



## MARINE SECTION

# SAFETY NEWSLETTER

NATIONAL SAFETY COUNCIL CHICAGO ILLINOIS 60611  
GREEN CROSS FOR SAFETY NATIONAL SAFETY COUNCIL

Editor, Capt. George D. Barlow  
Asst. Director, Safety Bureau  
New York Shipping Assn., Inc.  
80 Broad Street  
New York, N. Y. 10004

Assistant Editor  
John R. Blackaby  
Asst. Secretary  
American Bureau of Shipping  
45 Broad Street  
New York, N. Y. 10004

Gen. Chr., Wainwright Dawson  
Safety Engineer  
Bethlehem Steel Corp.  
Bethlehem, Pa. 18016

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## SS COTTON STATE Wins Awards

A States Marine Lines' vessel, the S.S. Cotton State, was presented with two highly prized awards. The awards were presented at a ceremony in Todd's Erie Basin Shipyard where the ship was drydocked for routine annual U.S. Coast Guard inspection.

Opening remarks were made by Mr. John M. Dempsey, Jr., vice president of States Marine Lines, who welcomed the distinguished group attending the ceremony.

Rear Admiral J. A. Alger, Jr., U.S. Coast Guard, Commander Eastern Area, presented the ship with a Citation of Merit on behalf of the American Merchant Marine Institute and the Marine Section of the National Safety Council, joint sponsors of this award. Representing the sponsors were Mr. Ralph E. Casey, president of the AMMI and Mr. Wainwright Dawson, general chairman of the N.S.C. Marine Section.

Capt. Thomas A. King, Atlantic Coast director, Maritime Administration, acting on behalf of Secretary of Commerce John T. Conner and Acting Maritime Administrator James W. Guilk, presented the Gallant Ship Award, a wood and bronze plaque which will be permanently attached to the vessel. The plaque was accepted by Captain Robert A. Pease, former Chief



Pictured during award ceremonies are (from left): Ralph E. Casey, John M. Dempsey, Jr., Rear Admiral J. A. Alger, Jr., USCG, Capt. Robert A. Pease, Lt. Goldthorp, USCG, Wainwright Dawson, Capt. R. Elsensohn.

Officer of the COTTON STATE. Captain Pease also received a Merchant Marine Meritorious Service Medal, one of the eight awarded to the staff of the COTTON STATE.

In the Pacific on February 8, 1965 under extremely hazardous conditions, Captain L. Thompson, Master at the time,

skillfully maneuvered his vessel throughout the long night to provide a lee for the stricken GRAMMATIKI until there was no hope of keeping the vessel afloat. A lifeboat was then launched under the command of Chief Officer Pease who transferred the Greek crew to the COTTON STATE.

# Thermal Underwear

Early this year, at a shipyard in Baltimore, a welder accidentally ignited his jacket and was burned to death before help arrived.

He was wearing an outer jacket of nylon or dacron fabric with a combustible quilted insulating material.

There have been other incidents involving fire hazards of insulated underwear and jackets, such as a welder for a heating contractor who was burned when the lower part of his coveralls and insulated underwear caught fire.

This is a good season in which to begin alerting workers to the potential hazards of thermal underwear and what to do about it. Thermal insulated underwear is becoming increasingly popular among outdoor workers and sportsmen, because it is lightweight and warm.

The danger often is when the jacket portion of thermal underwear is worn over other clothing and exposed to fire.

There are two types: One is regular cotton winter underwear woven in a three-dimensional waffle-weave design which provides insulation of a dead airspace.

The other type is composed of polyester fiber batts, wool-fleece batts, or down, quilted between two layers of lightweight cloth. It comes in a jacket and trousers combination which is usually worn over regular underwear. Sometimes the jacket is worn over a regular shirt underneath a coat.

The polyester fiber batts have properties which can make them a hazard under fire con-

ditions. A test showed that the polyester-nylon material did not catch fire any easier than cotton cloth. But once it starts to burn, the nylon and polyester fibers melt to form a burning, sticky, adhering plastic which causes serious burns.

Waffle-weave cotton has the same burning characteristics as any cotton clothing. Wool

and down burn without melting or forming a burning and adhering plastic.

If polyester fiber-nylon combinations are worn, they should be worn strictly as undergarments in a manner which will not expose them to open flame, spark, or other sources of ignition.

--USDL "Safety Standards"

## Do You Mean What You Say About Safety?

Some experienced supervisors have suffered injury because they neglected to follow their own good advice about safety.

Safety slips by a supervisor are doubly damaging because they can affect the whole department's safety effort. If the man in charge is about lax safety, the work group is likely to follow his lead. So it is important not to apply double safety standards—one set of rules for employees, another informal set of rules for supervisors. Instead, positive leadership is needed toward the accepted safety standards.

To show that you mean what you say about safety, consider this collection of "Don'ts" and "Do's."

### DON'T

- Don't —be lax about safety rules yourself.
- Don't —request or encourage employees to take unsafe short-cuts.
- Don't —be a "Do-as-I-say-but not-as-I-do" supervisor.
- Don't —open the road to accidents by letting men learn by making dangerous mistakes.
- Don't —discourage the prompt treatment of injuries, however minor.
- Don't —forget to use protective devices and clothing.
- Don't —contribute to poor housekeeping.
- Don't —allow unsafe working conditions to go uncorrected.
- Don't —let employees think you are not interested in their safety or your own.

### DO

- Do —set an example by carefully observing safety rules.
- Do —check to be sure that all tasks are hazard-free. Be sure that no one has to take a chance.
- Do —always perform the job the safe way when instructing or correcting a worker.
- Do —take enough time to stress safety pointers during job instruction.
- Do —follow your own advice by wearing safety hats, goggles and other safety apparel when necessary.
- Do —keep your own desk, office or work space orderly.
- Do —take action to eliminate unsafe conditions and provide safeguards.
- Do —take advantage of every opportunity to promote safety.

If you suffer any minor injuries yourself:

Do —have them properly treated at once.

**BY YOUR OWN EXAMPLE—PROVE THE IMPORTANCE OF CONSTANT ATTENTION TO ACCIDENT PREVENTION.**

--The Michigan Mutual  
Shop Man

### PUTS IN COIN, PUTS OUT FIRE

Bill Waggoner of Dodge City, Kansas, noticed smoke rolling out from the engine compartment of his car as he was driving along. Being near a coin-operated car wash, he drove in, put a quarter in the slot for water and quickly extinguished the blaze.

## Refrigeration Tips

Refrigerants are in common use aboard all merchant vessels. The following should be of interest to vessel personnel.

When the size of the unit makes it impractical for removal and the leak cannot be stopped, rubber tubing can be used to extend the broken line to a point where it can be submerged in water. This will reduce the rate of escape of the sulfur dioxide.

A commode, sink, or a portable container can be used for this purpose. If advisable, this line can be extended to a point outside the building. Precaution must be taken to see that the sulfur dioxide gas does not escape and settle into nearby buildings.

If necessary, lye (NaOH) can be added to the water to speed up the absorption process of the gas. It should be remembered that lye is caustic and should be handled accordingly.

Whether the water or water

lye solution should be changed periodically depends upon the quantity of water and lye used, as well as the quantity of liquid refrigerant to be disposed of. Care should be exercised when disposing of the contaminated water. Serious burns may result from the caustic solution if there is bodily contact with it.

Ammonia gas can be collected from the atmosphere by following a procedure similar to (2) listed above; the only exception being that the towel is saturated with water. Sometimes, when practical and advisable, fog spray can be used to accomplish the same results as ammonia gas is very soluble in water. One volume of water will absorb approximately 800 volumes of ammonia gas. If advisable, hydrochloric acid can be used to help locate ammonia leaks. The hydrochloric acid gas will react with the ammonia to form ammonium chloride which is visible as a white cloud.

It should be an inviolate rule that all personnel working in the hazardous atmosphere of these refrigerants must wear full protective clothing (helmet, coat, boots, and gloves). Proper breathing apparatus must also be worn. In some cases, a petroleum base salve should be used to cover exposed areas of the body or regions susceptible to profuse sweating.

Definite action should be taken to prepare a refrigerant leak kit. This kit should include rubber gloves, lead wool, a bottle of ammonia, screw driver, pliers, and sections of rubber tubing of assorted sizes (3/16, 1/4, 5/16 inches).

Refrigerants commonly used in new air conditioning or refrigeration systems are dichlorodifluoromethane (Freon-12) and monochlorodifluoromethane (Freon-22). They are both virtually nonflammable and nontoxic, but, when they are exposed to fire, toxic gases may be evolved.

### PROPERTIES OF COMMON REFRIGERANTS \*

REFRIGERANT	FORMULA	FLAMMABILITY	HEALTH HAZARD	VAPOR DENSITY	WATER SOLUBLE	ODOR
Ammonia	NH <sub>3</sub>	Group II	T	0.59	Yes	Yes
Butane	C <sub>4</sub> H <sub>10</sub>	Group II	ST	2.04	No	No
Carbon Dioxide	CO <sub>2</sub>	Group I	ST	1.53	Yes	No
Dichlorodifluoromethane (Freon-12)	CC <sub>2</sub> F <sub>2</sub>	Group I	NT	4.17	No	No
Dichloromonofluoromethane (Freon-21)	CHC <sub>2</sub> F	Group I	ST	3.55	No	Yes
Dichlorotetrafluoroethane (Freon-114)	C <sub>2</sub> C <sub>2</sub> F <sub>4</sub>	Group I	NT	5.89	No	No
Methyl Chloride	CH <sub>3</sub> Cl	Group II	T	1.78	Yes	Yes
Monochlorodifluoromethane (Freon-22)	CHC <sub>2</sub> F <sub>2</sub>	Group I	ST	2.9	Yes	No
Propane	C <sub>3</sub> H <sub>8</sub>	Group II	ST	1.56	No	No
Sulfur Dioxide	SO <sub>2</sub>	Group I	T	2.2	Yes	Yes
Trichlorotrifluoroethane (Freon-113)	C <sub>2</sub> C <sub>2</sub> F <sub>3</sub>	Group I	ST	6.4	No	No

### LEGEND

GROUP I — NON-FLAMMABLE

NT — NON-TOXIC

GROUP II — FLAMMABLE

ST — SLIGHTLY TOXIC

T — TOXIC

\* For a listing of characteristics of refrigerants and other hazardous materials, see NFPA No. 49 — Hazardous Chemicals Data and NFPA No. 325M — Fire Hazard Properties of Flammable Liquids, Gases and Volatile Solids — Ed.

## Close Calls

You probably remember with painful realism, the last accident that clobbered you. But what about the last close or not-so-close call? Maybe you remember, maybe not.

That's the trouble with the "no-injury accident"; too often it is ignored or soon forgotten. We call them "near-accidents," but actually an accident is an accident, whether someone gets hurt, or something gets damaged, or no harm's done. An unexpected happening like a 104 degree temperature, is a red-hot symptom that something is wrong; that there is a dangerous infection in the system, the practice, or the environment.

The difference between a direct hit and a near-miss may be no more than the fraction of an inch or the fraction of a second. That's why you should work up a lather over every close shave. Don't call yourself lucky and then forget it; maybe it is luck that determines whether you suffer fright or fracture, but it's analysis and action that will prevent future hits and near-misses and far-misses. The object in accident control is to toss Lady Luck out on her fickle ear, and make everything as luck-proof and fool-proof as possible.

Whenever a stack of material sags or collapses, or something thuds to the floor nearby, or a ladder slips, or a tool snaps, or anything out of the ordinary happens, report it to your supervisor no matter whether you suffer a bruised digit or merely a bruised dignity. There's at least one good lesson—maybe two or three—in everything that goes wrong.

Rig yourself mentally so that whenever a close call breezes by you, the breeze will automatically flip on a red light in your mind which signals: "SOMETHING'S WRONG. . . . FIND OUT . . . MAKE IT RIGHT!"

--Isthmian Safety Bulletin and News

## It Was Swim or Sink

Man's quest for safety on the water has taken him into some strange byways in his search for the perfect life preserver.

In the 18th century people began inventing their own special life-saving equipment, according to a report from the British Information Services.

One dilly was devised by a German named Krekel. He developed a cork-lined trunk that doubled as a life belt. The owner simple knocked out the top and bottom, slipped it over his head and jumped into the sea.

Less inventive types could go to an English store and buy Captain Stone's lifesaving suit for about \$850. It was made of rubber and was supported in the water by air pockets, front and back. Paddles covered the hands and watertight boots protected the feet.

A box bearing the wearer's name in sparkling gold letters was provided with the suit and contained essentials for comfortable floating such as cigars and a deck of cards. The only problem was that it took a half-hour to assemble and get into the suit.

In 1797 a copper belt with three hollow chambers was introduced by a John Bentley. Swimming gloves and frog feet were part of the kit. Unfortunately welding wasn't very well developed then and the belt tended to leak.

Around this time a Briton named Daniel discovered in his reading that a commando unit some 2670 years before had used inflated animal skins to swim a river and attack an unsuspecting enemy. Daniel used this idea to make a waterproof belt which could be inflated quickly by blowing through a silver tube.

This outfit came with a leather helmet which enclosed a horse pistol that could be fired to attract rescuers. In case the powder became wet, the pistol was backed up with an English hunting horn.

In stylish Victorian times it was considered unfashionable to use a ready-made life preserver. With this in mind Peter Halkett invented the Boat Cloak. This garment weighed about seven pounds and sported a large rubber pocket which could be inflated by a pair of bellows concealed in the lining. This enabled the cloak to stay afloat but usually the owner sank.

Gradually design and material imporoved. Cork became the standard and lasted from 1860 until 1958. Since then, modern materials and lightweight plastic have made possible sturdy life preservers which will keep a man afloat, the right way up, even if he is unconscious.

--States Marine Lines Safety Bulletin

## Hose Nozzles

A shipmaster who makes a practice of using different fire hose at each drill has a regular program which puts each hose aboard ship into play. At one drill it was found that a nozzle was plugged with rust, which would have gone undetected had the hose not been used.

--Imperial Oil, Safety Bulletin

## Work Accidents

The time lost because of work injuries in 1965 amounted to 235 million man-days, according to the National Safety Council. Of this total, only 40 million was lost by injured workers; the remainder was lost by other workers who stopped to help the injured, to discuss the accidents, and to replace damaged products and equipment. The time loss in future years because of 1965 accidents will come to about another 135 million man-days.