

PLAINTIFF'S EXHIBIT

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Manual of Hazards to Health
From Chemicals Used At The
Plants and Laboratories Of
Carbide and Carbon Chemicals Corp.

Copy Number

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Carbide & Carbon Chemicals Corp.

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This manual is intended for the use of employees of the Carbide & Carbon Chemicals Corporation who have responsibilities for manufacturing, engineering and research operations. The judgments expressed herein refer to health hazards in chemical manufacturing procedures which are conducted with reasonable care. They stress accidental single exposures as opposed to repeated or substantially continuous exposures. No tabular summary can predict the safety of technical applications of chemicals, particularly where human contact or exposure is inevitable, oft-repeated, or prolonged. This manual is not intended for such predictions. Each application must be judged on its own merits, with full knowledge of all the particulars.

The estimates in this manual are based upon experiments with small animals and the experience of industrial physicians. In a large number of instances analogy in chemical structure has been relied upon to allow predictions where no observations have been recorded. The judgments expressed are necessarily tentative and subject to revision as experience accumulates. Despite care used in checking the tables there undoubtedly exist inconsistencies and omissions.

When crude mixtures are being handled the hazards may be somewhat greater than for the partially purified or substantially pure chemicals considered herein.

The undersigned expects to serve as a clearing house for the collection of new observations and corrections in preparation for subsequent editions.

Henry F. Smyth, Jr.
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Symbols used to describe relative hazard

1. No residual injury is to be expected from accidental exposure even if no treatment is applied.

Minor residual injury may result from some accidental exposures if no treatment is applied.

Major residual injury may result if no treatment is applied.

Major residual injury may result in spite of prompt treatment.

Physical properties of chemical make the particular exposure almost impossible.

See supplemental notes on left side of page.

* Acetaldehyde

May sensitize the skin

* Acetoacetyl ethylenediamine

May sensitize the skin

* Acetylacetone

Stains the skin brown



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Chemical	Relative Hazard of				
	Swallow- ing	Skin Pene- tra- tion	Skin Irrita- tion	Breath- ing Vapor or Dust	Fluid, Dust, or Vapor in Eye
Vanadium (metal)	1	1	1	1	1
"Varsol"	2	1	3	2	3
Victoria Blue B base dye	3	3	1*	2	3
Vinyl acetate	2	2	1	3	1
Vinylacetylene	-	-	-	3	1
Vinylbutyl CARBITOL	2	2	1	2	3
Vinyl butyl ether	2	2	1	3	1
Vinyl butyrate	2	2	1	3	1
Vinyl chloride	2	2	2	3	2
Vinyl chloroethyl ether	3	2	1	4	1
2-Vinylcrotonaldehyde	3	4	4*	4	4
Vinyl ethyl ether	2	2	1	3	1
Vinyl 2-ethylhexyl ether	2	2	2	1	2
Vinyl hexyl ether	2	2	2	2	2
Vinyl isobutyl ether	2	2	1	3	1
Vinyl isopropyl ether	2	2	1	3	1
"Vinylite" resins	1	1	1	2	1
"Vinylite" adhesives	1	1	1	2	1
Vinyl 2-methoxyethyl ether	2	2	1	2	3
Vinyl methyl ether	2	2	1	4	1

* See additional notes on left side of this page.



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