Toxic Paint Removers: Safer Choices Campaign

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California Department of Public Health
Occupational Health Branch

Presenter: David Harrington

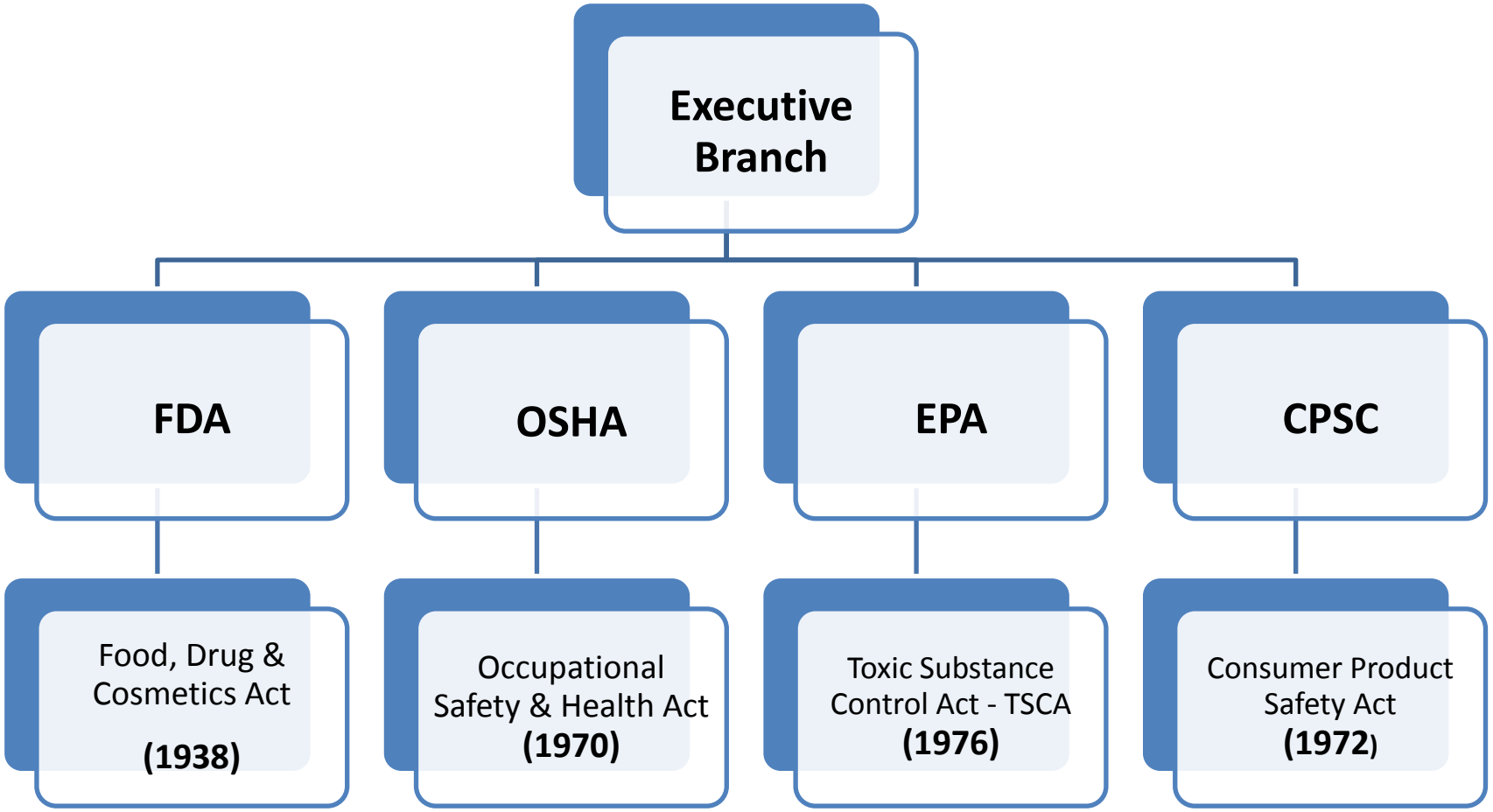
“I have no relationships to disclose”

Elements to Campaign

CA FACE/MMWR Fatality Investigations
Toxicology/industrial hygiene/exposure assessment
Regulatory Framework/CA Chemicals of Concern Program
Paint store employees survey

Needs Assessment/Materials Development
Outreach and Dissemination
Post-mailing paint store managers survey
Safer Substitutes Field Testing
Bilingual Worker Education: tailgate trainings, pocket card

Chemical Regulatory Authority - US



Methylene Chloride Toxicity

ACUTE

- Narcosis (sleepiness, incoordination)
- Cardiac arrythmias (can be fatal)
- Chemical asphyxia (can be fatal)

CHRONIC

- Liver test abnormalities
- Liver cancer (possible)

Industrial Hygiene Hierarchy for MeCl

- Substitution
  - Benzyl alcohol
  - Soy-based strippers
- Enclosure
- Ventilation
- PPE
  - Limitations of air-purifying respirators
  - Limitations of conventional glove materials

Fatalities in bathtub refinishers: US

- In early 2012, Michigan FACE, Fed/OSHA, and NIOSH collaborated on an MMWR article documenting a total of 13 fatalities among bathtub refinishers in US between 2000 and 2011.
- All were linked to methylene chloride inhalation.

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 61 / No. 7
February 24, 2012

Fatal Exposure to Methylene Chloride Among Bathtub Refinishers — United States, 2000–2011

Confined Space Fatality at Paint Co. (Southern California, December 2011)

Fatality at Church.
(Southern California, May 2010)

MeCl Fact Sheet, Hazard Alerts

Methylene Chloride

Methylene chloride most often affects the central nervous system (the brain) causing headaches, nausea, dizziness, clumsiness, drowsiness, and other effects like those of drinking alcohol. At very high levels it can cause unconsciousness and death. Methylene chloride causes cancer in animals, and is regulated as a cancer-causing substance in the workplace. Because it forms carbon monoxide in the body, methylene chloride can increase angina (chest pains) and can cause other heart symptoms in workers who have heart disease.

How to find out if you are working with methylene chloride

Methylene chloride is a solvent. It is used in many industries and for a variety of job tasks. Your employer must tell you if you are working with methylene chloride, and must train you to use it safely under California's Methylene Chloride Standard and the Hazard Communication Standard (see page 8). If you think you may be exposed to methylene chloride on the job, ask to see the Material Safety Data Sheets (MSDSs) for the products you are using. The MSDS must identify methylene chloride in Section 2, by the Chemical Abstract Service (CAS) number 75-09-2.

Some products that contain methylene chloride

Bix Stripper
KS Brushable Stripper
Benco #B7 Industrial Paint Remover
V-1106 Rejuvenator Plus
32 Fast Setting Steam Adhesive
Lifeaze Paint & Varnish Remover
Savogran Strypeeze Paint/Varnish Remover
Aqua Mix Sealer and Adhesive Remover
Zinc It Electric Grade Lubricant
Klean Strip Deep Down Stain Stripper
Klean Strip Graffiti Remover

These are examples of products with methylene chloride listed on the MSDSs. This is not a complete list. Be sure to check the MSDS for the ingredients of the product you are using.

Some industries and job tasks where methylene chloride is used

• construction • paint stripping • vapor degreasing • printing • foam manufacturing
• spice extraction • electronics manufacturing • chemical manufacturing • cleaning

FACT SHEET
HESIS
HAZARD EVALUATION SYSTEM & INFORMATION SERVICE
California Department of Health Services
Occupational Health Branch
850 Marina Bay Parkway, Building P, 3rd Floor
Richmond, CA 94804
510-620-5757 • www.dhs.ca.gov/ohb

OCTOBER 2006

California Department of Health Services • California Department of Industrial Relations

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California Department of Public Health – Occupational Health Branch

Worker Fatality Alert

January 2012

Methylene chloride linked to worker death in tank

Prevention Points

- Use safer methods and less toxic chemicals to remove paint
- Follow confined space regulations when working with toxic chemicals in enclosed spaces

The **California Fatality Assessment and Control Evaluation (CA/FACE)** program tracks and investigates cases of fatal injuries at work, and makes prevention recommendations for employers and workers. The CA/FACE program is investigating the preventable death of a worker who was using a paint stripper inside a tank at a paint manufacturing company. A second worker was also nearly killed after attempting a rescue.

Opening of paint tank

Bottom of tank where workers were found

What happened? The victim was working by himself using a paint stripper to remove dried paint from the inside of a tank. The product contained methylene chloride (at least 60%), methanol and mineral spirits. The tank was 7'x 7' x 9' with a 2' x 7' opening at the top, and was a permit-required confined space under California OSHA regulations. The space was not adequately ventilated and the victim was not trained in confined space entry. The company had not stationed an attendant at the tank entrance to monitor the victim while he worked in the tank. A co-worker was overcome when he attempted a rescue after seeing the victim unconscious at the bottom of the tank. The victim could not be resuscitated. The cause of death according to the local coroner was asphyxia due to inhalation of dichloromethane (methylene chloride). The co-worker was hospitalized and treated for methylene chloride poisoning.

What was the cause? Both of the workers were overcome by dangerous levels of solvent vapors inside the paint tank. The paint tank was a permit-required confined space, but proper testing, entry and rescue procedures were not in place to prevent both workers from being overcome by toxic vapors. The victim was wearing a cartridge respirator that did not adequately protect against inhaling methylene chloride vapors.

What should be done to prevent this from happening again? Methylene chloride has been linked by Federal OSHA to over 50 worker deaths nationwide since the mid-1980s, primarily from use in poorly ventilated spaces. Methylene chloride is also considered by many regulatory agencies in the U.S. to cause cancer, and is banned from many uses in Europe.

Employers should establish procedures to clean paint tanks more frequently with water-based materials, before the paint is cured. If this is not possible, the cured paint should be stripped with abrasive removal methods. If toxic chemicals must be used inside a tank, employers must provide worker training in confined space entry and must follow OSHA regulations during an entry. This includes providing proper ventilation, supplied air respiratory protection, air monitoring, communications, and means of rescue and retrieval.

Revised 2/9/12

To read more about safety in confined spaces:
http://www.dir.ca.gov/dosh/dosh_publications/ConfSpa.pdf

The Occupational Health Branch in the California Department of Public Health is devoted to improving worker health and safety through prevention activities.
See www.cdph.ca.gov/programs/ohb

Occupational Health Hazard Alert

Methylene Chloride in Paint Strippers and Bathtub Refinishing

CDPH

Methylene chloride is dangerous…
There are safer alternatives!

METHYLENE CHLORIDE
(DICHLOROMETHANE)

What is the hazard? Methylene chloride (MeCl) is a solvent used in various industries, including paint stripping and bathtub refinishing. Short-term exposure to MeCl can cause headaches, dizziness, eye, nose and throat irritation, chest pain, and trouble breathing. Exposure to very high concentrations (for example, in enclosed spaces) can be fatal. Long-term exposure to MeCl increases the risk of liver damage and cancer.

How might I be exposed? MeCl enters the body through the lungs when an individual inhales the vapors, or can be absorbed through the skin. Exposure to MeCl can happen even when there is no odor present.

Who is at risk?

- Since 2000, thirteen bathtub refinishers have died nationwide from overexposure to MeCl-based strippers while working in closed rooms with inadequate ventilation. They were using products that contained a high percentage of MeCl.
- In 2011, a worker in a paint manufacturing plant died – and another became unconscious – when he used a MeCl-containing paint stripper inside a paint mixing tank (a permit-required confined space).
- Furniture strippers who use these products are also at risk of adverse health effects, including eye, nose and throat irritation, headaches, liver damage, and cancer.

A worker removing paint from a window frame in a dip tank containing a MeCl-based stripper.

Workers using a MeCl-based stripper to remove paint from a bathtub prior to refinishing.

The opening of a paint mixing tank in which a worker died while using a MeCl-containing paint stripper.

Hazard Evaluation System & Information Service, Occupational Health Branch, California Department of Public Health (HESIS / OHB / CDPH – www.cdph.ca.gov/programs/hesis/) January 2012
(HESIS is funded by an interagency agreement with the CA Dept. of Industrial Relations, Cal/OSHA)

Campaign: Three Key Messages

- Target Audience(s): paint stores, selected contractor categories, DIYers

- MeCl causes fatalities in confined spaces but for most users the chronic effects are key
- Provide reasons for not using MeCl and instead selecting safer paint removers
- If using MeCl or other toxic removers then here are the controls and PPE to follow

Materials Development
Needs Assessment/Key Informants

Developed three draft materials:

- Display poster for stores
- Product shopping list for stores/contractors
- Personal protective equipment selection guide for stores/contractors

Please Post

Paint Stripping Products: Safer, Less Toxic Choices

Paint strippers containing methylene chloride are extremely toxic.

Chemical Stripper Type	Hazard	Precautions
Preferred: • Benzyl alcohol • Soy-based • Dibasic esters	Eye, nose, throat, & lung Irritation Skin irritation	Chemical goggles Gloves *Asthmatics should not use these products*
Use with Caution: • Sodium hydroxide • Magnesium hydroxide • Calcium hydroxide	Eye injuries Chemical burns	Chemical goggles and face shield Apron Gloves: • Caustic-resistant
Extreme Caution: • N-Methyl pyrrolidone (NMP)*	Reproductive harm	Chemical goggles Gloves: • Ethylene-vinyl alcohol laminate Respirator: • Organic vapor cartridge
Not recommended: • Methylene chloride* • Toluene* • Methanol*	Neurological effects Heart attacks Death	Chemical Goggles Gloves: • Ethylene-vinyl alcohol laminate Ventilation: • Mechanical Respirator: • Supplied-air if used indoors

* These chemicals are known to the State of California to produce cancer or reproductive harm. See safety data sheets for up-to-date formulations.

NOTE: Pre-1978 buildings and some furnishings may contain lead paint.
For information on safe removal of lead-containing paint, see: http://www2.epa.gov/lead

For more information on paint stripper product selection, go to:
www.cdph.ca.gov/StripPaintSafely -----> or scan:

CDPH California Department of Public Health
California Department of Public Health, Occupational Health Branch
850 Marina Bay Parkway, Building P, 3rd Floor, Richmond, CA 94804

May 2013

GUIDE TO CHOOSING PAINT STRIPPING PRODUCTS: SAFETY CONSIDERATIONS

The following table is designed for use by contractors and tradespeople in choosing between alternate paint strippers. Prior to selecting a product it is important to know what hazards the chemical ingredients might involve. This handout is designed to assist you in that task.

Key to Recommendations: Preferred | Use with Caution | Extreme Caution | Not Recommended

Piranha 4	*Fiberlock Technologies*	45-50%
Multi-Strip Professional Paint Remover	*Sunnyside Corp*	15-35%
Ready Strip Pro	*Sunnyside Corp*	5-15%
Ready-Strip Spray	*Sunnyside Corp*	30-35%
Strip-Tox	*Sunnyside Corp*	20-40%
Strypeeze Biodegradable	*Savogran Company*	40-45%

NOT RECOMMENDED

These products contain chemicals known to the State of California to cause cancer or reproductive harm. Methylene chloride use has resulted in death when used in enclosed spaces. It can penetrate respirator cartridges and most glove materials.

PRODUCT NAME	MANUFACTURER	Methylene Chloride	Methanol	Toluene
Formby's Paint & Poly Remover	*Formby's*	81%	3%	
Dad's Easy Spray Paint & Varnish Remover	*Sansher Corp*	73-78%	<13%	
Green's Liquid - 96 Paint Remover	*Green Products, Co*	69-79%		
Green's Liquid Paint, Varnish & Lacquer Remover	*Green Products, Co*	10-30%		
Green's Semi-Paste Paint Remover	*Green Products, Co*	69-79%		
Jasco/Bix Varnish & Stain Remover	*W.M. Barr*	25-40%	30-50%	10-20%
Jasco Brushable Semi-Paste Paint & Epoxy Remover	*W.M. Barr*	60-100%	7-13%	
Jasco Premium Remover	*W.M. Barr*	70-95%	1-5%	
Jasco Semi-Paste Varnish & Stain Remover	*W.M. Barr*	25-40%	30-50%	10-20%
Jasco Spray On Stripper	*W.M. Barr*	30-60%	15-40%	10-30%
Klean Strip Adhesive Remover	*W.M. Barr*	60-100%	10-30%	
Klean-Strip Premium Sprayable Stripper	*W.M. Barr*	60-100%	10-30%	
Klean-Strip Strip X Stripper	*W.M. Barr*	30-50%	10-30%	1-10%
Premium Stripper	*W.M. Barr*	70-95%	1-5%	
Sprayable Strypeeze	*Savogran Company*	85-90%	5-10%	0-5%
Strypeeze Original	*Savogran Company*	25-30%	25-30%	15-20%
Zar Paint & Varnish Remover	*United Gilsonite Labs*	90%	7%	2%
ZipStrip Contractors Plus Paint & Varnish Remover	*Absolute Coatings*	16%	31%	18%
ZipStrip Premium Paint & Finish Remover	*Absolute Coatings*	75-85%	7-15%	
ZipStrip Trigger Spray Paint & Varnish Remover	*Absolute Coatings*	<80%	10%	8%
ZipStrip Water-Rinsable Industrial Strength Paint & Finish Remover "		80%	10-15%	

DISCLAIMER: THIS TABLE MAY NOT BE COMPLETE, AND FORMULATIONS MAY CHANGE OVER TIME. REVIEW A CURRENT SAFETY DATA SHEET BEFORE SELECTING A PRODUCT.

California Department of Public Health, Hazard Evaluation System and Information Service - California Department of Industrial Relations - Rev. May 2013

http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx

GUIDE TO CHOOSING PAINT STRIPPING PRODUCTS: SAFETY CONSIDERATIONS

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Key to Recommendations: Preferred | Use with Caution | Extreme Caution | Not Recommended

PREFERRED

These products contain chemicals that can irritate the skin, eyes, nose, and throat. Gloves and chemical safety goggles and/or face shield should be worn. People with asthma should avoid using these products.

PRODUCT NAME	MANUFACTURER	Benzyl Alcohol	Dimethyl Gluterate	Dimethyl Adipate	Formic Acid	Acetone
Crown Paint Strip Next	*Packaging Service Co.*		45-55%	5-15%		
Goof Off Cleaner VOC Compliant	*W.M. Barr*					60-100%
Hi-Speed Ready-Strip	*Sunnyside Corp*	25-35%	6-10%	2-6%	1-3%	
Mötsenböcker's Lift Off Paint and Varnish Remover	*Mötsenböcker's*					<10%
Oops! Painters Choice Liquid	*Homax Products*	1-10%				1-10%
Peel Away Smart Strip	*Dumond Chemicals*	30-50%				
Safest Stripper™ Paint and Varnish Remover	*3M*		1-5%	20-30%		
ZipStrip Premium Green Paint & Finish Remover	*Absolute Coatings*	<30%				

USE WITH CAUTION

These products can produce serious skin and eye injuries if not used safely. They should be used only while wearing chemical safety goggles and face shield to protect against splash, and gloves recommended for caustics.

PRODUCT NAME	MANUFACTURER	Sodium Hydroxide	Magnsium Hydroxide	Calcium Hydroxide
Piranha 8	*Fiberlock Technologies*	Unknown %	Unknown %	Unknown %
Peel Away 1	*Dumond Chemicals*	9%	16%	21%

EXTREME CAUTION

These products contain NMP (N-Methylpyrrolidone), which is known to the State of California to cause reproductive harm. NMP can also irritate the skin, eyes, nose and throat. NMP-resistant gloves and chemical safety goggles and/or face shield should be worn.

PRODUCT NAME	MANUFACTURER	NMP
Citristrip Safer Paint and Varnish Stripper Aerosol	*W.M. Barr*	30-60%
CitriStrip Stripping Gel	*W.M. Barr*	30-60%
Klean Strip Green Safer Paint & Varnish Remover	*W.M. Barr*	30-50%
Peel Away 7	*Dumond Chemicals*	10-20%

California Department of Public Health, Hazard Evaluation System and Information Service - California Department of Industrial Relations - Rev. May 2013

http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx

Minimum Personal Protective Equipment Required for Paint Stripping

Refer to the Safety Data Sheet (or SDS) for information on composition of the chemical stripper and protective equipment needed

In enclosed areas, use of volatile solvents such as methylene chloride produces very high exposures, which may result in death. The California Department of Public Health, Occupational Health Branch, recommends minimizing exposures to chemicals that cause cancer and reproductive effects.
See: www.cdph.ca.gov/StripPaintSafely for a description of paint stripping products and their potential health hazards.

Paint Stripper Type	Gloves*		Eye Protection	Respirator*
	Less durable/Less expensive	More durable/More expensive		
Benzyl Alcohol	Laminate of EVOH/PE (i.e. Silvershield®/4H by North) 	or Nitrile 	Indirectly vented or unvented chemical goggles and face shield 	For typical application by brush, normally no respirator is needed. If spray-applied or if occupational exposure guidelines are exceeded, use full face NIOSH-certified respirator with organic vapor cartridges or half mask with eye protection and dust/mist pre-filter.
Caustics	Laminate of EVOH and PE (i.e. Silvershield®/4H by North) 	or Neoprene, or Nitrile 	Indirectly vented or unvented chemical goggles and face shield  	If spray-applied, use full face NIOSH-certified respirator with dust filters or half mask with eye protection.
N-Methyl-2-Pyrrolidone (NMP)	Laminate of EVOH and PE (i.e. Silvershield®/4H by North) 	or Butyl Rubber 	Indirectly vented chemical goggles 	NIOSH-certified respirator with organic vapor (OV) cartridges. If spray-applied, use OV cartridge with dust/mist pre-filter. 
Methylene Chloride-based	Laminate of EVOH and PE (i.e. Silvershield®/4H by North) 	or Polyvinyl Alcohol (PVA) 	Indirectly vented chemical goggles unless full-face respirator worn. 	Supplied-air (airline) respirator 

Occupational Health Branch, California Department of Public Health

* See notes on reverse side.

http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx

May 2013

Key Informant Interviews

- 5 paint store managers, 3 painting contractors
- Developed a set of open ended questions
- Lengthy initial interviews and initial reaction to materials
- Left drafts of materials and cover letter to review
- F/U visit to gain feedback 1 week later

What did we hear?

Paint store managers:

- Volume of MeCl use by contractors/DIYers has dropped off: (pallets before and now cases)
- Less wholesale paint removal done: more spot removal (time, materials, lead paint issues)
- All think they sell safer removers but don't really know how they are safer
- Confident that contractors know how to handle MeCl but not DIYers

What did we hear?

Paint store managers:

- All under misconception that PPE sold was adequate
- Rely on supplier sales reps and trade shows for information that they pass on
- Liked larger poster/ PPE list for better customer service
- Suggestions for resizing, displaying like other product spec sheets, keep it simple
- Some objected to product list as they carry all them
- Managers of chain stores have no authority to post

What did we hear?

Contractors

- Materials very useful but too many messages can make it hard to understand
- Liked product selection guide
- MeCl is toxic but they still need to use it due to excellent performance/site specific demands
- Warned that while they desired safer products would oppose banning MeCl
- Surprised to see that greener products, e.g. (Citristrip) are not as safe as they were told

Outreach/Dissemination

- Initial hazard alert mailed to 700 furniture and bathtub refinishers
- Developed topic page for website included in O/R
- Mailing of packet to 2,400 paint/hardware stores in CA including order form for laminated poster
- Based on needs assessment decided not to mail to chain paint stores/big box stores
- e-OHW email with links sent to 6,400 stakeholders: trade organizations, unions, agencies, others

Outreach/Dissemination

- Article in CSLB newsletter available to all licensed contractors
- Single page letter with links mailed to 14,640 painting and 1,863 abatement contractors
- Spoke at 5 contractor meetings around CA
- Developed draft scope of work for Occupational Health Internship Program (OHIP)summer students
- Conducted outreach with contractor organizations and unions to undertake OHIP project

Products most commonly found in paint stores

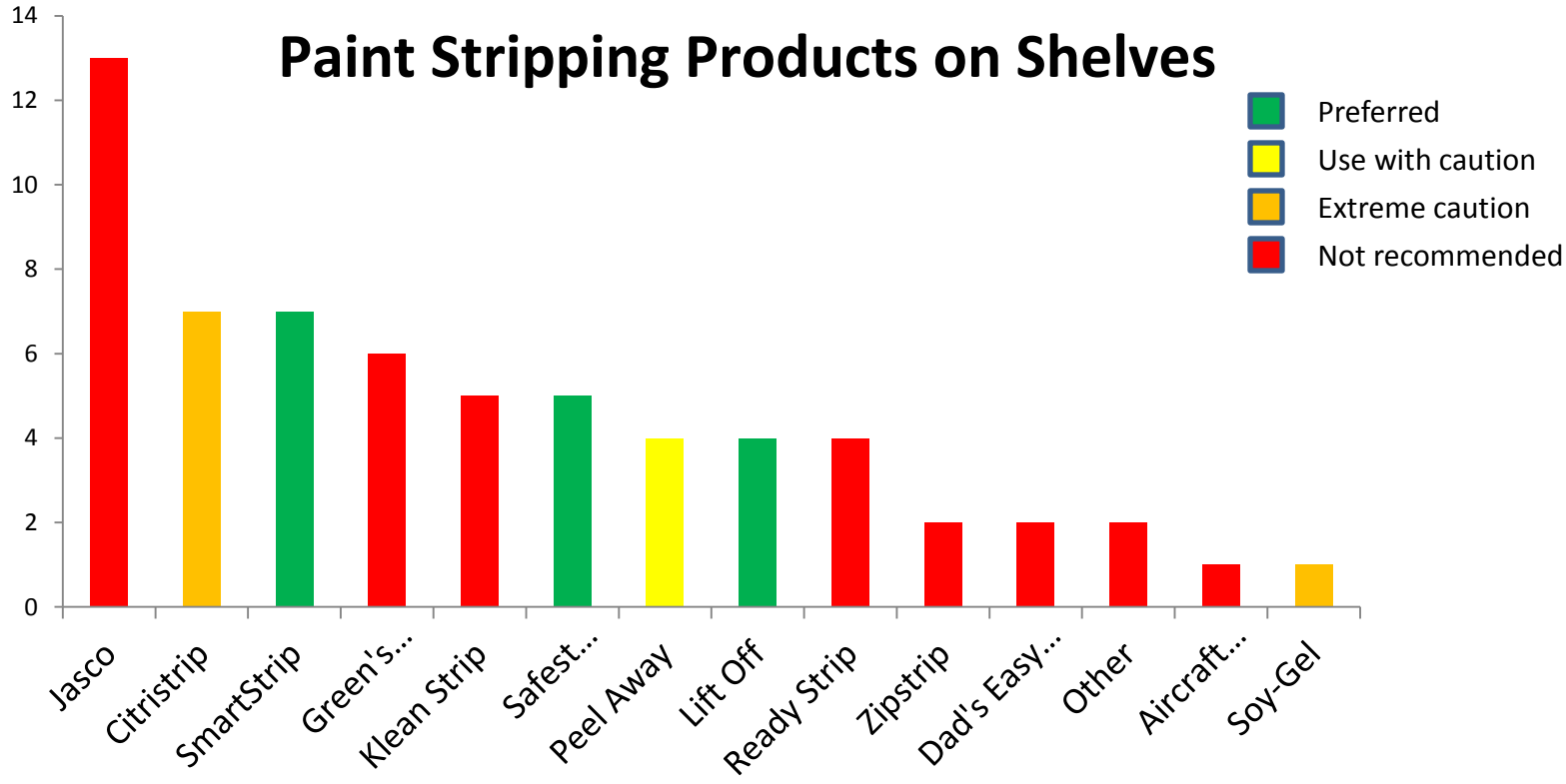
OHIP Project Objectives

Erika Meza & Jeremy Sosman
(students join team)

1. Assess value of poster at sample of paint stores
2. Learn about current paint remover product use and health & safety experiences
3. Provide and evaluate 2 safer substitute products
4. Develop worker bilingual training tool and conduct tailgate trainings
5. Develop worker educational material

Methods

- Visit paint stores
  - 7 ACE Hardware (solely owned)
  - 6 Independent
- Interview store managers
- Provide additional educational materials



- Paint Store Results:
  - Managers were receptive
  - Poster on display but still lack of knowledge

Field work methods

- First: key informant interviews /pilot survey
- Visit 10 worksites to conduct worker & supervisor interviews
  - 38 workers
  - 12 supervisors
- Baseline interviews
- Distribute samples of 2 safer alternatives at each site
- Follow-up interviews
- Tailgate training


Interviewing supervisor

Stucco/wood repaint job

Demographics

- **Workers** (n=38)
  - 3 Females; 35 Males
  - 98% Hispanic/Latino
  - 92% Spanish-speaking
  - Average Age: 41
  - Average years as painter: 12
  - Union member: Yes 12 (32%); No 26 (68%)

- **Supervisors/Managers** (n=12)
  - 12 Males
  - 66% Hispanic/Latino; 33% Caucasian
  - Average Age: 50

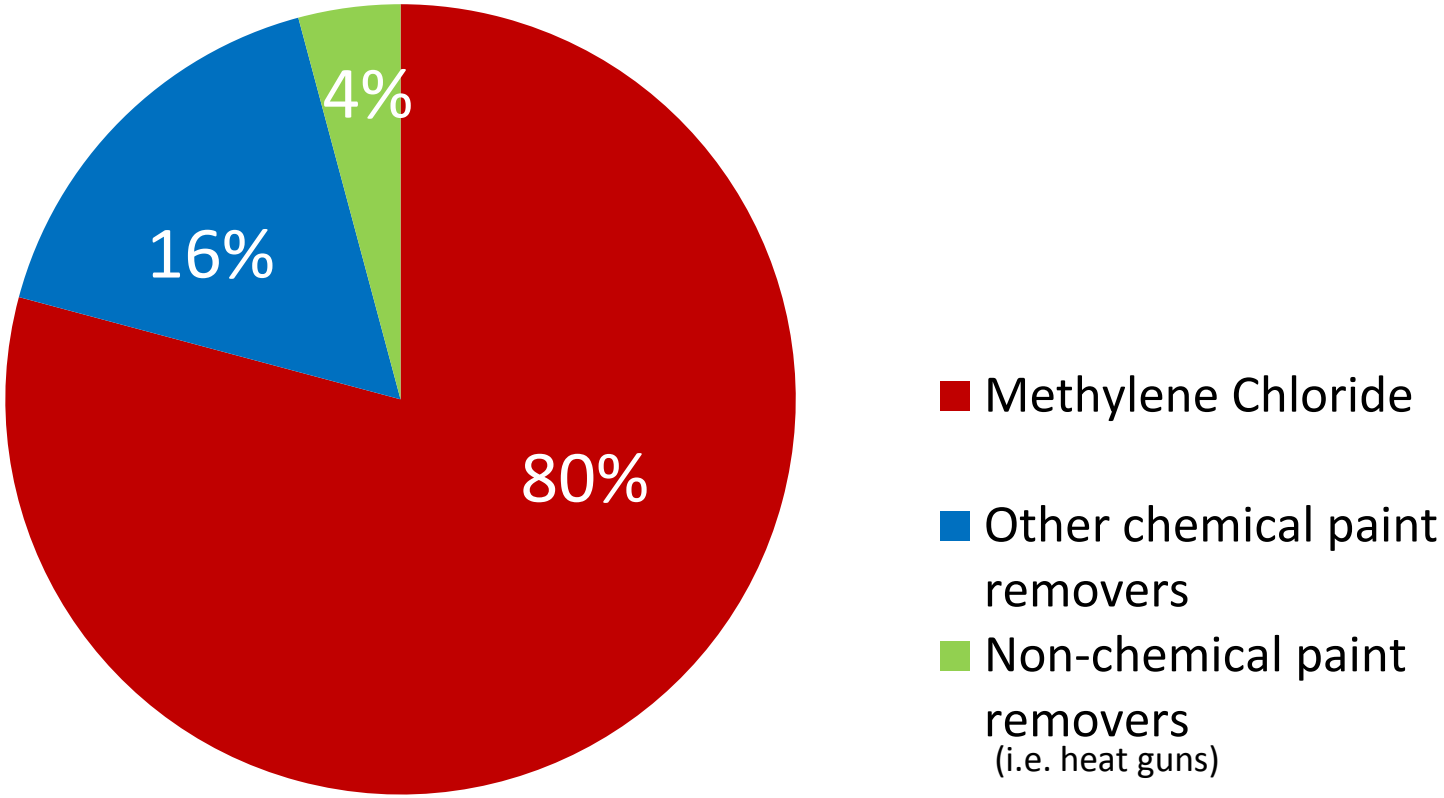

Residential job in SF


Small cabinet refinishing site (women)

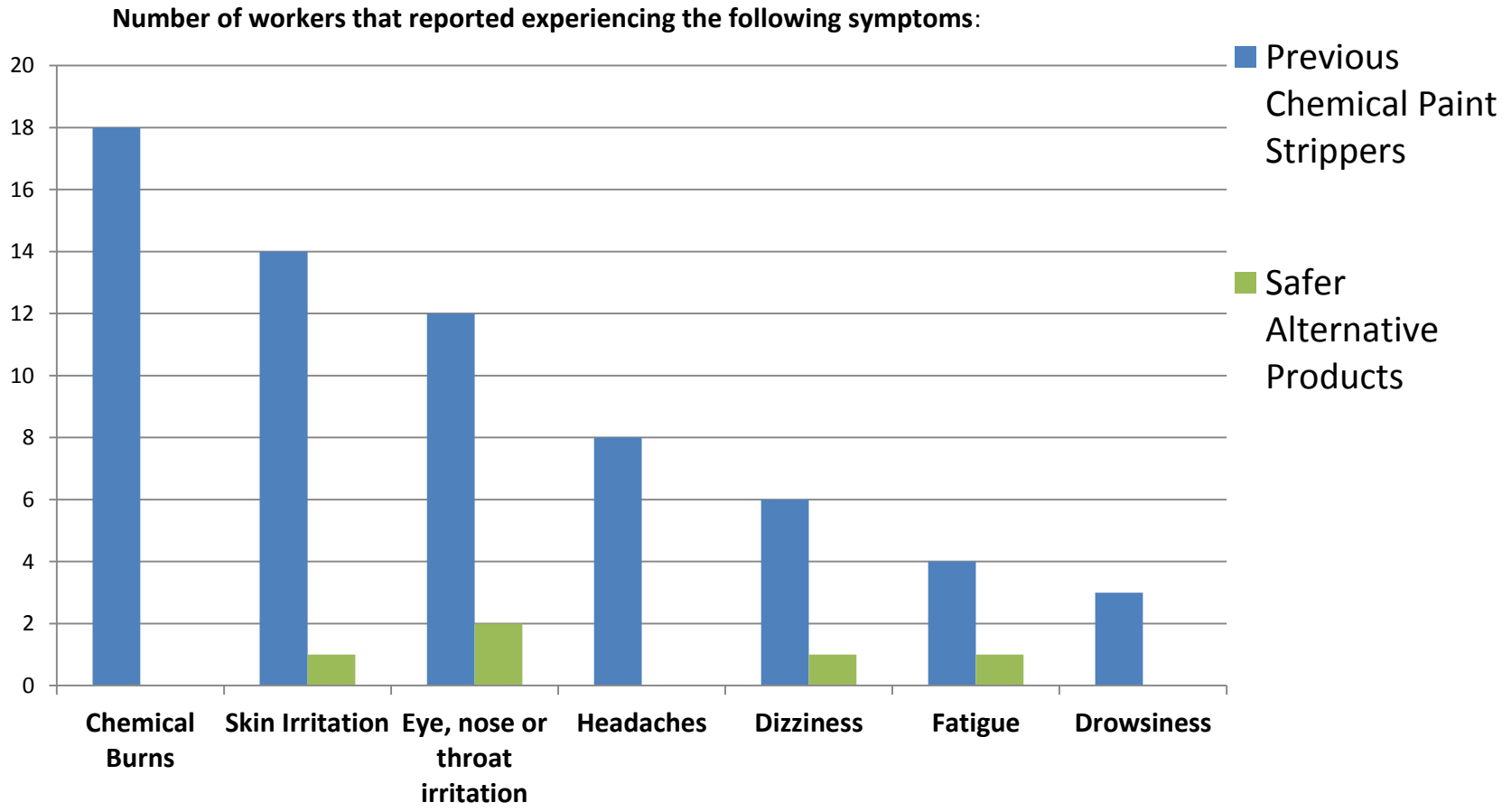

Commercial lead abatement union SF site

Baseline Interviews

Products currently used for paint stripping:



Health symptoms associated with different paint stripping products

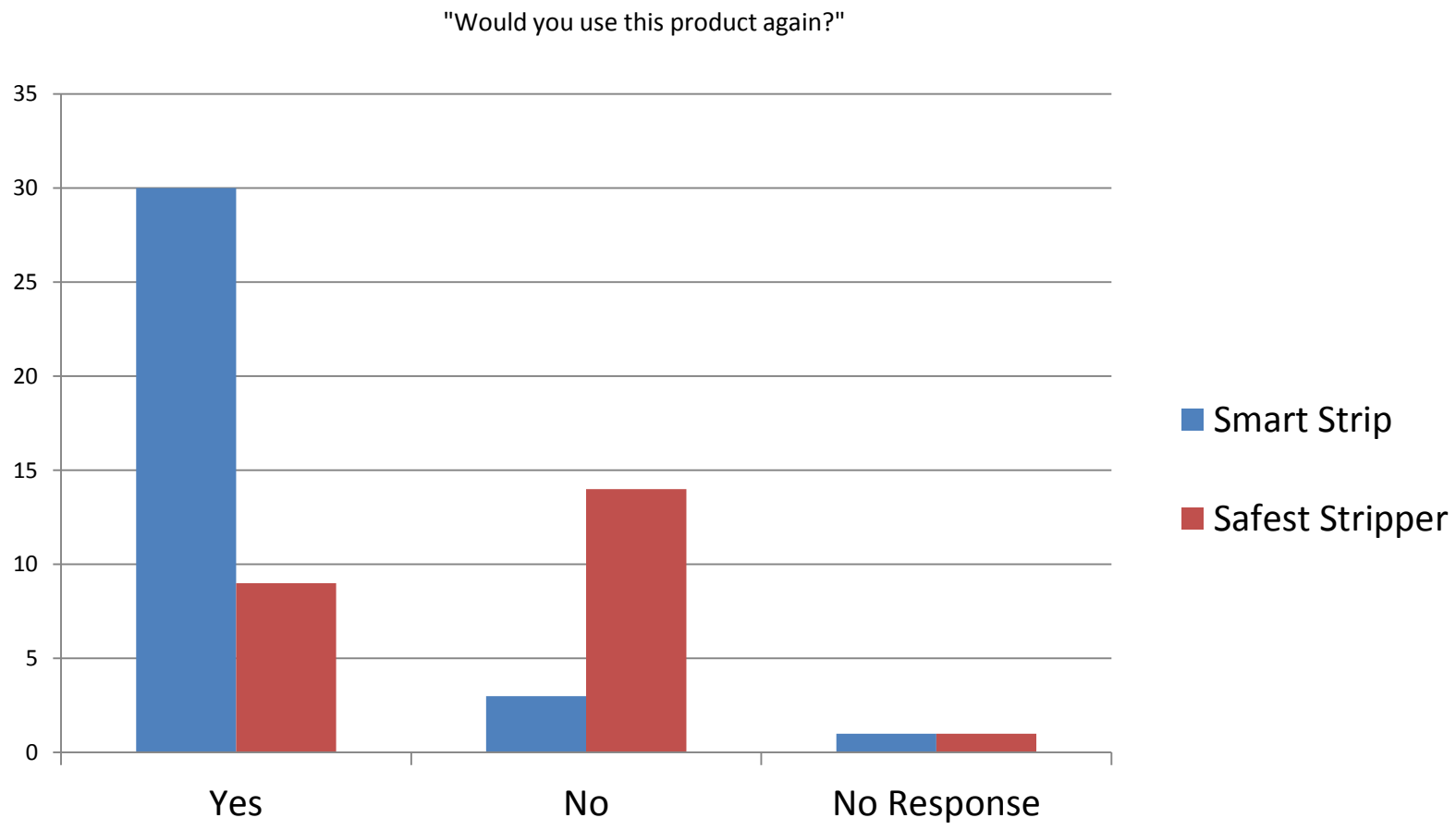


Safer Alternative Ratings

5 = Excellent 4=Very Good 3=Good 2=Fair 1= Poor

How would you rate the…	Smart Strip n=34 responses	Safest Stripper n=24 responses
Overall Performance	3.10	1.88
Removal	3.23	1.92
Speed	2.69	1.55
Ease	3.98	3.42

Workers:
Would you use this product again?



Worker Quotes and Anecdotes:

SmartStrip

- “It’s a good product for removing single coatings”
- “Jasco (MeCl product) works with a single application, SmartStrip needs 3”
- “It doesn’t burn your skin like Jasco does”
- “It works in removing the paint, it’s not very dangerous & doesn’t burn the skin”
- “It's safe so I like that but it takes kind of long”

Safest Stripper

- “Did half the work of SmartStrip”
- “Terrible”
- “Doesn’t work”
- “Did not remove the paint”
- “The problem is that sometimes homes have 5-6 layers of paint and this product only removes one layer at a time. But it is safer.”

Poster game for tailgate training

Erika & Jeremy conducting tailgate training using board game

Worker Pocket Guide

Prior to using a product, it is important to know what hazards the chemical ingredients might involve.

This pamphlet is designed to assist you in understanding the hazards, the required personal protective equipment, and how to identify the safety ranking of each product.

If you are experiencing any symptoms please contact a medical professional immediately.

For more information on paint stripper production selection, go to: www.cdph.ca.gov/StripPaintSafely

For more information on Personal Protective Equipment requirements, go to: www.cdph.ca.gov/programs/ohb/pages/methylenechloride.aspx

Occupational Health Internship Program

California Department of Public Health

Prefered / *preferidos*	Use with caution / *use con cuidado*	Extreme caution / *cuidado extremo*	Not recommended / *no se recomienda*
Benzyl Alcohol Products	Caustics	N-Methyl Pyrrolidone (NMP)	Methylene Chloride based
Hazards /*peligros*:	Hazards /*peligros*:	Hazards /*peligros*:	Hazards /*peligros*:
Eye, nose, & throat irritation *irritación de ojos, nariz or garganta*	Eye injuries *lesiones en los ojos*	Reproductive system harm *daño al systema reproductivo*	Neurological Effects *efectos neurológicos*
Lung irritation *irritación de los pulmones*	chemical burns *quemaduras químicas*		Heart Attacks *ataques al corazón*
Skin irritation *irritación de la piel*			Death *muerte*
Note: Asthmatics should NOT use these products *Asmáticos NO deben usar estos productos*			Note: Paint strippers containing Methylene Chloride are EXTREMELY toxic. *Removedores de pintura con Methylene Chloride son EXTREMADAMENTE toxicos.*

Prefered / Preferidos	Use with caution / Use con cuidado	Extreme caution / Cuidado Extremo	Not recommended / No recomendado
Look for these active chemical ingredients on the label when selecting a product /*Busque estos ingredientes en la etiqueta al seleccionar un producto:*			
Benzyl Alcohol **Soy-Based** **Dibasic Esters**	**Hydroxide** **Magnesium Hydroxide** **Calcium Hydroxide**	**N-Methyl Pyrrolidone (NMP)**	**Methylene Chloride** **Toluene** **Methanol**
Chemical goggles Gloves: Nitrile	Chemical goggles and face shield Apron Gloves: Caustic-resistant, neoprene	Chemical goggles Gloves: Butyl rubber Respirator: Organic Vapor cartridge	Chemical Goggles Gloves: Polyvinly Alcohol (PVA) Respirator: Supplied air respirator

In closing…

- Difficult to assess impact of general outreach on its own as there are many variables (#layers of paint, time, materials etc.)
- Raised awareness for safer alternative products with key audiences: paint store managers, contractors, unions, workers
- Provided workers and supervisors with a hands on experience using safer products
- Obtained performance data: safer substitutes show mixed results & do not perform as well as MeCl but…

In closing…

- Many contractors are no longer heavy users of MeCl and use only in difficult areas as hazards are too high and too difficult to manage

- Preference for caustics or citrus type removers over Me Cl but with their own hazards and waste issues there are openings for truly safer products…

- Consumption/demand will not shift unless policy & regulations change and R&D rushes in to meet new demand

and

In closing…

The Four P's are met:

Product: is it a solution? (does it perform well?)

Price: MeCl hazards are high & difficult to manage but… actual price is too high MeCl $28 vs. SmartStrip $48.

Place: Is it available? On the shelves? Can I buy it easily?

Promotion: messaging that is memorable and persuasive

For more information

You can also find more information on the HESIS/OHB/CDPH website:

http://www.cdph.ca.gov/programs/ohb/Pages/methylenechloride.aspx
or

Email: Jennifer.McNary@cdph.ca.gov