

Manufacturing Chemists' Association, Inc.

(FOUNDED 1872)

1825 CONNECTICUT AVENUE, N. W.
WASHINGTON, D. C. 20009

284.

MINUTES OF MEETING SAFETY AND FIRE PROTECTION COMMITTEE Chemists' Club, New York City March 30, 1966

PRESENT

A. H. Christian (Acting Chairman)	FMC Corporation
R. H. Albisser	Merck & Co., Inc.
A. P. Dunlap	Union Carbide Corporation
G. G. Fleming	Celanese Corporation of America
P. C. Folse	Socony Mobil Oil Company, Inc.
J. Guelich	Allied Chemical Corporation
S. M. MacCutcheon	The Dow Chemical Company
R. L. Miller (for G. L. Gorbell)	Monsanto Company
J. S. Queener	E. I. du Pont de Nemours & Co.
S. F. Spence	American Cyanamid Company
W. S. Wood	Sun Oil Company
F. G. Stephenson, Secretary	Manufacturing Chemists Association

GUESTS

E. N. Deck	General Electric Company
R. C. Hodges	E. I. du Pont de Nemours & Co.
J. Smith	Factory Mutual Research Corporation
M. E. Woodworth	National Fire Protection Association

ABSENT

A. L. Cobb	Eastman Kodak Company
L. W. Boulton	Polymer Corporation Limited
A. L. Kling	Olin Mathieson Chemical Corporation
S. M. Macaulay	Wyandotte Chemicals Corporation

In the absence of Mr. A. L. Cobb, Mr. A. H. Christian acted as Chairman.

1. Minutes of the December 16, 1965 meeting were approved.

2. Case Histories of Accidents

(a) Volume Two of Case Histories of Accidents in the Chemical Industry was published in January 1966.

(b) Mr. Guelich discussed a need for additional accident case history reports whether or not injuries are involved. Case histories of fires and explosions are also requested. It was agreed to submit an item to this effect for inclusion in the MCA General Bulletin.

(c) Vinyl Chloride - Reports of fatalities due to exposure to vinyl chloride fumes were discussed and it was agreed to make further inquiries.

3. Chem-Card Program

The secretary reported on a resolution by the MCA Transportation and Distribution Committee that a joint MCA intercommittee with representation from the T and D Committee be established to investigate and make recommendations for implementing the chem-card program, including, if necessary, the desirability or undesirability of legislation. There was general agreement among Safety Committee members that decisions for expansion or further adoption of the chem-card program should be largely a responsibility of the T and D Committee.

Mr. Spence read a letter from a major carrier describing an incident on December 8, 1965 when a nitric acid tractor and trailer overturned releasing the acid. There was a chem-card in the tractor but it was not accessible because "our driver was being cut out of the tractor by the Rescue Squad." Chem-Card instructions were phoned to the Fire Chief, onlookers were ordered to vacate the fume area and firemen were provided with protective equipment. The letter concludes "the very existence of the chem-card program and the manual allowed us to provide the necessary emergency information for the people at the scene."

The committee agreed to re-write the report as an accident case history for inclusion in the MCA publication.

4. Awards

(a) Certificates of Achievement

The secretary reported that, to date, applications have been received for certificates for 583 installations of 62 member companies.

(b) Du Pont Award

The Committee approved awards of Du Pont plaques as follows:

Over 2,000,000 manhour group

AMERICAN POTASH & CHEMICAL CORPORATION

Under 2,000,000 manhour group

COLLIER CARBON AND CHEMICAL CORPORATION

5. Research Programs

(a) Explosion-proof electrical equipment for use in chemical atmospheres (Underwriters' Laboratories).

As agreed at the last meeting, Chairman Cobb wrote to General Decker forwarding the Committee's resolution. The request for \$5,000 for financial support of this program will be submitted to the MCA Board of Directors.

(b) Fire Protection of Flammable Liquid Drum Storage Areas

Discussion of this item occupied most of the morning meeting session. Mr. J. Smith, Vice President of Factory Mutual Research Corporation described the two phases of the proposed program. The program was initially conceived by Mr. E. N. Deck of General Electric Company. Following discussion between Mr. Deck and Factory Mutual representatives it was submitted to the Safety and Fire Protection Committee for possible MCA sponsorship.

Phase one of the proposed program would determine if temperatures and pressures in drums of water exposed to fire approximate to those developed in drums of flammable liquids. The cost of this phase, initially estimated as \$2,585, has now been estimated as \$3,115.

If it is found that drums of water can be used as substitutes for drums of flammable liquid, then "phase two" can follow.

The main objective of phase two would be to determine how many minutes may elapse from the time of the outbreak of a fire in a drum storage area to development of a drum explosion situation. The tests would include drum drop tests and fire tests simulating minimum leaks and maximum leaks of flammable liquid.

When these time intervals have been determined it will then be possible to consider if high expansion foam can be used in place of the concentrated water sprinkler systems now demanded by insurance companies. It will be necessary to fill drum areas with foam during the time available so that all drums are submersed. Phase two may cost between \$25,000 and \$50,000.

The Committee discussed the economic advantages which would accrue from the use of foam. Water sprinkler systems are costly and water to operate the systems in the volume

required is usually not available.

It was recognized that it would be desirable to present a "cut and dried" proposal to the MCA Board of Directors but unfortunately this is not possible. It is, however, extremely desirable that the first phase of the proposal should proceed and therefore it was unanimously resolved to recommend to the Board that \$3,115 be allocated for phase one of the program. The Board should also be advised that a successful outcome of "phase one" would probably lead to a future request for finance for "phase two."

6. Safety Publications

(a) Reactivity of chemicals

Mr. M. Woodworth, in a letter of March 7, 1966, submitted a list of chemicals of which it was stated in MCA chemical safety data sheets that the inhibited material is not reactive. The point of concern is whether under fire conditions the material will react to the extent that an over-pressure rupture of the container would occur. What is the degree of reactivity of the inhibited material at its boiling point in the quantities which would be present in a tank vehicle, a tank car or a large above-ground storage tank? The list included acetaldehyde, acetic anhydride, acetylene, acrolein, acrylonitrile, butadiene, butyraldehyde, methyl and ethyl acrylate, nitrobenzene, propylene, styrene, vinyl acetate, vinyl chloride and vinylidene chloride.

It was agreed to write to manufacturers of the materials concerned and to the authors of the safety data sheets to draw attention to this matter and check the accuracy of the current statements regarding reactivity

(b) Chemical Safety Data Sheets

(I) Published since last meeting

SD-91⁰⁰ n-Butyllithium in Hydrocarbon Solvents

(II) In galley-proof stage

Dinitrotoluene
Zirconium and Hafnium Powder

(III) New sheets in preparation

Paranitroaniline
Phosgene
Organo Phosphates (see (c) below)

(IV) Revisions

Methanol
 Sodium Cyanide
 Dimethyl Sulfate
 Calcium Carbide
 Carbon Disulfide
 Ammonia Aqua (Eastman Kodak)
 Caustic Potash (Allied Chemical)
 Caustic Soda (Dow)
 Chlorosulfonic Acid (Merck)
 Ethylene Dichloride (Olin)
 Hydrogen Sulfide (not allocated)
 Methyl Bromide (Dow)
 Phosphoric Anhydride (not allocated)
 Nitrobenzene (American Cyanamid)
 Perchloroethylene (Dow)
 Elemental Phosphorus (Monsanto)
 Phosphorus Oxychloride (Monsanto)
 Phosphorus Trichloride (Monsanto)
 Tetrachloroethane (not allocated)

(c) Parathion

The secretary reported on a meeting of parathion manufacturers to discuss safety in the manufacture and handling of parathions. This group had recommended that a safety data sheet be prepared on methyl and ethyl parathions. The Safety and Fire Protection Committee discussed this proposal and resolved that in lieu of a safety data sheet on methyl and ethyl parathions (which might be over slanted to manufacturing safety) a sheet on organo-phosphates (in general) be prepared.

The secretary undertook to advise the parathion manufacturers of the decision and to request that this work should proceed.

(d) Betanaphthylamine

The secretary requested direction regarding the continuance of the safety data sheet on this material since it is believed it is no longer manufactured in this country. The committee resolved to retain this data sheet in the series.

7. Course on "Explosion Problems in the Chemical Industry"

The secretary reported that the March 7-11 course at the

Bureau of Mines had been highly successful. MCA has written a letter of thanks to the Secretary for the Interior.

The possibility of holding two courses a year has been discussed with Dr. R. Van Dolah.

The Committee resolved in favor of two courses a year if Bureau of Mines' staff can accept this additional load.

8. Safety Workshops

Arrangements are progressing for the safety workshop to be held in Atlanta on September 19, 1966.

The secretary advised that a proposal has been received from the CIC in Los Angeles that a second workshop be held in that area in the near future. Following discussion it was then agreed to hold three safety workshops on the West Coast during a one-week period in April 1967. These will be in Los Angeles, San Francisco and Seattle.

It was resolved that the workshops will follow the traditional format developed by the committee over the years.

9. Environmental Health

Mr. W. S. Wood discussed the proposals of the Environmental Health Advisory Committee as submitted to the Board of Directors.

Committee member comments were largely that the proposals constitute a "shotgun approach" rather than a "rifle approach" to the problems on hand; that the activities should more closely concern the effects of chemicals and chemical manufacturing on the outside world and to a lesser extent on occupational safety; that there seems to be recommendation that MCA should simply "grind out more material" without getting to grips with the real problems of pollution control etc. One more positive suggestion was that the Association should prepare and publish case histories of pollution abatement etc.

10. Proposed NFPA Committee on "Fire Problems in Oxygen-Enriched Atmospheres"

An invitation to participate was submitted to the Committee for a recommendation. The purpose of the NFPA committee would be, initially, to prepare a manual on fire and explosion problems in altitude chambers, diving chambers etc.

Mr. A. P. Dunlap agreed to attend a preliminary meeting to

determine if MCA participation is desirable. It was resolved to reply to the invitation to this effect.

11. Safety Guide on Emergency Organization

Mr. J. S. Queener undertook to review the Safety Guide on "Organization in Emergencies" in the light of more recent experiences.

12. Appointment of Officers

The committee unanimously recommended the following officers for the two-year period commencing at the termination of the September 1966 meeting.

Chairman: Mr. A. H. Christian

Vice Chairman: Mr. A. L. Kling

13. Other Reports

Mr. R. H. Albisser requested direction from the committee in casting his ballots on the draft for revision of NFPA 30, Flammable Liquid Storage, and revision of NFPA #385.

The committee recommended an affirmative vote in each case.

14. Precautionary Labels

The committee discussed a proposal under consideration by the LAPI Committee regarding inclusion of fire fighting information in precautionary labels. It was urged that there be careful consideration of statements made on chem-cards when determination as to label phraseology is made.

15. Next Meeting

The next meeting will be held during the week of June 13.

Minutes subject to approval

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