EHS Support
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Consider This

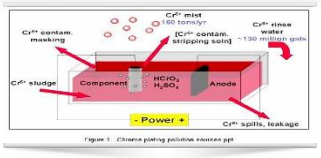
HEALTH & SAFETY NEWSLETTER
MAY 2015

Coaching: Developing Safe Work Habits & a Positive Attitude

Visual Communication – Safety Labels for Machines & Equipment

Preventing Back Injuries

Captain Obvious



Chrome Plating Process

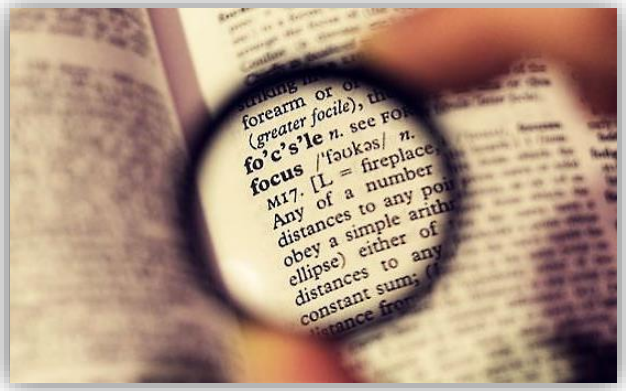
Important Reminders

Work Safe. Live Safe. Stay Safe.

Coaching: Developing Safe Work Habits and a Positive Attitude

While it is very important to frequently identify unsafe conditions and implement corrections to those situations, it is even more critical to conduct personal safety evaluations specific to each employee's individual work practices. An important goal of safety inspections and coaching employees in safe work practices is identifying and eliminating hazards and/or behaviors that may lead to an accident.

Focus on People – Communicating effectively and understanding what motivates people is critical for coaching employees. We all know how difficult it is to change our own behavior when attempting to overcome any bad habits, so how can we influence the behavior of others? Individual attention helps workers feel their significance to the company is recognized. We want to feel good about who we are and our accomplishments. To positively influence behavior, it is crucial to maintain others' self-esteem and positive attitudes. Dialogue with workers should reinforce safe work habits in addition to identifying unsafe ones.



Goal – Catch people doing things right! Encourage them to continue the same correct behavior. When encountering poor work practices, remind employees that working in risky ways equates with bad habits that need changing. Changing bad habits is very difficult. It requires concentration, reminders, positive feedback and the willingness to change.

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Emphasize Concern –If someone speaks critically about the way you are working, a typical response is to defend. When a supervisor makes an employee feel like they are genuinely concerned about their well-being, it presents a less confrontational situation and the employee may take the suggestion without getting upset. When a supervisor only finds fault and criticizes in an undermining manner, the employee may resent their authority.

Reminders

- ✔ Talk with employees rather than at or to them.
- ✔ Be assertive rather than aggressive.
- ✔ Set the example.
- ✔ Ask for cooperation by asking for help in solving problems, instead of demanding it.
- ✔ Ask open-ended questions to improve communication and actively listen.
- ✔ Summarize conversations to make sure you understand the employee and they understand you.
- ✔ Be generous with kind statements.
- ✔ Give credit to the employee whose suggestions or ideas you use and thank them for the input.
- ✔ Encourage your team to perform at their optimum level. You want them to succeed without getting hurt.

Resource: http://www.sbic.com/library_seabright_resources/ssu201110.pdf

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Visual Communication – Safety Labels for Machines & Equipment

Appropriate design features and safety devices are incorporated into machinery, yet some residual risks may remain. Safety labels are a key part of ongoing efforts to promote safe practices throughout an exceptionally wide range of specific situations. Safety labels are one method to catch the attention of and alert operators or other personnel exposed to residual risks of equipment. Some instruct on how to avoid the hazardous condition, inform of the consequence of interface with a hazard, and/or conveys the severity of the hazard. Labels help protect workers from needless and preventable injuries by creating awareness of dangers associated with machinery and equipment.

OSHA regulates the use of Safety Warning Labels, Signs and Tags. These regulations can be found in CFR 1910.145. One important regulation is:

OSHA CFR 1910.145(f)(3): *Tags shall be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent. Tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed. Tags need not be used where signs, guarding or other positive means of protection are being used.*

Location of Safety Labels
The Safety Warning Labels should be located in close proximity to the hazard, where it can be readily seen by the affected employee:

> **OSHA CFR 1910.145(f)(4)(vi)** *Tags shall be affixed as close as safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintentional removal.*
>
> **ANSI Z535.4 9.1 Location** *Product Safety signs and labels shall be placed such that they will: (1) be readily visible to the intended viewer and (2) alert the viewer to the potential hazard in time to take appropriate action.*

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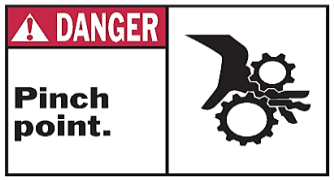
While the standard does not specifically mandate colors to be used on accident prevention tags, the following color scheme is recommended by OSHA for meeting the requirements of this section:



"DANGER" - Red, or predominantly red, with lettering or symbols in a contrasting color.

"CAUTION" - Yellow, or predominantly yellow, with lettering or symbols in a contrasting color.

"WARNING" - Orange, or predominantly orange, with lettering or symbols in a contrasting color.

"BIOLOGICAL HAZARD" - Fluorescent orange or orange-red, or predominantly so, with lettering or symbols in a contrasting color.

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Preventing Back Injuries

Back injuries are a painful, sometimes debilitating, problem in many industries. Back strains can often be avoided by reducing the size or weight of materials handled by employees, by using mechanical aids such as hoists, conveyers or hydraulic lifts, and by making certain that employees are well trained in lifting techniques. But the key to back care lies within the individual worker. Ensure your workforce is comprised of back care "experts" and able to answer the following questions:

Q: What is the most important lifting rule to remember?

A: Keep The Load Close! There are many other lifting rules, like "bend your knees and lift with your legs," but you cannot do this in every situation. Research has also shown that leg muscles become fatigued when *frequent* lifts are required, so other techniques must be used as well.

Q: If you do not hold a load close to your body, how much heavier is the "experienced" weight than the actual weight?

A: Ten times as heavy! The back operates as a simple lever, with the fulcrum in the lower back. Back muscles serve as the *power arm*; the load being lifted is the *weight arm,* and a 10-1 lever ratio exists in the lower back. The further away you hold the load, the "heavier" it becomes.

Q: Why never twist with a load?

A: Lumbar (lower back) vertebrae, disks and joints are under the most vertical *pressure* when lifting a load. Twisting with a load creates a "shearing" effect on these tissues. The more "mileage" you have on your back, the less forgiving it will be under this pressure.

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Preventing Back Injuries (Continued)

Q: Which muscles are most important for keeping the spine in its strong S-shaped curve?

A: Abdominal muscles, which work in cooperation with back muscles to support your spine. The trouble is, abdominals tend to weaken over time. It helps to tighten them during a heavy lift, but more importantly, keep them in good shape.

Q: How can stress in your life effect back pain?

A: Whether you are aware of it or not, emotional stress can tighten muscles. Often, fatigued back muscles are the most effected and the first to feel it. It has been said that back ache is just a tension headache that "slipped."

Q: What time of the day are back strains most likely to happen?

A: In the morning, or at the beginning of a work shift, when muscles are not "warmed up." Trends also show an increase following the lunch hour, perhaps because blood circulation is in the stomach, instead of the large muscles, and because people may be sleepy and inattentive after a meal.

Q: How does keeping flexible help prevent back and muscle strains?

A: Muscles tend to *shorten* when not used to their full capacity. Flexible muscles are less likely to be strained and injured than "tight" muscles when sudden or heavy power is required. Pre-work stretching programs have been very successful in preventing back and muscle strains.

Take a tip from professional athletes--they warm up before a game. Even five minutes helps!

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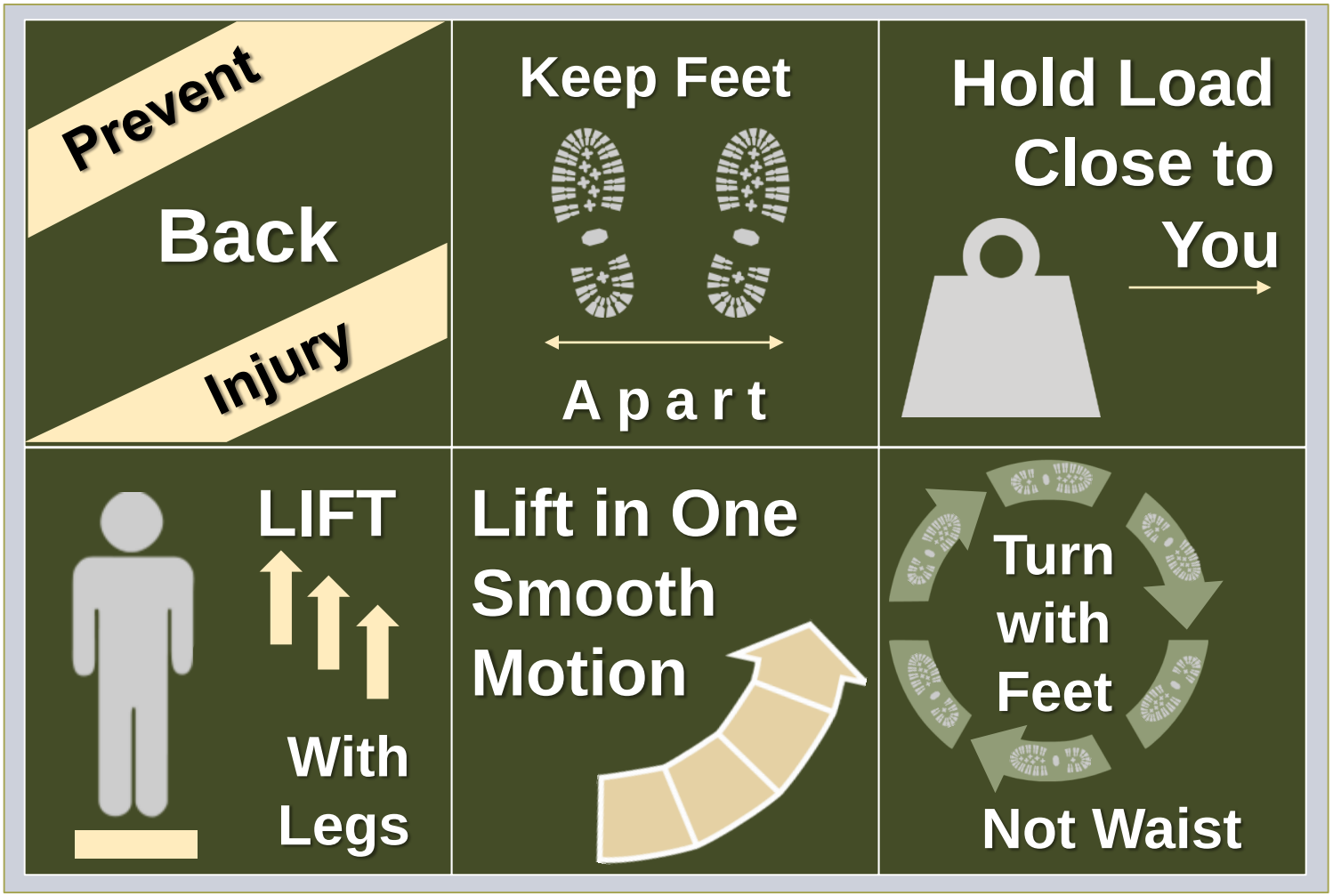

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Why is it that safety professionals are getting heckled when we provide reminders on basic safety information and then go into a facility to conduct a mock-OSHA audit and find the same type of potential hazards or non-compliance items over and over again? Each month we feature a "Captain Obvious" photo to share simple safety reminders that are found on jobsites every day.

Corrective Actions

- Group by compatibility
- Store dry and liquid chemicals separately and in accordance with temperature requirements
- Store flammable chemicals away from ignition sources
- Oxidizers should not be stored on combustible shelving or next to organic chemicals (fuels)
- Ensure shelving used for chemical storage has a lip, rail or door (glass panels do no qualify)

FINDING

Improper Chemical Storage

1. Incompatible chemicals stored together
2. Oxidizers and fuel sources stored together
3. Liquid and dry chemicals on same shelf

Photo courtesy of slideplayer.com

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Chrome Plating Process Hazards

What's the difference between "Chrome Plating", "Chrome Electroplating", "Chrome Dipping", "Chroming", etc.?

Nothing. Chrome is always applied by electroplating, it is never melted onto parts in the fashion of chocolate on strawberries, sprayed on like paint, or applied in any other way than by electroplating.

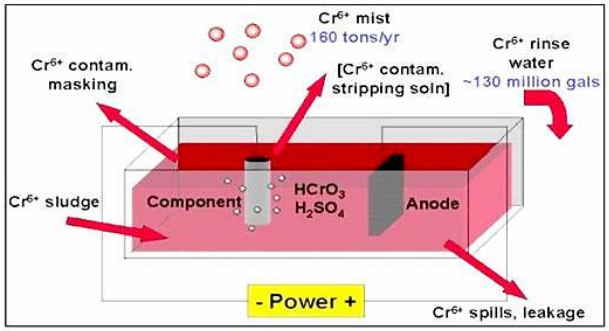

Figure 1. Chrome plating pollution sources.ppt

Photo courtesy of http://web.applied.com/base.cfm?page_id=4524

Is all chrome plating about the same, then?

Not quite. There are two different general applications for chrome plating: "hard chrome plating" (sometimes called 'engineering chrome plating' or 'functional chrome plating') and "nickel-chrome plating" (sometimes called 'decorative chrome plating').

A number of existing environmental, health, and safety regulations currently affect the chromium electroplating industry. Many of these regulations have been increasing in scope of coverage and stringency over recent years and this trend is expected to continue in the future, particularly in the areas of wastewater discharges, air emissions, and worker exposure to hexavalent chromium.

What are the hazards with Electroplating?

Many of the chemicals used in the plating industry are substantially poisonous and may produce a serious health hazard. For example, such metal was as lead, cadmium, and gold, and cyanides, sulfides, and other anions may be extremely toxic. Because these chemicals insure good electrodeposition, they must be employed by the industry; but such employment makes it necessary that the greatest care be exercised in order that commensurate health protection goes along with their use. The environment in some electroplating plating tends to enhance toxic reactions. The factors of dampness, heat, and inadequate ventilation may affect the physical condition of the body and make absorption that much more easy. Certain metallic compounds show marked toxicities for persons who perspire excessively. Dampness will naturally tend to hold the salts in a more active state upon the skin. Of the great number of materials which are used in the plating industry only one or two will be touched upon as providing a pattern for the control of others.

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The manner in which chromic acid is used makes it readily available as a hazardous material on inhalation, contact, or ingestion. Chrome burns, chrome ulcers, and chrome holes, as well as other skin effects, particularly at the base of the nails, have been recognized for long periods of time. Chromic acid is especially dangerous in concentrated solution. Accidental ingestion of chromium, or chromates, requires prompt treatment.

It is considered safe to state that the electroplating industry has not been singled out as an industry more hazardous than the average of like operations. The injuries which do occur to workers in the electroplating industry are subject to control. The exposure to toxic materials and to industrial disease, while existing, can likewise be controlled.

Control of the exposures in the electroplating industry can be brought about through provision of (a) good equipment and good operating conditions, (b) good housekeeping, and (c) an adequate managerial safety program which will make all workers partners with supervision in the prevention of injuries and occupational disease.

The exposure conditions are controllable; the means for control are handy and well known; the initiative and the continuous application of a control program is the only essential often found lacking.

Electroplaters operating in states with their own OSHA-approved programs need to be sure that they understand the requirements under which they are operating.

Resource: http://www.nmfrc.org/subs/history/mar50a.cfm

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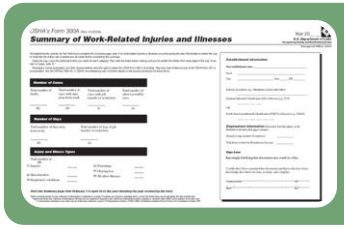
Participate By:

- Providing a fall prevention talk on ladder safety, fall protection equipment, scaffold safety, slip and trip hazards.
- Providing live demonstration on proper use of fall protection equipment.
- Reviewing your company's fall protection program.



OSHA 300A Form posting can be taken down and filed. Keep logs for 5 years.

Warmer weather is knocking at our door. Start education your workforce on heat stress!

OSHA's new service injury illness reporting requirements

- Employers are required to notify OSHA of work-related fatalities within 8 hours, as well as work-related hospitalizations, amputations, or the loss of an eye within 24 hours.

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Contact Monica Meyer at Monica.Meyer@ehs-support.com today to learn more about how we can help you manage your health and safety risks.