

SHELL CHEMICAL COMPANY

DATE JULY 26, 1977

TO SEE ATTACHED DISTRIBUTION

FROM MANAGER - DISTRIBUTION
EMERGENCY RESPONSE

SUBJECT SPI, VCM - MUTUAL AID

Attached is the VCM Data Sheet that has been submitted to CHEMTREC by the Society of Plastics Industries (SPI). This is a consensus (?) report and is intended for use by the CHEMTREC communicator during a VCM incident. Shell's proposed version (also attached) was transmitted to you with my note of May 20, 1977.

ahw
R. L. Way

Attachments

cc - w/attachments
R. J. Reynolds
R. L. Brunner
H. L. Kusnetz ✓

1 spec to the shell version

ASI 000021381

HLK		GAV	JFB	WAR
SAFETY & INDUSTRIAL HYGIENE				
JUL 27 1977				
				FILE
VHM	ITS	DFG	GER	HJM RRJ

cc's

DISTRIBUTION LIST

RESPONSE ACTION TEAMS (RATS)

- | | |
|----------------------------|--------------------|
| 1. Argo Plant | K. Lang |
| 2. Anacortes Ref. | R. C. Flickinger |
| 3. Ciniza Ref. | E. M. Hawthorne |
| 4. Geismar Plant | D. L. Weinman |
| 5. Deer Park Mfg. Complex | E. E. Stringfellow |
| 6. Marietta Plant | C. K. Heck |
| 7. Martinez Mfg. Complex | J. C. Spowart |
| 8. Martinez Mfg. Complex | A. D. Ferrill |
| 9. Norco Mfg. Complex | G. F. Brady |
| 10. Norco Mfg. Complex | A. F. Ott |
| 11. Odessa Refinery | E. N. Gee |
| 12. Seward Plant | F. R. Cummings |
| 13. Willbridge Plant | H. D. Carver |
| 14. Wilm. Mfg. Complex | E. S. Templeton |
| 15. Woodbury Plant | J. Goodenbour |
| 16. Wood River Ref. | C. R. Woodford |
| 17. Deer Park Mfg. Complex | D. Lanning |

B. RESPONSE ACTION GROUPS (RAGS)

- | | |
|-----------------------|------------------|
| 1. T. M. Brye | 11. R. F. Webber |
| 2. J. A. Mullins, Jr. | 12. C. K. Hahn |
| 3. R. L. Way | 13. FRC Files |
| 4. R. E. Looney | |
| 5. R. F. Zeitzmann | |
| 6. J. P. O'Gorman | |
| 7. H. A. George | |
| 8. R. R. Awe | |
| 9. J. W. Bodenheimer | |
| 10. E. G. Johnson | |

C. BUSINESS CENTERS

- | | |
|---------------------------|-----------------|
| 1. Detergents Products | D. E. Haupt |
| 2. Elastomers | M. L. Baker |
| 3. Plastics | P. W. DeLeeuw |
| 4. Resins | C. L. Coldren |
| 5. Olefins & Aromatics | A. R. Flora |
| 6. Chemical Intermediates | R. J. Reynolds |
| 7. Solvents | R. G. Yapp, Jr. |
| 8. Residual & LP Gas | H. W. Sullivan |

D. INTERFACING DEPARTMENTS

- | | | | |
|-------------------------------|------------------|---------------------------------|-----------------|
| 1. Public Relations | C. Schwenker | 11. T&S Pipeline - Oprns. | F. T. Lee, Jr. |
| 2. Legal | D. P. Walsh | 11(a) Los Angeles - Supvr. | |
| 3. Traffic | E. D. Olmo | Oil Movements | Don Bolin |
| 3(a) STERP | E. M. Day | 11(b) Wood River-Dist. Supt. | J. R. Rosser |
| 4. Oil Measurement & Control | D. W. Reed | 11(c) Pasadena-Terminal Foreman | A. P. Arnold |
| 5. Marine - Fleet Operations | P. M. Overschie | 12. Fuels Logistics | W. H. Thompson |
| 6. Safety & Health | R. L. Brunner | 13. Health Saf. & Environmental | R. F. Glasser |
| 7. Environmental Conservation | A. G. Smith | 14. Transp. Services | D. L. Pease |
| 8. Medical | Dr. R. E. Joyner | 15. Communications Serv. | R. M. Dejoie |
| 9. Insurance | G. Obolensky | 16. Marketing Distribution | S. C. Lancaster |
| 10. Regional Sales Mgrs. | | | |
| B. R. Suthers | | | |
| W. L. Carlson | | | |
| J. F. Burns | | | |

E. MISCELLANEOUS

1. Westhollow - J. E. Dutra

ASI 000021382



SHELL CHEMICAL COMPANY

A DIVISION OF SHELL OIL COMPANY

ONE SHELL PLAZA

P.O. BOX 2463

HOUSTON, TEXAS 77001

May 10, 1977

The Society of Plastics Industry, Inc.
355 Lexington Avenue
New York, New York 10017

Attention: Ms. J. L. Cahn

Dear Ms. Cahn:

This is in reference to your memorandum to members of the CHEMTREC voluntary VCM Response Program, dated April 15, 1977.

We do wish to offer a revised CHEMTREC Data Sheet for VCM which is attached for your review. We urge that these changes be incorporated into the information provided to a caller reporting a VCM emergency.

The difficulty of obtaining a consensus on this type of information is recognized. However, we feel it is very important for all concerned to be comfortable with the warnings being issued by CHEMTREC.

For your information, Mr. D. F. "Frank" McMillan has been reassigned and will no longer be involved with membership in "SPI". His place will be filled by Mr. G. B. "Cary" Vernier. Please forward future correspondence on this subject to Mr. Vernier.

Very truly yours,

R. L. Way
Manager, Distribution
Emergency Response

cc - G. B. Vernier

ASI 000021383

SPI VCM DATA SHEET 2/16/77

REVISED 4/1/77 INCORPORATING CERTAIN

RECOMMENDATIONS OF CHEMTREC

IDENTIFICATION OF PRODUCT

- 1.1 Sales Name: Vinyl Chloride, VCM
- 1.2 Chemical Name and Synonyms: Vinyl Chloride, Chloroethylene, Chloroethene
- 1.3 Description (Physical Form and Appearance): Colorless, liquefied gas.
- 1.4 Odor: Sweet
- 1.5 Specific Gravity (for liquids immisible with water):

Heavier than Water ☐ Lighter than Water ☒ Same as Water ☐

- 1.6 Shipping or B/L Description: Vinyl Chloride, Flammable Compressed Gas

Vapor Density: 2.15 (Air = 1)

Flash Point: -78°C(-108.4°F) Open Cup

Explosive Limits: 3.6 - 33%v in air.

Nature of Product: EXTREMELY FLAMMABLE, TOXIC, LIQUEFIED COMPRESSED GAS

There may be liquefied gas in the container. Fire and explosion are the most immediate and predominant dangers in any accident involving Vinyl Chloride. CANCER SUSPECT AGENT.

HAZARDS

FIRE: Extremely flammable, toxic, gas transported as a liquid under pressure.

It can be ignited by heat, sparks or open flame. Vapors are denser than air. Thus, they can travel along the ground or in ditches and be ignited at distances far from the original leak or spill. MAY EXPLODE IF INVOLVED

IN FIRE:

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EXPOSURE: Inhalation of high concentrations of gas may cause asphyxiation, persistent irregular heartbeat, dizziness, narcosis, nausea or vomiting. Contact with liquefied gas causes severe skin irritation and burns similar to frostbite. Chronic long term exposure is known to cause cancer in humans. It is not yet known whether or not acute short term exposures present risk of cancer; therefore, any exposure to Vinyl Chloride is to be avoided. Vapor from the burning material contains Hydrogen Chloride. Under certain conditions, such as confined spaces and limited oxygen, carbon monoxide and phosgene may be formed. All of these gases can cause severe lung damage. Fatalities may occur from exposure to high concentrations.

IN CASE OF ACCIDENT

SPILL

OR LEAK: If there is no fire, DO NOT ignite the gas. Eliminate all ignition sources. Use self contained breathing apparatus and protective clothing. Evacuate unauthorized and/or unprotected personnel. Keep upwind. Notify people who may be at risk downwind and evacuate if necessary. Use water spray to disperse vapor and protect men attempting to control leak. Keep low behind the spray and avoid entering vapor area as it may ignite and flash back to source. If leak cannot be shut off, plan for probable ignition. Await shipper advice. Avoid contact with liquefied gas. Vapor is heavier than air and may travel long distances along the ground to a source of ignition. Prevent entry into sewers or any public water system. Notify

authorities if this has happened or is threatened.

FIRE: LET IT BURN - STAY AWAY FROM ENDS OF TANKS. If massive fire, evacuate area for one mile, but on-the-scene judgment will be necessary. Wear self-contained breathing apparatus and full protective clothing. If large volume of water is available, use water spray from monitor nozzles to cool tanks that may have flame impinging from the fire; otherwise, STAY AWAY. Clear area immediately in case of high rising sound from venting safety device.

EXPOSURE: Remove to fresh air. If unconscious, call a physician. If not breathing, apply artificial respiration, oxygen. In case of contact with the liquid, thaw frosted parts with water at or slightly above body temperature. In case of exposure to gas from fire, administer oxygen; if breathing is difficult, GET MEDICAL ATTENTION.

PRECAUTION: If Vinyl Chloride gets into sewer, flush sewers with fire hoses and copious amount of water. Notify authorities of immediate potential explosion hazard. If any public water supplies are threatened, notify authorities immediately.

CHEMTREC WOULD ALSO LIKE THE FOLLOWING INFORMATION ADDED:

REACTIVITY: Material reacts with aluminum, copper, alkali metals and their alloys and can react vigorously with oxidizing materials. Polymerizes readily in the presence of air, sunlight, oxygen or heat.

DECOMPOSITION

PRODUCTS: Thermal decomposition or burning will produce hydrogen chloride, carbon dioxide and under certain conditions, such as confined spaces and limited oxygen, carbon monoxide, and phosgene. There is little likelihood of phosgene being present in a tank car fire.

ENVIRONMENT: Animal: Prevent exposure, keep animals away.

Fish: Because Vinyl Chloride is lighter than water and is extremely volatile, it will float on water and evaporate rapidly. However, it is sufficiently soluble and persistent in water to cause fish kill.

355 Lexington Avenue
New York, New York 10017
(212) 573 9400

June 23, 1977

RECEIVED
JUN 27 1977
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE

MEMORANDUM

TO: Participants in CHEMTREC:
Allied Chemical - C. M. Murphy
Borden Chemical - Ron Cosey
Conoco Chemical - John Pinkman
Dow Chemical - Charles O. Hutchenreuther
General Tire & Rubber - R. W. Laundrie
B. F. Goodrich Chemical - Thomas H. Smith
Hooker Chemicals & Plastics - Mark N. Soble
Uniroyal Chemical Co. - M. J. Kleinfeld
PPG Industries - M. Petruccelli
Shell Chemical - D. Frank McMillan
Stauffer Chemical - George Coffenberg
Union Carbide - M. M. Anderson
Diamond Shamrock - G. B. Shaw
Great American Chemical - Bertram Cohen
Ethyl Corporation - Claude Catania
Goodyear Tire and Rubber - W. D. Davis

FROM: Juliette Lang Cahn, Staff Director

SUBJECT: Voluntary VCM Response Program - CHEMTREC Data Sheet 6/2/77

The enclosed is self-explanatory. The data sheet has been forwarded to John Zercher, Chemtrec.

J.C.

ASI 000021388



Stauffer Chemical Company

Westport, Connecticut 06880 / Tel. (203) 222-3000 / Cable "Staufferchem"

RECEIVED JUN 6 1977

June 2, 1977

Ms. Juliette Lang Cahn
Staff Director
The Society of the Plastics Industry, Inc.
355 Lexington Avenue
New York, New York 10017

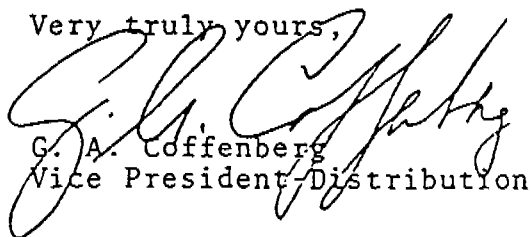
Dear Julie:

Many thanks for your letter of May 24 concerning the VCM Producers' review of a proposed Chemtrec VCM sheet revised April 1, 1977.

We have reviewed the comments of the VCM Producers, some of which were editorial and a number, particularly with regard to the paragraph on Exposure, were substantive. We have redrafted the sheet incorporating the comments we thought to be substantive and that would improve the data sheet and have rejected some of the editorial revisions. Unfortunately, we all do not write the same and a statement in one way will please some, while at the same time displeasing others. We have made a choice.

It would be our suggestion that you send the enclosed revised sheet out to the VCM Producers advising that, as a result of their comments, this is the final data sheet that will be forwarded to Chemtrec.

Very truly yours,


G. A. Coffenberg
Vice President-Distribution

GAC:sm
Attch.

ASI 000021389

SPI VCM DATA SHEET 2/16/77
REVISED 6/2/77 INCORPORATING
RECOMMENDATIONS OF VCM PRODUCERS

1.2, 1.3, 1.4, 1.5 and notations in right hand column - NO CHANGE

1.6 Shipping or B/L Description: Vinyl Chloride, Flammable Gas

Nature of Product: Extremely flammable, toxic, liquefied compressed gas. There may be liquefied gas in the container. Fire and explosion are the predominant dangers in any accident involving Vinyl Chloride. Cancer suspect agent.

HAZARDS

FIRE: Extremely flammable, toxic, gas transported as a liquid under pressure. It can be ignited by heat, sparks or open flame. Vapors are denser than air and can travel presenting ignition potential at distances from the scene. MAY EXPLODE IF INVOLVED IN FIRE.

EXPOSURE: Vapor from the burning materials is harmful. It is mostly Hydrogen Chloride. There is little likelihood of Phosgene being present. Inhalation of high concentrations of gas may cause dizziness, narcosis, nausea or vomiting. Contact with liquefied gas may cause severe skin irritation and burns similar to frostbite. Although chronic long term exposure may cause cancer in humans, a carcinogenic effect after acute short term exposure has not been established. As with any chemical material, minimum exposure is recommended.

IN CASE OF ACCIDENT

SPILL OR LEAK: If there is a leak but no fire, DO NOT ignite the gas. Shut off ignition sources. Use self contained breathing apparatus and protective clothing. Clear the area, keep upwind and use water spray to disperse vapor and protect men attempting to shut off leak. Keep low behind the spray and avoid entering vapor area as it may ignite and flash back to source. If leak cannot be shut off, plan for probable ignition. Vapors are denser than air and can travel presenting ignition potential at distances from the scene. Await shipper advice. Avoid skin contact with liquefied gas. Prevent entry into sewers or water courses.

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FIRE:

LET IT BURN - STAY AWAY FROM ENDS TANKS. If massive fire, evacuate area for one mile, but on-the-scene judgment will be necessary. Wear self-contained breathing apparatus and full protective clothing. If large volume of water is available, use water spray from monitor nozzles to cool tanks that may have flame impinging from the fire; otherwise, STAY AWAY. Clear area immediately in case of high rising sound from venting safety device.

EXPOSURE:

Remove to fresh air. If unconscious, call a physician. If not breathing, apply artificial respiration, oxygen. In case of contact with the liquid, thaw frosted parts with water. In case of exposure to gas from fire, administer oxygen, if breathing is difficult. GET MEDICAL ATTENTION.

PRECAUTION:

If Vinyl Chloride gets into sewer, flush sewers with copious amount of water from fire hoses.

REACTIVITY:

Material reacts with aluminum, copper and their alloys, and can react vigorously with oxidizing materials.

DECOMPOSITION

PRODUCTS:

Thermal decomposition or burning will produce hydrogen chloride, carbon dioxide and carbon monoxide.

ENVIRONMENT:

Animal: Prevent exposure, keep animals away.

Fish: Material will not remain in water.

SHELL OIL COMPANY

DATE NOVEMBER 4, 1977

TO HEALTH, SAFETY AND ENVIRONMENT -
MANAGER - MR. A. D. ABSHIRE

FROM MEDICAL DIRECTOR, OCCUPATIONAL
HEALTH SURVEILLANCE - CORPORATE
MEDICAL DEPARTMENT

SUBJECT REBUTTAL OF EDF'S SUBMITTAL
TO EPA ON VCM STANDARDS

This information acknowledges your memo of October 13, 1977, in reference to the above subject. Apparently EDF would like to re-trace and up-date the state of medical knowledge concerning vinyl chloride which, under the Clean Air Act, is to serve as a basis for EPA's regulatory actions. The following are my impressions:

1. While many of the VCM references at higher dose levels may be very valid, some of the low-dose, short-time exposure data needs to be seriously evaluated for accuracy in the conclusions. This should especially be noted on the basis of the poorly designed Infante study noted in the literature (P.F. Infante, Oncogenic and Mutagenic Risks in Communities with Polyvinyl Chloride Production Facilities, 1975, ANN. N.Y. ACAD. SCIENCES, 49-57.
2. Certainly literature presenting cases of angiosarcoma that have been "environmentally induced" are open to question based on selection of the population examined and a notable lack of information concerning possible etiological alternatives.
3. In reference to mutagenic studies, there is certainly a question of what one can consider reliable data when testing is performed on a bacterial system versus a mammalian study. In reference to mammalian studies, certainly the unpublished work of Dr. Maltoni, who reported the induction of mammary carcinoma in rodents at levels of 1 ppm, is important. However, more data must be obtained utilizing mammalian species at other selected dose-time concentrations. Additional information must also be elicited on the species population from which experimental animals are selected in order to rule out an unusually sensitive species.
4. There is not any conclusive animal study, or human study, that reveals that there is not a level or threshold under which harmful effects such as cancer will not occur.
5. There is no reason to believe from any of the studies of either recent or past origin that a dose-time response does not exist. As a scientist, one cannot generally consider it prudent to assume that there is "no threshold" for chemical carcinogens. In fact, it is most likely there is a threshold below which the body is able to handle small amounts of vinyl chloride without adverse effects. Obviously if this is the case, there is no reason to believe that carcinogens pose a threat to human health at slightly higher exposure levels over a relatively brief period of time.

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6. Statements such as, "the risk of actually developing cancer following only a brief (environmental) exposure (to a carcinogen) is very real," cannot be proven and reveal a lack of understanding concerning delineation of persons in high-risk cancer groups. From a review of multiple literature sources, the so-called "environment" is implicated in a large percentage of cancers. This "environment" appears to include all elements influencing cancer incidence originating wholly or largely outside the body. Thus, many authors have concluded that "environmental cancers" are induced or related to our personal habits and lifestyle as well as things beyond our personal control. The leading known causes of cancer in the United States are clearly extrinsic. Tobacco and alcohol use and nutritional factors appear to be important contributors to "environmental cancers," accounting for well over half of all cancer deaths*. One must also consider the ten percent plus of all cancer cases which apparently have hereditary factors**. Only if these things are considered can a sensitive approach to cancer etiology and control be reached.

These are the Corporate Medical Department's impressions on the EDF's comments. Please notify me if further discussions are indicated.

C. E. Ross, D.O. /jt

C. E. Ross, D.O., F.A.C.Pr.M.

cc: R. E. Joyner, M.D.
C. D. Kary, Ph.D.
H. L. Kusnetz

* Wynder, Ernst L, M.D. and Gori, Gio B., M.D., "Contribution of the Environment to Cancer Incidence: An Epidemiologic Exercise," Journal of the National Cancer Institute, April, 1977.

** Fraumeni, Joseph F., Jr., Persons at High Risk of Cancer: An Approach to Cancer Etiology and Control, Academic Press, Inc., New York, 1975.