

Superfund for Environmental Taxes, 1981 and 1982

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The "Superfund" tax liability reported for the third calendar quarter of 1982, the most recent quarter for which statistics are available, amounted to approximately \$52.1 million, bringing the total reported since the beginning of the program to \$368.4 million. The amount reported this quarter represents a decline of more than \$7 million from the previous quarter and a \$14 million dollar decline from the second quarter of 1981, the initial quarter the tax was imposed.

The 1980 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which established the "Superfund", imposed an environmental excise tax on products falling into three general categories--petroleum, petrochemicals and inorganic chemicals. When comparing the liability accrued for the three quarters of 1981 against the liability accrued for the first three quarters of 1982, total liability declined in all three categories. This decline is attributed to a soft economy leading to lower usage of these products by the chemical industry, which is the major consumer.

In 1981 almost \$36 million in tax liability was assessed on inorganic chemicals. However, in 1982 less than \$31 million was reported for the same category of products. Furthermore, the environmental tax reported on inorganic chemicals has declined each quarter since the inception of the tax. The liability reported for petrochemicals also has shown a rather steady decline, although there was an increase in liability for the quarter ended December, 1981. For the three quarters of 1981 for which we have data, just under \$130 million was reported in liability. However, for the first three quarters in 1982, only \$114 million in total liability was reported.

Environmental Taxes by Category for
Quarters Ending June 30, 1981, through Sept. 30, 1982
(Millions of dollars)

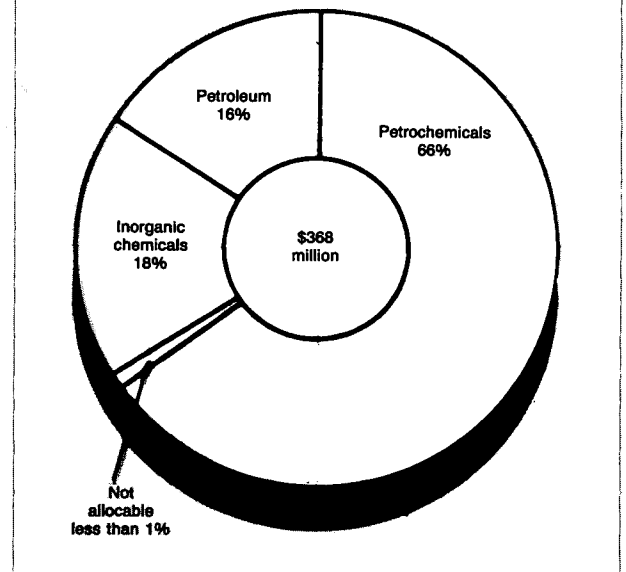
Quarter Ending	Total 1/	Petro-chemicals	Inorganic Chemicals	Petroleum
June 1981	\$68.6	\$45.7	\$12.8	\$10.0
Sept. 1981	60.8	40.0	11.5	9.3
Dec. 1981	67.9	43.7	11.4	11.5
Mar. 1982	59.6	39.5	11.2	8.9
June 1982	59.2	39.0	10.7	9.5
Sept. 1982	52.1	34.5	8.2	9.3
TOTAL	\$368.4	\$242.5	\$65.8	\$58.5

1/ Includes liability for taxes not allocable to a specific category. Detail may not add due to rounding to total.

The least amount of superfund tax liability has been reported for petroleum products. In the first three

quarters of 1981, slightly less than \$31 million was reported in liability as opposed to just under \$28 million in 1982. Moreover, while the liability reported against petroleum has declined overall, it has declined the least of the three product categories, in terms of both dollars and percentages. Tables 1 and 2 contain complete data on environmental taxes for each type of substance by quarter.

Figure A
Sources of Environmental Taxes,
Quarters Ending June 30, 1981, through
Sept. 30, 1982



Petrochemicals, which were reported by less than 30 percent of the taxpayers reporting environmental taxes, nevertheless accounted for 66 percent of the total tax liability. About \$34.5 million in tax liability for petrochemicals was reported for the quarter ending September 1982. Taxes on inorganic chemicals accounted for approximately 16 percent of total liability, or \$8.2 million. Petroleum accounted for only \$9.3 million in tax liability, which represented 18 percent of the total liability.

As shown in Table 1, the tax on ethylene has accounted for more than \$93.0 million, or 30 percent of the total tax reported on chemical products. Furthermore, the tax on two other chemicals, benzene and propylene, totaled \$74.6 million, which accounted for another 20 percent of the liability. Taxes on

Superfund for Environmental Taxes, 1981 and 1982

inorganic chemicals represented 21 percent of the liability. The tax assessed against chlorine is the largest of the inorganic chemicals taxes representing 9 percent of the total tax and \$34.8 million.

As shown in the table below, the tax on petroleum products was reported on the average by 344 businesses per quarter, and it generated about \$170,000 in tax, per business. However, petrochemicals, by far the least reported of the three commodities, had the highest tax per business, (\$1.2 million).

Number of Businesses and Amount of
Environmental Taxes for Quarters
Ending June 30, 1981 through Sept. 30, 1982

	Number of Businesses	Environmental Tax	Average Tax per Business
Petroleum	344	\$ 58,544,877	\$ 170,000
Petrochemicals	194	242,497,895	1,250,000
Inorganics	333	65,797,452	196,000
Not Allocable	50	1,516,692	30,000
Total		\$367,718,990	

Taxes on sulfuric acid, ammonia, hydrochloric acid and toluene were among those most reported on inorganic chemicals. On the average, about 37 percent of the businesses reported tax liability for these chemicals; however, the tax liability for these four chemicals accounted for only 8 percent of the total liability.

Data Sources and Limitations

The Quarterly Excise Tax Return, Form 720 is the form on which environmental taxes are reported. Form 6627, Environmental Taxes, is the supporting schedule where the tax liability for petroleum and chemicals is computed. The tax as applied by Congress is levied at different rates ranging from \$.0079 per barrel (bbl.) of crude oil or petroleum to as much as \$4.87 per ton of certain chemicals. The average tax levied is \$3.12 per medium.

TAX ON PETROLEUM

The requirements for filing and reporting a tax on petroleum apply to the following:

- 1) operators of U.S. refineries receiving crude oil;
- 2) importers of petroleum products for consumption, use, or warehousing; or
- 3) users or exporters of crude oil on which the environmental tax has not been paid.

Since the tax is imposed only once on a product, if it has already been paid it cannot be imposed again on another business that would otherwise be liable. For example, if crude oil is taxed at one refinery and is then shipped to another refinery for its use, then the second refinery would not be liable for taxes.

TAX ON THE SALE AND USE OF CERTAIN CHEMICALS

The requirements for filing and reporting this tax apply to any importer, manufacturer, or producer that sells or uses any of the 42 taxable chemicals listed

in Table 1. There are some exceptions to what is taxed, with the following being nontaxable:

- 1) ammonia, if used directly as a fertilizer;
- 2) methane or butane used as a fuel (however, the business using the chemical for a taxable purpose is liable);
- 3) nitric acid, sulfuric acid, ammonia, or methane used in the production of ammonia that is used for fertilizer;
- 4) sulfuric acid produced solely as a byproduct of and on the same site as air pollution control equipment; or
- 5) any substance derived from coal.

Returns are due one month after the end of the quarter. These returns are the chief source of data for this study and data in this article reflect information reported on returns filed for the tax quarters ending June 30, 1981, through September 30, 1982.

Any adjustments, credits, or refunds, to environmental taxes either on the Form 720 or Form 843, Claim, are not reflected in the data. A taxpayer could take an adjustment or credit if a taxed chemical were later used to manufacture or produce any other substance subject to the tax. If a tax were paid on a chemical subsequently used to produce fertilizer, a credit or adjustment could also be claimed.

The Internal Revenue Service also releases environmental tax statistics in a report on excise taxes that is issued quarterly [3]. These figures, taken from the Form 720, show the total liability, after adjustments, of returns recorded in the computerized Business Master File as part of routine processing. There is no breakdown of tax by chemical. Returns are due for filing one month after the end of the quarter in which the business is liable for environmental taxes. Therefore, that report covers what was recorded during a quarter, regardless of the specific tax period, unlike the data presented in this article. As a result, the two series of data are not directly comparable.

Since no statistical sampling was involved, the data are not subject to sampling error, but may be subject to nonsampling error. Attempts were made to secure all returns filed. In addition, the returns were passed through a series of validity checks to verify the accuracy and completeness of the returns. For those returns supplying a total with no breakdown by category, the amount was included under "Not allocable."

NOTES AND REFERENCES

- [1] Lennett, David, "Handling Hazardous Waste--An Unsolved Problem," Environment, October 1980, page 7.
- [2] U.S. Department of the Treasury, Internal Revenue Service, Internal Revenue Report of Excise Taxes.
- [3] See also Barnhardt, Janet, "Superfund for Environmental Taxes," Statistics of Income Bulletin, Volume 2, Number 2, pp. 31-34.

Superfund for Environmental Taxes, 1981 and 1982

Table 1.--Environmental Taxes Reported by Type of Substance, Quarters Ending June 30, 1981, - September 30, 1982
[Money amounts are in thousands of dollars]

Type of substance	Total to date	Quarter ended					
		June 1981	Sept. 1981	Dec. 1981	March 1982	June 1982	Sept. 1982
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Petroleum.....	58,544	9,988	9,274	11,541	8,948	9,517	9,283
Petrochemicals, total.....	242,497	45,747	40,003	43,700	39,538	39,040	34,468
Acetylene.....	956	206	235	188	119	135	71
Benzene.....	29,007	5,322	4,233	5,253	4,558	4,543	5,097
Butane.....	6,221	1,248	1,088	1,050	1,020	1,025	790
Butylene.....	7,072	1,333	1,247	1,442	1,105	1,212	733
Butadiene.....	9,668	1,832	1,483	2,015	1,488	1,501	1,349
Ethylene.....	93,220	17,024	15,229	15,969	15,293	15,403	14,303
Methane.....	12,687	2,479	2,264	2,309	2,031	2,004	1,600
Naphthalene.....	536	139	65	93	99	53	88
Propylene.....	45,607	9,498	7,922	7,646	7,978	6,682	5,881
Toluene.....	13,720	2,563	2,354	2,686	1,996	2,140	1,980
Xylene.....	23,805	4,103	3,883	5,050	3,849	4,343	2,577
Inorganics, total.....	65,797	12,810	11,534	11,363	11,152	10,701	8,237
Ammonia.....	12,620	2,295	2,138	2,191	2,132	2,039	1,825
Antimony.....	13	4	2	2	2	2	2
Antimony trioxide.....	94	12	12	23	19	15	12
Arsenic.....	3	1	(¹)	1	1	1	1
Arsenic trioxide.....	120	21	23	23	22	19	11
Barium sulfide.....	12	*	*	3	*	*	*
Bromine.....	958	205	156	206	*	143	179
Cadmium.....	15	3	2	3	3	2	2
Chlorine.....	34,788	7,079	6,186	5,791	6,063	5,684	3,985
Chromium.....	182	76	36	25	27	10	8
Chromite.....	739	114	182	245	80	81	36
Potassium dichromate.....	(¹)	*	*	*	*	(¹)	(¹)
Sodium dichromate.....	36	*	17	(¹)	2	1	*
Cobalt.....	34	3	3	11	8	6	3
Cupric sulphate.....	85	10	17	11	11	11	25
Cupric oxide.....	28	4	4	4	7	4	6
Cuprous oxide.....	22	3	4	4	4	4	3
Hydrochloric acid.....	814	90	114	211	152	142	104
Hydrogen fluoride.....	1,648	328	327	238	265	274	217
Lead oxide.....	1,920	366	235	402	330	267	319
Mercury.....	12	2	2	2	2	2	4
Nickel.....	798	120	157	171	163	124	62
Phosphorus.....	2,531	494	423	420	449	407	338
Stannous chloride.....	6	*	*	2	1	1	1
Stannic chloride.....	25	1	(¹)	11	4	5	4
Zinc chloride.....	81	15	13	16	12	15	10
Zinc sulfate.....	88	18	13	15	16	16	10
Potassium hydroxide.....	76	16	13	16	16	14	2
Sodium hydroxide.....	3,693	713	657	650	654	600	420
Sulfuric acid.....	3,873	703	700	593	568	745	565
Nitric acid.....	486	101	93	74	68	67	83
Not applicable.....	1,517	67	20	1,318	*	3	109

*This figure is not shown to avoid disclosure of information for specific businesses. However, the data are included in the appropriate totals.

¹Less than \$1,000, however, the data are included in the appropriate totals.

NOTE: Detail may not add to total because of rounding.

Superfund for Environmental Taxes, 1981 and 1982

Table 2.--Environmental Taxes Reported by Type of Substance, Aggregate For The Quarters Ending June 30, 1981, - September 30, 1982

Type of substance	Number of businesses	Number of tons (000's)	Tax rate per ton (dollars)	Average tax per business (dollars)
	(1)	(2)	(3)	(4)
Petroleum.....	344	7,410,633 ¹	0.0079 ²	170,186
Petrochemicals, total.....	194 ³	50,870	N/A	1,249,989
Acetylene.....	38	197	4.87	25,121
Benzene.....	54	5,957	4.87	537,164
Butane.....	28	1,278	4.87	222,194
Butylene.....	20	1,453	4.87	353,584
Butadiene.....	28	1,986	4.87	345,298
Ethylene.....	35	19,142	4.87	2,663,442
Methane.....	25	3,688	3.44	507,473
Naphthalene.....	5	110	4.87	107,266
Propylene.....	46	9,365	4.87	991,446
Toluene.....	75	2,817	4.87	182,933
Xylene.....	63	4,888	4.87	377,856
Inorganics, total.....	333 ³	53,547	N/A	197,590
Ammonia.....	78	4,780	2.64	161,795
Antimony.....	16	3	4.45	842
Antimony Trioxide.....	20	25	3.75	4,695
Arsenic.....	8	1	4.45	436
Arsenic trioxide.....	17	35	3.41	7,038
Barium sulfide.....	3	5	2.30	4,125
Bromine.....	8	215	4.45	119,753
Cadmium.....	23	3	4.45	639
Chlorine.....	44	12,884	2.70	790,632
Chromium.....	15	41	4.45	12,131
Chromite.....	16	486	1.52	46,175
Potassium dichromate.....	4	(⁴)	1.69	3
Sodium dichromate.....	7	19	1.87	5,111
Cobalt.....	21	8	4.45	1,630
Cupric sulphate.....	24	45	1.87	3,553
Cupric oxide.....	14	8	3.59	1,966
Cuprous oxide.....	5	6	3.97	4,434
Hydrochloric acid.....	75	2,807	0.29	10,850
Hydrogen flouride.....	13	390	4.23	126,746
Lead oxide.....	35	464	4.14	54,846
Mercury.....	9	3	4.45	1,331
Nickel.....	19	179	4.45	41,975
Phosphorus.....	9	569	4.45	281,206
Stannous chloride.....	5	2	2.85	1,158
Stannic chloride.....	8	12	2.12	3,140
Zinc chloride.....	19	36	2.22	4,231
Zinc sulfate.....	20	46	1.90	4,398
Potassium hydroxide.....	19	345	0.22	4,001
Sodium hydroxide.....	64	13,186	0.28	57,701
Sulfuric acid.....	92	14,896	0.26	42,099
Nitric acid.....	31	2,025	0.24	15,666
Not allocable.....	50	N/A	N/A	30,334

N/A - Not applicable.

¹Number of barrels.²Rate per barrel.³Detail in column one may not add to any meaningful total because businesses may report more than one of the indicated substances.⁴Less than 1,000 tons, however, the data are included in the appropriate totals.

NOTE: Detail may not add to total because of rounding.