N-Nitrosomorpholine	121448	Triethylamine
56382	Parathion	1582098	Trifluralin
82688	Pentachloronitrobenzene (Quintobenzene)	540841	2,2,4-Trimethylpentane
87865	Pentachlorophenol	108054	Vinyl acetate
108952	Phenol	593602	Vinyl bromide
106503	p-Phenylenediamine	75014	Vinyl chloride
75445	Phosgene	75354	Vinylidene chloride (1,1-Dichloroethylene)
7803512	Phosphine	1330207	Xylenes (isomers and mixtures)
7723140	Phosphorus	95476	o-Xylenes
85449	Phthalic anhydride	108383	m-Xylenes
1336363	Polychlorinated biphenyls (Aroclors)	106423	p-Xylenes
1120714	1,3-Propane sultone	0	Antimony Compounds
57578	beta Propiolactone	0	Arsenic Compounds (inorganic including arsine)
123386	Propionaldehyde	0	Beryllium Compounds
114261	Propoxur (Baygon)	0	Cadmium Compounds
78875	Propylene dichloride (1,2-Dichloropropane)	0	Chromium Compounds
75569	Propylene oxide	0	Cobalt Compounds
75558	1,2-Propylenimine (2-Methyl aziridine)	0	Coke Oven Emissions
91225	Quinoline	0	Cyanide Compounds *1
106514	Quinone	0	Glycol ethers *2
100425	Styrene	0	Lead Compounds
96093	Styrene oxide	0	Manganese Compounds
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0	Mercury Compounds
79345	1,1,2,2-Tetrachloroethane	0	Fine mineral fibers *3
127184	Tetrachloroethylene (Perchloroethylene)	0	Nickel Compounds
7550450	Titanium tetrachloride	0	Polycyclic Organic Matter *4
108883	Toluene	0	Radionuclides (including radon) *5
95807	2,4-Toluene diamine	0	Selenium Compounds
584849	2,4-Toluene diisocyanate	0	

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

- *1 X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂
- *2 Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR' where
n = 1, 2, or 3
R = alkyl or aryl groups
R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH₂CH₂)_n-OH. Polymers are excluded from the glycol category.
- *3 Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- *4 Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100EC.
- *5 A type of atom which spontaneously undergoes radioactive decay.