

SHELL OIL COMPANY
SHELL CHEMICAL COMPANY
DEER PARK MANUFACTURING COMPLEX

PLAINTIFF'S EXHIBIT

SH-2746

DATE DECEMBER 8, 1978

TO DEER PARK MANUFACTURING COMPLEX -
EA/BA PERSONNEL
EP/SR PERSONNEL

FROM PROCESS MANAGER - EA/BA
PROCESS MANAGER - EP/SR -
DEER PARK MANUFACTURING COMPLEX

SUBJECT SAFETY PROGRAM -
DECEMBER 1978

The departmental safety program for the month of December is presented below. Your participation is a prerequisite for a successful safety program.

Monthly Activities

SF Schedule

- 1 SWAN System Audit - for Compliance with Plant Safety Order S-16.
- 2 Alarm and Sign Check

Road Closed Signs - Per Plant Safety Order S-3.
Ear Protection Signs - Per Plant Safety Order S-27.
Alarms Functioning - Per Plant Safety Order S-32.
Hazardous Material Warning Signs in Place (Caustic, H₂S, etc.)
Insure that TC/TT grounding clamps exist, are in good condition and are being used.
- 3 Relief Valve Audit per Plant Safety Order S-22.
- 4 Safety Equipment Inspection - Per Plant Safety Order S-31.

Safety Drills

This months drill should simulate the action taken in the event of a burn from hot water, steam or chemicals. As usual, the drills should be realistically enacted. The wrap-up discussion should then be conducted by the shift foreman in the control room. The safety man should participate. Drills should be held as scheduled, but may be rescheduled by the appropriate shift foreman if conditions warrant.

Be sure to also read item 4 in this letter pertaining to chemicals in general.

LAM 004224

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<u>Shift</u>	<u>Date</u>	<u>Time</u>	<u>Place</u>
EA/BA 4	Wednesday, December 13	12:00	BA
1	Friday, December 15	12:00	EA
2	Friday, December 22	12:00	LPG
3	Friday, December 29	12:00	BA
EP/SR 4	Tuesday, December 12	12:00	SR
1	Wednesday, December 20	12:00	Girbotol
2	Tuesday, December 26	12:00	Girbotol
3	Tuesday, January 2	12:00	SR

Special Safety Related Activities for Discussion

1. Shift Foreman/Safety Inspector Discussions

Daily safety discussions (Monday-Friday) should be held between shift foremen and the Area Safety Inspector. If you would like to participate in the preparation of the monthly safety drill, please notify your shift foreman.

2. Individual Drills

Since the major safety topic this month is treatment of burns, a review of safety orders which may prevent burns is in order. Please review S-6, "Precautions for Handling Hot Water"; and S-16, "Specification and Safe Use of Utility Hose - Water, Steam, Air, Nitrogen, Gas and Chemical Transfer". After each person has read these orders, the shift foreman will lead a discussion of them in the control room. A discussion of the two attached bulletins on treatment of burns would also be appropriate.

3. Employee Injuries

There were three first aid cases at EA/BA, one minor steam burn, one minor chemical spray, sprained muscle.

EP/SR had no first aid cases in November.

4. Chemicals

Many chemicals used in the Chemical Plant, as well as certain chemical products, are in some degree injurious to health, and appropriate precautions should be taken in handling them. Some chemicals - carbon monoxide, hydrogen sulphide, the cyanides - may cause a dramatic acute poisoning from which the victim may soon die; if he does not die, however, recovery is often complete.

A chemical can enter the body through the mouth, through the lungs and also through the unbroken skin. It is rare that a chemical is swallowed by mistake, but in some cases food is contaminated or the chemical is carried to the mouth by the contaminated hands. The other two forms of exposure, though less generally recognized, are far more common.

Inhalation

Breathing of a vapor, mist or dust is the most common form of exposure. This may cause local irritation of the air passages, throat and lungs, but via the lungs the chemical may also pass into the bloodstream and thus affect other organs of the body.

The fact that an atmosphere is safe as regards explosion hazard does not mean that it is also safe to breath. For many substances (benzene, gasoline, carbon monoxide, etc.) the toxicity limit is lower than the lower explosive limit, and this applies to both immediate and delayed effects.

Certain gases (hydrogen sulphide, carbon monoxide, hydrogen cyanide) act almost instantaneously when inhaled in concentrated form, and give little or no warning. Breathing equipment must therefore be worn whenever there is a danger, however small, of exposure to such high concentrations.

Effect on the Skin

Occasionally a substance passes into the body through a cut or abrasion, but it is far more common for chemicals to penetrate the unbroken skin and thus enter into the bloodstream. There may also be local effects on the skin, e.g., "burns" due to strong acids or caustic alkalis, and dermatitis, which may be caused by a number of chemicals.

Repeated exposure to solvents (many of them hydrocarbon products) often results in skin changes due to the removal of oils and waxes which protect the skin and keep it soft and pliable. This causes such skins to have a low resistance to bacterial infection and to heal poorly when injured. Solvents are a major cause of dermatitis, and some synthetic detergents may also be harmful in this respect.

Most chemicals injure the eyes upon surface contact, whether as a dust, a spray or a fume. It is therefore advisable to wear safety glasses or goggles of an approved type at all times when handling chemicals. A single drop of a strong acid or a caustic alkali may cause the loss of an eye.

Precautions

Personal cleanliness and good housekeeping in the plant are perhaps the most important factors of protection against chemical hazard. If the nature of the chemicals requires it, special protective equipment and clothing may be provided, but any plant using chemicals should have ample washing facilities, be easily accessible and properly maintained. Good industrial soaps, capable of cleaning greasy hands, are available and should be provided freely, while the use of industrial solvents for cleaning purposes must be forbidden. Skin contact with chemicals must be avoided as much as possible. There should be safety showers and eye wash fountains throughout the place of work. Breathing apparatus must be readily available where volatile chemicals or noxious gases are used or may occur.

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People are often asphyxiated while working in a confined space (e.g., cleaning or welding in tanks). In many cases would-be rescuers have themselves been killed while trying to remove the stricken man without proper rescue equipment. Anyone working in such confined space should wear a lifeline attached outside the manhole and there should be another person standing by to render assistance if required.

Operating personnel must be familiar with the first-aid techniques proper to the chemical handled. In nearly every case of considerable skin contamination or contact, the most important action to take is to bathe the affected part in running water quickly and copiously. Clothing wet with a chemical acts as a poultice and prolongs skin contact as well as respiratory exposure. In order to reduce the time of contact, contaminated clothing, and shoes as well, must be removed at once.

5. Housekeeping

Most safety practices are quite simple and obvious, particularly once the underlying reasons have been pointed out. Slippery floors (some types of anti-corrosive paints become slippery when wet) are obviously dangerous, yet each year hundreds of slips and falls - some fatal - are reported. It therefore bears repetition to state that a place of work must be kept tidy all the time, that there must be adequate lighting, that pathways should be kept clear, litter must be removed and tools and parts of equipment ought not to be left lying about. Practical jokes and horseplay have killed many people: this sometimes amounts to murder!!

G. M. Fikkert

D. G. Miller

GMF:slb

G. M. Fikkert

FPR: D. G. Miller -

cc - H. J. Bettencourt
M. L. Creel/W. Johnson
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A. Rodrigues/R. DeRick
P. Van Drunen/Y. A. Al-Zamel

EA/BA Control Rooms (3)
EP/SR Control Rooms (3)
EP/SR Shift Foremen
EA/BA Shift Foremen
File

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