

ENVIRONMENTAL LAWS TO REMAIN BIG PROBLEM FOR INDUSTRY, CMA HEAD PREDICTS

Having already spent \$7-billion on environmental controls, the chemical industry will spend another \$7-billion between 1981 and 1985 to comply with pollution cleanup regulations, according to Chemical Manufacturers Association president Robert Roland in a year-end analysis of his industry.

The environment is among major problems facing the chemical industry, Roland says, noting that chemical companies have not yet felt the full impact of the earliest environmental laws and now must confront the effects of the 1976 Toxic Substances Control Act and Resource Conservation and Recovery Act. Effects of TSCA "won't be fully evident for years to come," he noted, while compliance with RCRA regulations "will also command much of the chemical industry's capital and resources during the coming decade, particularly in upgrading waste disposal methods."

Roland Sees Stalled Superfund As a 'Bright Spot'

There are some bright spots with regard to the environment, Roland said, pointing out that the public and Congress are beginning to view government regulation more in light of a risk/benefit balance, and the "intention of some in Congress to rush through a 'superfund' bill that would impose unfair and unsound costs on the industry has been stalled for the time being."

Overall, Roland noted that the chemical industry had a good year in 1979 with sales approaching a record \$146-billion, and increase of 15.4%. That is 1.5 times better than the increase in GNP after accounting for inflation, he added.

* * *

SHEREX REPORTS DIOXIN FOUND IN DETERGENTS, SHAMPOOS

The Sherex Chemical Company, Inc. has reported that a series of their products, which are processed using an ethoxylation step, contain "significant amounts of 1,4-dioxane. The products are used as detergents, shampoos, textile auxiliaries and other products, the company has reported in a substantial risk notification to the Environmental Protection Agency.

Under Section 8(e) of the Toxic Substances Control Act a company must report to EPA any information the firm has obtained that indicates the product or a component of the product may present a substantial risk to the environment or public health.

Sherex's report, 8EHO-0320, noted they reported the information because a National Cancer Institute study indicates 1,4-dioxane is a carcinogen and that the probability of the presence of the dioxin is "sufficiently high to merit notification." Sherex points out that it expects the risk of exposure to the compound to be limited to workers. The company does not believe that consumers are at a risk because the levels of 1,4-dioxane in the final products are "at such low levels as not to pose a substantial risk to uses of the formulated products."

The Dublin, Ohio company reports that 1,4-dioxane is present in: ethoxylated fatty amines, standard processing, at 10 to 450 parts per million; ethoxylated fatty amines, special processing, 3400 to 6800 ppm; quaternaries from ethoxylated fatty amines, 10 to 1000 ppm; ethoxylated monoglycerides; 40 to 1300 ppm; ethoxylated alcohol, phosphate ester at 290 ppm; and ethoxylated amide at 830 ppm. Sherex notes 10 ppm is the lowest detectable level for the dioxin.

Atlantic Reports Jet Fuel A As Possible Mutagen

In a separate Section 8(e) submission, the Atlantic Richfield Co. has informed EPA that a study of jet fuel A reveals the possibility that the fuel may be a mutagen. Atlantic reported in 8EHO-0323 that jet fuel A was positive for mutagenicity in the mouse lymphoma assay in the presence of a metabolic activation system. In addition, structural mutations in bone marrow cells of rats in the in vivo bone marrow cytogenetic study were observed, the company report said. There was no positive response in a third short term test, the *Salmonella typhimurium* mammalian microsome assay.

Atlantic pointed out that it reported the results because TSCA requires notification of positive mutagenicity tests. The firm does not consider the findings as an indication of significant human health risk. Atlantic also noted that the "meaning of mutagenic test results is subject to serious scientific questions."

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020,115-4 Dioctyl phthalate [bis-(2-ethylhexyl) phthalate] 100g. 8.20
 $C_8H_{17}O_2$, 1,2-($CO_2C_8H_{17}$)₂ M.W. 390.56 b.p. 384° 500g. 27.25
 n_D^{20} 1.4853 IR 764D Disp. C

020,117-0 Dioctyl sulfosuccinate, sodium salt, 96% 1Kg. 9.80
 [bis-(2-ethylhexyl) sulfosuccinate]
 $CH_3(CH_2)_3CH(C_2H_5)CH_2O_2CCH_2CH(SO_3Na)CO_2CH_2-$
 $CH(C_2H_5)(CH_2)_3CH_3$ M.W. 444.55 IR 403E
 Disp. C

6,8-Dioxabicyclo[3.2.1]octan-7-one, see H5911-7,
 6-Hydroxytetrahydropyran-2-carboxylic acid lactone

15,482-2 p-Dioxane, spectrophotometric grade, GOLD 516g. 6.25
 LABEL (meets A.C.S. specifications) 1Kg. 10.75
 M.W. 88.11 b.p. 100-102° n_D^{20} 1.4215 f.p. 65°F 3.1Kg. 29.50
 Disp. C **CARCINOGEN**
 (516 g. = 500 ml.) (1Kg. = 1 l.) (3.1 Kg. = 3 l.)

Maximum Ultraviolet Absorbance Bands of Maximum Infrared Transmittance
 (10 mm. Path vs. Distilled Water) (0.1 mm. Path, 60-100% T)

λ (m μ)	A	2.0-3.3 μ	9.9-10.7 μ
400-295	0.01	3.8-5.0 μ	12.1-15.4 μ
290	0.05	5.1-6.7 μ	
270	0.10		
250	0.24		
225	0.50		
218	0.70		
215 (cut-off)	1.0		

Water 0.03% max.
 Evapn. Residue 0.0005% max.
 Fluorescence 0.3 ppb max. as quinine base

020,186-3 p-Dioxane, 98% 1Kg. 4.65
 M.W. 88.11 b.p. 101° n_D^{20} 1.4206 d 1.034 3Kg. 11.35
 f.p. 54°F Fieser 1,333 IR 113A Disp. C

CARCINOGEN

15,543-8 p-Dioxane diphosphate 25g. 4.25
 M.W. 284.09 m.p. 80-84° Fieser 1,334 IR 415E 100g. 12.00
 Disp. C

1,4-Dioxaspiro[4.4]non-6-ene, see 14,785-0,
 2-Cyclopentan-1-one ethylene ketal

15,371-0 p-Dioxene, 99% (2,3-dihydro-p-dioxin) 10g. 10.00
 M.W. 86.09 n_D^{20} 1.4355 f.p. 35°F IR 113B
 Disp. C

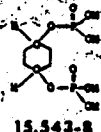
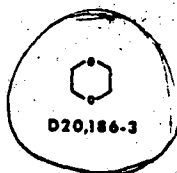
2,3-Dioxo-5-indolinesulfonic acid, sodium salt, see
 14,933-0, 5-isatinsulfonic acid, sodium salt

1,3-Dioxo-2-isolindolinesulfonic acid, see P4050-8,
 N-Phthaloylglycine

1,3-Dioxolan-2-one, see E2625-8, Ethylene carbonate

2,6-Dioxo-1,2,3,6-tetrahydro-4-pyrimidinecarboxylic
 acid, see Orotic acid

020,320-3 Dipentaerythritol, 97% 500g. 4.20
 $(HOCH_2)_3CCH_2OCH_2C(CH_2OH)_3$ M.W. 254.28
 m.p. 215-218° IR 106B Disp. C



IR SEE PAGE 201A FOR IR EXPLANATION

C25242

III

ALDRICH HANDBOOK OF ORGANIC CHEMICALS

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C25243

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Substance	TWA		STEL	
	ppm ^{a)}	mg/m ^{3b)}	ppm ^{a)}	mg/m ^{3b)}
Certain water insoluble Cr VI compounds	—	0.05, A1a	—	—
† Chrysene	A2	A2	—	—
Cobalt metal, dust & fume (as Co)	—	0.05	—	0.1
C Cyanogen chloride	0.3	0.6	—	—
† Cyclohexanone	25	100	100	400
† Cyclopentane	600	1,720	900	2,580
Dalapon	1	—	—	—
1, 2-Dibromoethane — Skin	A1b	A1b	—	—
1, 2-Dichloroethane	10	40	15	60
Dichloromonofluoro- methane	10	40	—	—
† 1, 1-Dichloro-1- nitroethane	2	10	10	60
Dichloropropene	1	5	10	50
Diethanolamine	3	15	—	—
† Diethylamine	10	30	25	75
† Diethyl ketone	200	705	—	—
† Diglycidyl ether (DGE)	0.1	0.5	—	—
† Dioxane, tech. grade — Skin	25	90	100	360
† Dipropyl ketone	50	235	—	—
Divinyl benzene	10	50	—	—
Epichlorhydrin — Skin ...	2	10	5	20
† 2-Ethoxyethanol — Skin.	50	185	100	370
† 2-Ethoxyethyl acetate (Cellosolve acetate) — Skin	50	270	100	540
† Ethyl acrylate — Skin ...	5	20	25	100
Ethylene dibromide, see 1, 2-Dibromoethane ...	A1b	A1b	—	—
Ethylene dichloride, see 1, 2-Dichloroethane ...	10	40	15	60
† Ethylene glycol, vapor	50	125	—	—
† Ethylene glycol dinitrate ..	0.02	0.2	0.04	0.4
† Ethylene oxide	10	20	—	—
† Furfural — Skin	2	8	—	—
† Glycidol (2, 3-Epoxy- 1-propanol)	25	75	100	300
Hexachlorobutadiene	A2	A2	—	—
† Hexane (n-hexane)	25	90	100	350
(other isomers)	500	1,800	—	—
† Hexone (Methyl isobutyl ketone) — Skin	50	205	75	300

Capital letters refer to Appendices.

^{a)}1979 Addition.

Substance	TWA		STEL	
	ppm ^{a)}	mg/m ^{3b)}	ppm ^{a)}	mg/m ^{3b)}
C Hydrogen cyanide —				
Skin	10	10	—	—
2-Hydroxypropyl acrylate				
— Skin	0.5	3	—	—
† Isopropoxyethanol	25	105	75	320
n-Isopropylaniline —				
Skin	2	10	5	20
† Mesityl oxide	15	60	25	100
† Methacrylic acid	20	70	—	—
† Methyl n-amyl ketone				
(2-Heptanone)	50	235	100	465
† Methyl bromide — Skin .	5	20	15	60
† Methyl n-butyl ketone	5	20	—	—
† Methyl chloride	50	105	100	205
Methylene chloride				
(dichloromethane)	100	360	500	1,700
4, 4-Methylene dianiline .	0.1	0.8	0.5	4
† Methyl iodide — Skin	2, A2	10, A2	5	30
† Methyl isopropyl ketone .	200	705	—	—
† Methyl silicate	1	6	5	30
† α-Methyl styrene	50	240	100	485
† Nitrogen dioxide	3	8	5	10
† Nitroglycerin	0.02	0.2	0.04	0.4
† 1-Nitropropane	15	55	25	90
C 2-Nitropropane	25, A2	90, A2	—	—
† Phenyl ether — Diphenyl				
mixture (vapor)	0.5	4	2	8
Phosphorous				
pentachloride	0.1	1	—	—
† Platinum metal	—	1	—	—
† β-Propiolactone	0.5, A2	1.5, A2	1	3
Propionic acid	10	30	15	45
† Propylene glycol dinitrate	0.02	0.2	0.04	0.4
† Propylene oxide	20	50	—	—
Silver, metal	—	0.1	—	—
† Silver, soluble				
compounds (as Ag) ...	—	0.01	—	—
Sodium bisulfite	—	5	—	—
Sodium metabisulfite	—	5	—	—
† Styrene, monomer				
(phenylethylene)	50	215	100	425
Sulfur dioxide	2	5	5	15
C Terphenyls	0.5	5	—	—
Tetrasodium				
pyrophosphate	—	5	—	—

Capital letters refer to Appendices.

†1979 Addition.

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