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September 22, 1992

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U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

8EHQ-92-12444  
88920010632  
INIT

Attn: Section 8(e) Coordinator (CAP Agreement)

Re: CAP Agreement Identification No. 8ECAP-0110

Dear Sir or Madam:

Union Carbide Corporation ("Union Carbide") herewith submits the following report pursuant to the terms of the TSCA §8(e) Compliance Audit Program and Union Carbide's CAP Agreement dated August 14, 1991 (8ECAP-0110). This report describes a 3month dietary toxicity study with methyl CELLOSOLVE® (CASRN 109-86-4).

"Gross Results of Three Months of Inclusion of Methyl CELLOSOLVE in the Diet of Rats", Mellon Institute of Industrial Research (University of Pittsburgh), Report 23-67, 8/22/60.

A complete summary of this report is attached.

are: Previous TSCA Section 8(e) or "FYI" Submission(s) related to this substance

(None)

Previous PMN submissions related to this substance are: (None)

RECEIVED  
9/1/92

(2)

This information is submitted in light of EPA's current guidance. Union Carbide does not necessarily agree that this information reasonably supports the conclusion that the subject chemical presents a substantial risk of injury to health or the environment.

In the attached report the term "CONFIDENTIAL" may appear. This precautionary statement was for internal use at the time of issuance of the report. Confidentiality is hereby waived for purposes of the needs of the Agency in assessing health and safety information. The Agency is advised, however, that the publication rights to the contained information are the property of Union Carbide.

Yours truly,



William C. Kuryla, Ph.D.  
Associate Director  
Product Safety  
(203/794-5230)

WCK/cr

Attachment (3 copies of cover letter, summary, and report)

**SUMMARY**

(2)

Confidential  
Report 23-67

R: 8-22-60

B-12

MELLON INSTITUTE OF INDUSTRIAL RESEARCH  
UNIVERSITY OF PITTSBURGH

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B(a) 30

SPECIAL REPORT

Gross Results of Three Months of Inclusion  
of Methyl CELLOSOLVE in the Diet of Rats

fatty livers  
kidney  
cortical  
degen

Union Carbide Chemicals Co., U.C.C.

Industrial Fellowship 274-~~23~~

Summary

Methyl CELLOSOLVE was incorporated in the diet of DW rats for a maximum of 93 days. The highest dosage level fed, namely 1.25%, produced death in both the males and females. Eight of these 20 rats had died between the 11th and 18th day of doses at which time the remaining 1.25% rats were killed for possible future examination of their tissues.

The 0.25% methyl CELLOSOLVE rats did not die during the three months they received their experimental diets. However, their appetites and body weight gains were severely depressed. Some depression in one or both of these criteria of effect was also seen in the male rats at the 0.05 or 0.01 % levels of methyl CELLOSOLVE in the diet. Although liver weight, kidney weight, mortality and incidence of gross pathological conditions were not significantly altered at 0.25% or lower, it is postulated that none of the dosage levels fed to these rats for 3 months were without deleterious effect. Tissue portions of representative organs were taken and are available for examination if this is later deemed necessary.

The groups of rats sacrificed after three months on 0.25% or lower amounts of methyl CELLOSOLVE had similar incidences of gross pathological findings as did their controls. Dr. Palm reported that the rats, killed after 18 days at 1.25%, uniformly had pale, slightly fatty livers and had considerable cortical degeneration of the kidneys.

B-12

MELLON INSTITUTE OF INDUSTRIAL RESEARCH  
UNIVERSITY OF PITTSBURGH

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SPECIAL REPORT

Gross Results of Three Months of Inclusion  
of Methyl CELLOSOLVE in the Diet of Rats

fatty livers  
kidney  
cortical  
lesion

Union Carbide Chemicals Co., U.C.C.

Industrial Fellowship 274-233

Summary

Methyl CELLOSOLVE was incorporated in the diet of DW rats for a maximum of 93 days. The highest dosage level fed, namely 1.25%, produced death in both the males and females. Eight of these 20 rats had died between the 11th and 18th day of doses at which time the remaining 1.25% rats were killed for possible future examination of their tissues.

The 0.25% methyl CELLOSOLVE rats did not die during the three months they received their experimental diets. However, their appetites and body weight gains were severely depressed. Some depression in one or both of these criteria of effect was also seen in the male rats at the 0.05 or 0.01 % levels of methyl CELLOSOLVE in the diet. Although liver weight, kidney weight, mortality and incidence of gross pathological conditions were not significantly altered at 0.25% or lower, it is postulated that none of the dosage levels fed to these rats for 3 months were without deleterious effect. Tissue portions of representative organs were taken and are available for examination if this is later deemed necessary.

Comparison

Three CELLOSOLVE compounds were fed at one time, using one set of control rats, for the sake of obtaining a comparison between their effects under identical conditions. The results appear in Reports 23-67, 23-68 and 23-69. This comparison section appears in each report. It is based on gross observations before tissues have been studied microscopically. It is possible that histopathological interpretation of tissues may change the apparent relative toxicity of the three, but such a change appears unlikely.

Based upon gross results in rats receiving the materials in the diet for 90 days, CELLOSOLVE is the least toxic of the three, 0.25% (2500 p.p.m.) in the diet having no effect, and five times this dosage having no effect except depression of body weight gain.

Butyl CELLOSOLVE was more toxic, 0.05% (500 p.p.m.) having no effect, and greater dosages affecting all criteria of effect followed except mortality. The most notable effect was testicular atrophy.

Methyl CELLOSOLVE was most toxic, even 0.01% (100 p.p.m.) having some effect, and lower dosages not having been fed. At the level of 1.25%, 40% of the rats died.

### Sample

Five gallons of methyl CELLOSOLVE were received 4-4-60 from South Charleston. They were labelled with the passed number S-378332.

### Procedure

DW albino rats from our breeding colony (originally established from stock obtained from the Dow Chemical Co.) were used for this study. The rats were identified at 24 days of age and weighed once a week until 45 days of age when doses were started.

Only the rats whose body weights were within plus or minus two standard deviations from the mean weight of rats of their sex were accepted for the study. Rats that lost weight or that had poor tone during the preliminary observation period were rejected. Rats of each sex were randomized separately.

Individual food and water containers were used for each cage of rats and were never used for any other unless washed and sterilized beforehand. The rats were housed two to a cage in wire-bottom metal cages. They received their doses from 5-9-60 to 8-8, 8-9 or 8-10-60. Diet was provided to each cage of rats in 8- or 12-ounce opal glass feeder jars. The diet for each group of rats was stored in a separate glass stock jar provided with a screw cap. These jars were weighed when full at the start of each period, at biweekly intervals during the first month of doses and monthly thereafter to record the amount of diet consumed by each group of rats. Three stock jars (therefore, three independent measurements) were used for each group of ten rats. Water was freely available to the rats at all times in non-fouling siphon water bottles.

The rats were weighed four times during the first week and once a week thereafter until they had received 91 to 93 days of doses. At this time the surviving rats were killed and exsanguinated by sectioning the cord and neck vessels without cutting the trachea. They were then suspended by their tails until heart action had ceased. The liver and kidneys of each rat were dissected out and weighed. The organs were examined for any signs of pathology or infection. The urinary bladders were examined for concretions. Sections of representative tissues were taken and fixed for possible future examination.

The basic diet in which the chemical under test was incorporated by means of a READCO model K-20 vertical mixer was ground PURINA laboratory diet. Twenty rats, ten male and ten female, were fed the chemical as 1.25, 0.25, 0.05, or 0.01% of their diets for three months. A control group was randomized from the same lot of rats as used for the above.

### Results

The results of feeding methyl CELLOSOLVE in the diet of rats for three months are summarized in Table 23-226. Individual data on growth and fate are presented in Table 23-227. The body and organ weights at sacrifice of the rats are listed in Table 23-228. The mean diet consumption and dosage the rats received are presented in Table 23-229. Mean body weight changes are listed in Table 23-230 and are shown graphically in Figure 1. The gross pathological findings of possible differences between dosed and control rats are summarized in Table 23-231.

As (a) three male and five female rats had died at 1.25% during the first three weeks of doses (from the 11th through the 18th day of doses), (b) the surviving 1.25% rat's body weights were below their weights on the first day of doses and were continuously becoming lower and (c) these rats were only consuming one-half the diet their controls ate, therefore, the surviving seven males and five females were killed for possible future examination of tissue sections on the 18th day of doses.

Two males and one female rat died after 35, 76 and 31 days respectively of inclusion of 0.25% methyl CELLOSOLVE in their diets. All three of these rats had gross signs of lung infection. None of the 0.05% rats died and the two that died after 19 and 84 days of 0.01% grossly had lung infection or peritonitis.

The appetite of the male and female rats at the 0.25% dosage level was significantly depressed. Some evidence of appetite depression was seen in only the male rats (not the females) at 0.01% but this is probably an anomaly as the appetites of both the 0.05% males and females were normal.

The mean body weight gains of the 0.25% males and females were statistically significantly depressed throughout the study. They ended (after 3 months) at only two-thirds of the mean weight of their respective controls. The mean weight gains of the 0.05% rats, especially those of the males, were somewhat depressed. Both sexes had significantly lower weight gains after two months of doses. Similarly, the male rats on 0.01% had significantly lower mean body weight gains after 2, 28 and 57 days of doses. None of the mean gains of the 0.05 or 0.01% rats differed significantly at the end of the three month period.

The groups of rats sacrificed after three months on 0.25% or lower amounts of methyl CELLOSOLVE had similar incidences of gross pathological findings as did their controls. Dr. Palm reported that the rats, killed after 18 days at 1.25%, uniformly had pale, slightly fatty livers and had considerable cortical degeneration of the kidneys.

None of the mean liver or kidney weights, expressed as percentages of body weight, of the 0.25% or lower methyl CELLOSOLVE groups differed significantly from their controls. Therefore, although this material produced death at 1.25% and severe body weight and appetite depression at 0.25%, only body weight of all the criteria measured, was somewhat depressed at 0.05%. It is possible, furthermore, that continued doses, longer than the three months of this experiment, might have resulted in significant body weight depression in the 0.01% males--as they had this effect as late as after two months of doses. However, in this study, only appetite of the 0.01% males was significantly depressed.

Carrol S. Weil

*Carrol S. Weil*  
SENIOR INDUSTRIAL FELLOW

Typed: August 24, 1960 - acc - md

Table 23-226

Results of Three Months of Inclusion of

Methyl CELLOSOLVE in the Diet

Concentration in the diet, %	<u>1.25</u>	<u>0.25</u>	<u>0.05</u>	<u>0.01</u>	<u>0.00</u>
Gain in gm./kg./day, males	-	0.178	0.040	0.007	-
Gain in gm./kg./day, females	-	0.201	0.043	0.008	-
Diet eaten/rat/day, males	-	14.10 <sup>4</sup>	17.44	16.14 <sup>2</sup>	18.48
Diet eaten/rat/day, females	-	11.65 <sup>3</sup>	13.33	13.33	13.57
Avg. wt. gain of surviving male rats, gms.	-	116.5 <sup>4</sup>	158.3 <sup>1</sup>	159.3	179.2
Avg. wt. gain of surviving female rats, gms.	-	55.63	73.3	84.0	86.9
Avg. wt. as % of body wt., males	-	3.44	3.44	3.28	3.44
Avg. wt. as % of body wt., females	-	3.68	3.69	3.60	3.79
Avg. wt. as % of body wt., males	-	0.716	0.728	0.706	0.737
Avg. wt. as % of body wt., females	-	0.802	0.776	0.758	0.759
Male rats that survived 3 mo. (10 per group)	0	8	10	9	10
Female rats that survived 3 mo. (10 per group)	0	9	10	9	10

1. 0.05 > p > 0.01
2. 0.01 > p > 0.001
3. 0.001 > p > 0.0001
4. p < 0.0001

Table 23-227

Growth and Fate

(See abbreviations at end of table)

<u>Percentage in the Diet</u>	<u>Sex</u>	<u>Rat Number</u>	<u>Weight at Start (Grams)</u>	<u>Body Weight Gain (Grams)</u>	<u>Fate</u>	<u>Days to Fate</u>	<u>In- fection</u>
1.25	M	1533	117	-	D	14	
		1596	140	-	K	18	
		1605	124	-	K	18	
		1618	141	-	D	17	
		1659	140	-	D	15	
		1668	165	-	K	18	
		1715	132	-	K	18	
		1726	170	-	K	18	
		1730	143	-	K	18	
		1734	155	-	K	18	
	F	1749	108	-	K	18	
		1755	120	-	D	11	
		1763	110	-	D	18	Ear
		1804	123	-	D	13	
		1865	95	-	K	18	
		1887	108	-	D	17	
		1893	109	-	K	18	
		1895	107	-	D	15	
		1900	114	-	K	18	
		1951	121	-	K	18	
0.25	M	1535	171	122	S	91	
		1562	116	-	D	35	LU
		1586	137	-	D	76	LU
		1642	152	102	S	92	
		1657	159	137	S	92	
		1674	135	103	S	93	
		1695	128	102	S	92	Ear
		1706	120	145	S	93	
		1713	117	110	S	93	
		1727	164	111	S	91	
	F	1748	117	48	S	91	
		1789	110	40	S	92	
		1850	101	54	S	93	
		1866	94	62	S	93	
		1869	127	79	S	91	
		1897	117	54	S	92	
		1903	127	59	S	92	
		1913	110	57	S	91	
		1932	110	-	D	31	LU
		1947	124	47	S	93	

(Continued)

1942 23-227

(Continued)

<u>Percentage in the Diet</u>	<u>Sex</u>	<u>Rat Number</u>	<u>Weight at Start (Grams)</u>	<u>Body Weight Gain (Grams)</u>	<u>Fate</u>	<u>Days to Fate</u>	<u>In- fection</u>
0.05	M	1554	139	159	S	93	
		1558	149	174	S	92	
		1589	144	132	S	91	
		1598	146	164	S	91	
		1612	147	187	S	91	
		1621	167	153	S	93	
		1684	142	133	S	92	
		1689	141	142	S	92	
		1718	121	164	S	91	
		1724	124	175	S	93	
	F	1747	130	93	S	<del>92</del>	Ear
		1799	117	75	S	93	
		1822	99	70	S	91	
		1830	99	71	S	93	
		1858	118	64	S	91	
		1883	122	72	S	92	Ear
		1911	106	74	S	91	
		1917	111	66	S	93	
		1931	104	68	S	92	
		1936	126	80	S	92	
0.01	M	1572	149	141	S	93	
		1588	136	162	S	92	
		1594	154	198	S	93	
		1607	137	117	S	93	
		1610	139	168	S	91	
		1615	163	151	S	91	
		1645	161	184	S	92	
		1680	116	125	S	93	
		1683	157	-	D	19	LU
		1694	122	188	S	93	
	F	1744	124	83	S	91	
		1759	127	89	S	93	
		1794	111	83	S	93	
		1809	106	68	S	91	
		1816	108	96	S	92	
		1854	110	64	S	92	
		1906	92	75	S	92	
		1907	110	-	D	84	Per.
		1924	108	97	S	93	
		1960	129	101	S	91	

(Continued)

Table 23-227

(Continued)

<u>Percentage in the Diet</u>	<u>Sex</u>	<u>Rat Number</u>	<u>Weight at Start (Grams)</u>	<u>Body Weight Gain (Grams)</u>	<u>Fate</u>	<u>Days to Fate</u>	<u>In- fection</u>
0.0	M	1556	136	176	S	83	
		1570	136	169	S	91	
		1582	140	159	S	91	
		1614	141	165	S	92	
		1649	146	139	S	93	
		1675	145	191	S	92	
		1682	144	224	S	93	
		1707	134	199	S	92	
		1710	140	173	S	91	
		1729	156	197	S	92	
	F	1777	125	122	S	93	
		1784	107	88	S	91	
		1817	107	108	S	92	
		1832	110	102	S	91	
		1837	98	72	S	91	
		1855	105	87	S	92	
		1901	126	88	S	92	
		1933	128	58	S	93	Ear
		1942	113	68	S	91	
		1945	117	76	S	93	

Abbreviations:

Fate:

D = Died  
K = Killed as rat was moribund  
S = Sacrificed for examination

Infection, etc:

Ear = Middle ear infection  
LU = Lung infection  
Per = Peritonitis

Table 23-228

Body Weight and Organ Weight at Sacrifice

<u>Percentage in Diet</u>	<u>Sex</u>	<u>Rat Number</u>	<u>Body Weight in Grams</u>	<u>Liver Weight in Grams</u>	<u>Liver Weight as % of Body Wt.</u>	<u>Kidney Weight in Grams</u>	<u>Kidney Weight as % of Body Wt.</u>		
0.25	M	1535	293	9.29	3.17	2.56	0.87		
		1642	254	8.49	3.34	1.79	0.70		
		1657	296	9.05	3.06	1.97	0.67		
		1674	238	9.11	3.83	1.79	0.75		
		1695	230	7.36	3.20	1.61	0.70		
		1706	265	9.14	3.45	1.62	0.61		
		1713	227	8.40	3.70	1.58	0.70		
		1727	275	10.26	3.73	2.00	0.73		
		1748	165	6.67	4.04	1.58	0.96		
	F	1789	150	5.51	3.67	1.42	0.95		
		1850	155	5.37	3.46	1.05	0.68		
		1866	156	5.87	3.76	1.22	0.78		
		1869	206	7.50	3.64	1.52	0.74		
		1897	171	5.84	3.42	1.32	0.77		
		1903	186	6.74	3.62	1.43	0.77		
		1913	167	6.24	3.74	1.30	0.78		
		1947	171	6.41	3.75	1.35	0.79		
		0.05	M	1554	298	9.65	3.24	2.07	0.69
				1558	323	11.42	3.54	2.29	0.71
1589	276			9.75	3.53	1.89	0.68		
1598	310			10.88	3.51	2.32	0.75		
1612	334			10.98	3.29	2.39	0.72		
1621	320			11.83	3.70	2.49	0.78		
1684	275			8.82	3.21	2.04	0.74		
1689	283			8.93	3.16	1.95	0.69		
1718	285			10.44	3.66	2.17	0.76		
F	1724		299	10.57	3.54	2.29	0.76		
	1747		223	8.51	3.82	1.60	0.72		
	1799		192	7.40	3.85	1.41	0.73		
	1822		169	5.99	3.54	1.26	0.74		
	1830		170	6.94	4.08	1.35	0.79		
	1858		182	6.00	3.30	1.44	0.79		
	1883		194	6.43	3.31	1.52	0.78		
	1911		180	6.64	3.69	1.51	0.84		
1917	177	6.46	3.65	1.38	0.78				
1931	172	6.04	3.51	1.30	0.76				
1936	206	8.54	4.14	1.71	0.83				

(Continued)

Table 23-228

(Continued)

<u>Percentage in Diet</u>	<u>Sex</u>	<u>Rat Number</u>	<u>Body Weight in Grams</u>	<u>Liver Weight in Grams</u>	<u>Liver Weight as % of Body Wt.</u>	<u>Kidney Weight in Grams</u>	<u>Kidney Weight as % of Body Wt.</u>		
0.01	M	1572	290	9.76	3.36	2.13	0.73		
		1588	298	9.57	3.21	2.11	0.71		
		1594	352	10.59	3.01	2.39	0.68		
		1607	254	9.28	3.65	2.06	0.81		
		1610	307	10.02	3.26	2.09	0.68		
		1615	314	9.95	3.17	2.16	0.69		
		1645	345	11.78	3.41	2.58	0.75		
		1680	241	7.45	3.09	1.53	0.63		
		1694	310	10.30	3.32	2.09	0.67		
		1744	207	7.94	3.84	1.47	0.71		
	F	1759	216	7.62	3.53	1.58	0.73		
		1794	194	6.95	3.58	1.54	0.79		
		1809	174	6.38	3.67	1.35	0.78		
		1816	204	7.68	3.76	1.45	0.71		
		1854	174	5.91	3.40	1.37	0.79		
		1906	167	5.76	3.45	1.26	0.75		
		1924	205	7.34	3.58	1.67	0.81		
		1960	230	8.32	3.62	1.72	0.75		
		0.00	M	1556	312	10.98	3.52	2.45	0.78
				1570	305	10.69	3.50	2.16	0.71
1582	299			9.70	3.24	2.51	0.84		
1614	306			10.21	3.34	2.04	0.67		
1649	285			9.25	3.24	2.15	0.75		
1675	332			11.72	3.53	2.32	0.70		
1682	368			12.58	3.42	2.49	0.68		
1707	333			10.96	3.29	2.32	0.70		
1710	313			11.27	3.60	2.51	0.80		
1729	353			13.27	3.76	2.60	0.74		
F	1777		247	10.20	4.13	1.90	0.77		
	1784		195	7.44	3.82	1.75	0.90		
	1817		215	7.89	3.67	1.60	0.74		
	1832		212	7.67	3.62	1.37	0.65		
	1837		170	6.53	3.84	1.20	0.70		
	1855		192	7.73	4.03	1.33	0.69		
	1901		214	8.08	3.78	1.71	0.80		
	1933		186	7.04	3.78	1.46	0.78		
	1942		181	5.87	3.24	1.31	0.72		
	1945		193	7.68	3.98	1.63	0.84		

Table 23-229

## Mean Diet Consumption and Dosage of Rats Receiving Methyl CELLOSOLVE in Their Diets

Days of Doses	Male Rats				Female Rats					
	% Methyl CELLOSOLVE		Mean Diet Consumption, Grams Diet/Rat/Day	Control	% Methyl CELLOSOLVE		Mean Diet Consumption, Grams Diet/Rat/Day	Control		
	1.25	0.25			0.05	0.01			1.25	0.25
0 to 14	8.46	14.23	16.62	14.96	17.10	7.78	11.67	14.33	13.78	13.47
15 to 28	-	14.05	18.31	15.78	18.82	-	11.64	13.56	13.88	14.28
0 to 28	-	14.14 <sup>3</sup>	17.46	15.37 <sup>1</sup>	17.96	-	11.65 <sup>1</sup>	13.94	13.83	13.86
29 to 59	-	14.22 <sup>2</sup>	17.19	17.00	19.54	-	12.16	12.96	13.29	13.47
60 to 3 mo.	-	13.88 <sup>1</sup>	17.65	16.85	18.46	-	11.12	12.47	12.36	13.09
0 to 3 mo.	-	14.10 <sup>4</sup>	17.44	16.14 <sup>2</sup>	13.48	-	11.65 <sup>3</sup>	13.33	13.33	13.57
0 to 14	0.770	0.226	0.051	0.009	(99.6)	0.914	0.236	0.056	0.011	(105.0)
15 to 28	-	0.193	0.044	0.008	(85.7)	-	0.214	0.046	0.009	(94.0)
0 to 28	-	0.210	0.048	0.008	(92.6)	-	0.225	0.051	0.010	(95.5)
29 to 59	-	0.170	0.035	0.007	(73.7)	-	0.170	0.039	0.008	(73.2)
60 to 3 mo.	-	0.143	0.031	0.006	(60.0)	-	0.167	0.034	0.006	(68.0)
0 to 3 mo.	-	0.178	0.040	0.007	(80.2)	-	0.201	0.043	0.008	(85.8)

1. 0.05 > p > 0.01
2. 0.01 > p > 0.001
3. 0.001 > p > 0.0001
4. p < 0.0001

Table 23-230

Mean Body Weight Changes of Rats on Diets with Methyl CELLOSOLVE

g in Diet	Mean Weight Change, Grams, After Day of Dose						
	2	4	7	14	28	57	91 to 93
	Male Rats						
1.25	-5.0 <sup>4.</sup>	-2.8 <sup>4.</sup>	-5.0 <sup>4.</sup>	-15.9 <sup>4.</sup>	-	-	-
0.25	3.7 <sup>2.</sup>	10.9 <sup>2.</sup>	18.8 <sup>1.</sup>	36.0 <sup>3.</sup>	47.4 <sup>4.</sup>	79.1 <sup>4.</sup>	116.5 <sup>4.</sup>
0.05	6.3	15.9	28.3	51.8	84.6 <sup>1.</sup>	124.1 <sup>2.</sup>	158.3 <sup>1.</sup>
0.01	5.6 <sup>1.</sup>	16.9	28.8	52.7	81.8 <sup>1.</sup>	128.6 <sup>1.</sup>	159.3
0.00	8.6	16.8	29.0	58.7	95.9	148.9	179.2
	Female Rats						
1.25	-4.7 <sup>4.</sup>	-4.6 <sup>4.</sup>	-3.3 <sup>4.</sup>	-14.6 <sup>4.</sup>	-	-	-
0.25	3.7	6.5	11.2	20.1 <sup>1.</sup>	30.2 <sup>1.</sup>	47.7 <sup>3.</sup>	55.6 <sup>3.</sup>
0.05	3.6	9.1	15.0	26.8	41.0	59.7 <sup>1.</sup>	73.3
0.01	3.9	8.5	15.3	30.2	47.5	71.2	84.0
0.00	3.9	8.6	14.7	30.0	48.9	73.0	86.9

1. 0.05 > p > 0.01
2. 0.01 > p > 0.001
3. 0.001 > p > 0.0001
4. p < 0.0001

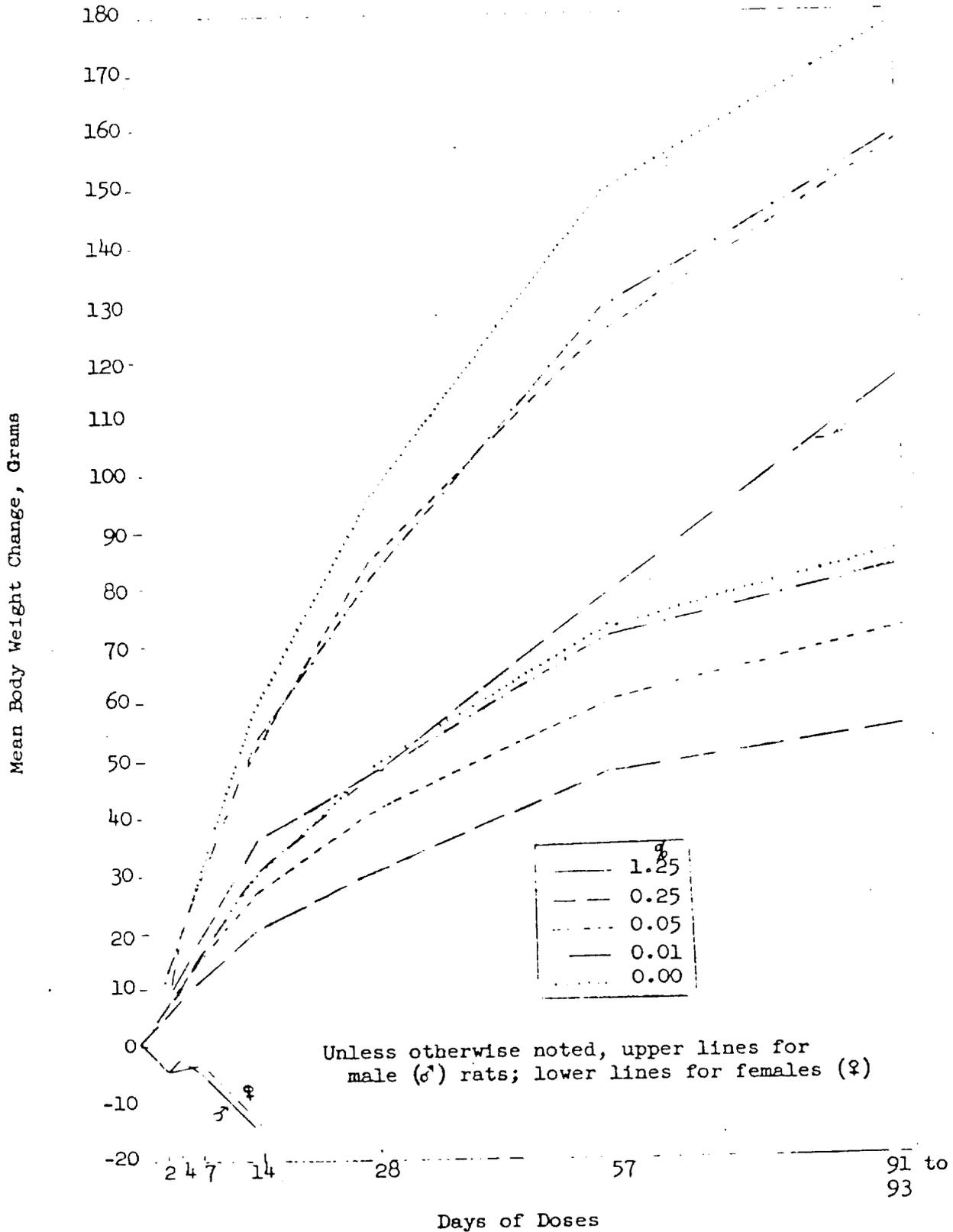
Table 23-231

## Summary of Gross Pathology on Sacrificed Rats

No. of rats sacrificed	Organ	Condition	Percentage in Diet									
			Male Rats			Female Rats						
			0.25	0.05	0.01	0.00	0.25	0.05	0.01	0.00		
			Number of Rats with Condition									
			8	10	9	10	9	10	9	10	9	10
2	Kidney	Cortical degeneration, diffuse		3	2	2	2	1	0	0	1	1
2		Cortical degeneration, focal		4	4	4	4	2	1	1	0	0
4		Cortical degeneration, total		7	6	6	6	3	1	1	1	1
0	Liver	Cloudy swelling and/or cong., diffuse		3	0	2	2	4	3	3	1	0
3		Cloudy swelling and/or cong., focal		2	3	3	3	1	3	3	0	4
3		Cloudy swelling and/or cong., total		5	3	5	5	5	6	6	1	4
0		Nutmeg		1	0	0	0	0	2	2	1	1
1	Spleen	Hypertrophied, congestion		0	0	0	0	1	0	0	0	0
1	Testis	Atrophy		1	0	0	0	-	-	-	-	-
0	Stomach	Mucosal irritation, mild		1	0	0	0	0	0	0	0	0
0	Pancreas	Congestion, diffuse		0	0	0	0	0	0	0	0	0
0		Congestion, focal		0	2	0	0	3	0	0	1	1
1	Mesenteric lymph node	Congestion		1	0	0	1	0	0	0	0	0

Figure I

Mean Body Weight Gain of Rats on Diets  
with Methyl "CELLOSOLVE"





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

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Union Carbide Corporation  
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OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MAY 08 1995

EPA acknowledges the receipt of information submitted by your organization under Section 8(e) of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA §8(e) Document Control Number (e.g., 8EHQ-00-0000) assigned by EPA to your submission(s). Please cite the assigned 8(e) number when submitting follow-up or supplemental information and refer to the reverse side of this page for "EPA Information Requests".

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EPA looks forward to continued cooperation with your organization in its ongoing efforts to evaluate and manage potential risks posed by chemicals to health and the environment.

Sincerely,

*Terry R. O'Bryan*

Terry R. O'Bryan  
Risk Analysis Branch

Enclosure

12444A



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Date sent to triage: 12/14/95

NON-CAP

CAP

Submission number: 12444A

TSCA Inventory:

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N

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Study type (circle appropriate):

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Group 2 - Ernie Falke (1 copy total)

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SEN

w/NEUR

Group 3 - Elizabeth Margosches (1 copy each)

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Contractor reviewer: <u>LPS</u>	Date: <u>4/4/95</u>

CECATS/TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA: Submission # 8EHO-0992-12444 SEQ. A

TYPE: INT SUPP FLWP

SUBMITTER NAME: Union Carbide Corporation

INFORMATION REQUESTED: FLWP DATE:  
 0501 NO INFO REQUESTED  
 0502 INFO REQUESTED (TECH)  
 0503 INFO REQUESTED (VOL ACTIONS)  
 0504 INFO REQUESTED (REPORTING RATIONALE)

DISPOSITION:  
 0639 REFER TO CHEMICAL SCREENING  
 0678 CAP NOTICE

VOLUNTARY ACTIONS:  
 0401 NO ACTION REPORTED  
 0402 STUDIES PLANNED/IN PROGRESS  
 0403 NOTIFICATION OF WORKER CONCERNS  
 0404 LABEL/MSDS CHANGES  
 0405 PROCESS/HANDLING CHANGES  
 0406 APP USE DISCONTINUED  
 0407 PRODUCTION DISCONTINUED  
 0408 CONFIDENTIAL

SUB. DATE: 09/22/92 OTS DATE: 09/29/92 CSRAD DATE: 02/01/95

CHEMICAL NAME: CELLOSOLVE

CASE: 109-86-4

INFORMATION TYPE:	P F C	INFORMATION TYPE:	P F C	INFORMATION TYPE:	P F C
0201 ONCO (HUMAN)	01 02 04	0216 EPI/CLIN	01 02 04	0241 IMMUNO (ANIMAL)	01 02 04
0202 ONCO (ANIMAL)	01 02 04	0217 HUMAN EXPOS (PROD CONTAM)	01 02 04	0242 IMMUNO (HUMAN)	01 02 04
0203 CELL TRANS (IN VITRO)	01 02 04	0218 HUMAN EXPOS (ACCIDENTAL)	01 02 04	0243 CHEM/PHYS PROP	01 02 04
0204 MUTA (IN VITRO)	01 02 04	0219 HUMAN EXPOS (MONITORING)	01 02 04	0244 CLASTO (IN VITRO)	01 02 04
0205 MUTA (IN VIVO)	01 02 04	0220 ECO/AQUA TOX	01 02 04	0245 CLASTO (ANIMAL)	01 02 04
0206 REPRO/TERATO (HUMAN)	01 02 04	0221 ENV. OCCUR/REL/FATE	01 02 04	0246 CLASTO (HUMAN)	01 02 04
0207 REPRO/TERATO (ANIMAL)	01 02 04	0222 EMER INCI OF ENV CONTAM	01 02 04	0247 DNA DAM/REPAIR	01 02 04
0208 NEURO (HUMAN)	01 02 04	0223 RESPONSE REQUEST DELAY	01 02 04	0248 PRODUSE/PROC	01 02 04
0209 NEURO (ANIMAL)	01 02 04	0224 PROD/COMP/CHEM ID	01 02 04	0251 MSDS	01 02 04
0210 ACUTE TOX. (HUMAN)	01 02 04	0225 REPORTING RATIONALE	01 02 04	0299 OTHER	01 02 04
0211 CHR. TOX. (HUMAN)	01 02 04	0226 CONFIDENTIAL	01 02 04		
0212 ACUTE TOX. (ANIMAL)	01 02 04	0227 ALLERG (HUMAN)	01 02 04		
0213 SUB ACUTE TOX (ANIMAL)	01 02 04	0228 ALLERG (ANIMAL)	01 02 04		
0214 SUB CHRONIC TOX (ANIMAL)	01 02 04	0229 METAB/PHARMACO (ANIMAL)	01 02 04		
0215 CHRONIC TOX (ANIMAL)	01 02 04	0240 METAB/PHARMACO (HUMAN)	01 02 04		

TRIAGE DATA NON-CBI INVENTORY ONGOING REVIEW SPECIES TOXICOLOGICAL CONCERN: USE: PRODUCTION:  
YES YES (DROP/REFER) RAT LOW  
CAS SR NO NO (CONTINUE) MED  
IN TERMINI REFER HIGH

COMMENT Rats received methyl cellosolve at dietary levels of 0.01, 0.05 and 0.25% for 3 months. Body weights were decreased at all the treatment levels. Reduced body weights seems to be due to lack of appetite.