# SCP Tribune©

## BUYING SAFETY

In spite of our industry's efforts, some ship repair projects continue to use fairly gassy and toxic solvents and chemicals. Surface-prepping aluminum means a cloud of lacquer thinner. Fiberglass work brings the stench of styrene; Indoor/outdoor carpeting up in the bridge? Slather that glue on the deck and wait for it to turn "tacky"…by venting clouds of acetone.

Nothing new about these dangerous processes. OSHA's Ship Repair Standard (1915) confronted them years ago in Subpart C: (The Painters)

When liquid solvents or paints can release dangerous vapors… "Mechanical **exhaust ventilation** shall be used to remove the vapor at the source…'

**Really?? That means such vapors will go right through the blower.**

So OSHA worries about the quality of the ventilation equipment, saying: "All motors and control equipment shall be of the **explosion-proof type."**

As always, we Chemists go right to the top to find out what "explosion-proof" means. And the top is Mr. Bob Henderson who directs the GFG Corporation.


**Explosion Proof?? Maybe Not.**

## TRAINING

### Shipyard Competent Person

**Full 3-Day Courses**
Apr 5-7 @ SSC*
Apr 18-20 @ Long Beach
May 3-5 @ SSC*
Jun 7-9 @ SSC*
*South Seattle College Georgetown Campus

**1-Day Update Courses**
Apr 6 @ SSC*
Apr 12 @ Fremont Maritime
Apr 21 @ Long Beach
Apr 26 @ Bremerton
May 4 @ SSC*
May 10 @ Fremont Maritime
Jun 8 @ SSC
Jun 14 @ Fremont Maritime

**DIRECTIONS:**
**Fremont Maritime** is at Fishermen's Terminal
**SSC**: Georgetown Campus very close to I-5, Michigan St Exit, straight to Corson Ave S

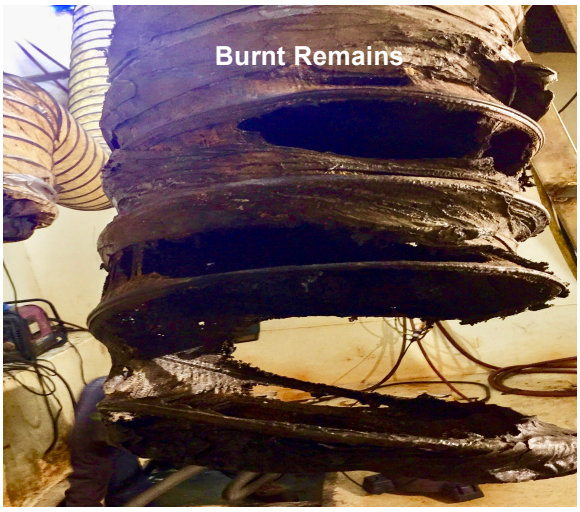
### OSHA 10 Maritime

10-hour training on 29 CFR 1915 provides methods on recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces specific to maritime.

(Many Chemists use GFG Brand gas-test equipment.) When looking for "explosion-proof" equipment says Bob, check the tech-spec plate. Either a blower is certified by an independent agency for use in explosive atmospheres, or it isn't.

# WHEN DUCTS BECOME FUEL

Recently a blower in suction mode captured not only smoke, but also sparks and slag from a cutting torch. The blower's oily canvas duct caught fire. The firewatch, who was attending the burner, did not notice anything amiss because the burning duct set fire to the accommodations the deck above the worksite. The vessel, a pleasure craft, was a total loss.


Burnt Remains

The lesson? Even equipment meant to keep us safe can become fuel when it's oily and greasy. Toss that greasy canvas or plastic duct! Trash those oily fire blankets! In the heat of a torch any fuel at all will burn.

# (More) Fun With Acetylene

Heavy construction companies pay attention to 2 sets of rules. Their jobs (pile-driving, dredging, building seawalls, jetties and levies, etc.) are "**Shoreside,**" while their equipment, (crane barges, scows, dredges, towboats, dump barges…) are afloat and therefore live in the **Maritime** world. Sometimes the combination of the two is interesting.

Recently, a burner trimming the inter-locking joints of a sea wall became concerned when the gravel under his feet started to shake with pops and explosions. But when the gravel itself caught fire, burning the cuffs of his overalls, the burner had had enough and called the Marine Chemist to investigate. The Chemist was stumped. Nothing airborne. And the surface gravel was "gas-free." Apparently the problem was below-grade. But, testing through a probe 3' down gave only fresh air readings. What was going on?

Then, with the Chemist monitoring, the burner cut through the 2-inches of steel at an interlocking joint. Suddenly the strange explosions and flames were back. Meter tests of the gravel now showed 45% oxygen and 100% L.E.L. acetylene.


Interlocking Seawall Plates

(Spreading a wet tarp to catch sparks and slag cut down on those irritating pops and flames.)

It turns out that when a torch cuts thick steel it puts out a lot of oxygen and acetylene. The interlocking joint wasn't airtight and so the excess cutting gases escaped, filling the gravel's airspaces. Acetylene is so unstable, and has such a wide explosive range (from ~2% to 100%!) that flame and explosions were guaranteed.

The burner's adventure has a lesson for us Competent People. When cutting any hollow metal structure, like an old mooring bitt or thick pipe, the burner might stop periodically to air things out and get rid of excess oxygen and cutting gas before they can misbehave.

# In Praise of Water

No longer does a simple sticker on the hard hat make a firewatch: OSHA Subpart P adds some definite training topics.

One is familiarity with various classes of extinguishers and the ability to match them with the class of fire they are designed to extinguish. And the most worrisome thing the firewatch will extinguish in local ship repair will be burning Insulating Foam.

Insulating foam is a hybrid. It's origin is hydrocarbon; (plastic with bubbles.) And as a hydrocarbon, it has the energy of a "Type-B" fuel. But, foam as a solid is also a has "Type-A" character.

A waterline can be effective on both Type-A and Type-B fires. So, unless in a "Communications" space full of electronics, the ship repair fire watch concerned with foam should use a water line both before and during hot work repairs.

Because it doesn't run out in a minute, because it reaches the core of a fire, because it is not toxic, because it can shoot 35 feet up, because it is cheap and easy…for all these reasons water is the extinguishing agent of choice when dealing with Insulating Foam.

# Special Thanks!


When vessels need to clear out their freezers or pantries we don't want even a fish-stick going in the dumpster. So call Peggy at Sound Testing and a Chemist will pick up the stores and deliver to a local food bank of your choice. Icicle Seafoods and the RM THORSTENSON were very generous this past week. The food bank at St. Mary's and Martin De Porres shelters are very thankful.

Congrats to **Allan Schultz** of **USCG!:** March's Winner:
Honorable Mentions: Too many to mention

**Q:** What's the ship repair term for an electrical conduit through a water-tight bulkhead?
**A: STUFFING TUBE**

**April's Question:**
Sometimes sensitive gauges and control knobs can't take bulkhead vibrations. So, they're mounted instead on a _____board, which is itself attached to the bulkhead.

Please submit us your answer before
April 25, 2017.
All correct answers will be entered into a random drawing and one person will win a **$50** gift card!
One entry per person, please.