This webinar is adapted from the training curriculum *Seguridad en las Lecherías: Immigrant Dairy Worker Health and Safety Training* developed by the Upper Midwest Agricultural Safety and Health Center, Migrant Clinicians Network and the National Farm Medicine Center.

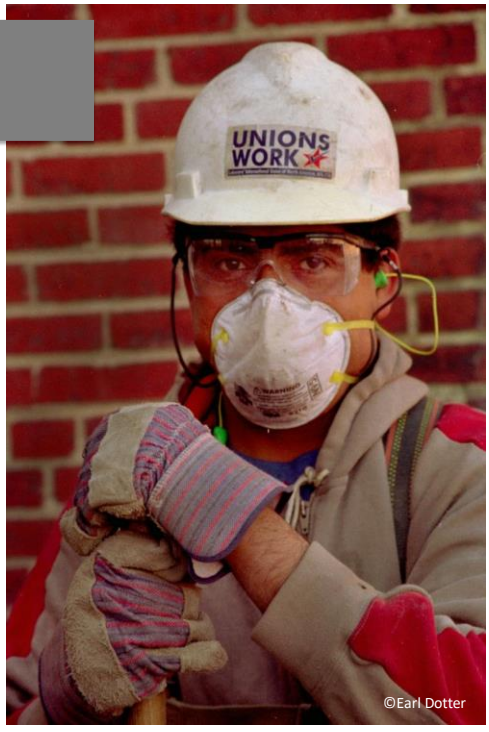
National Farm Medicine center

MIGRANT CLINICIANS NETWORK MCN

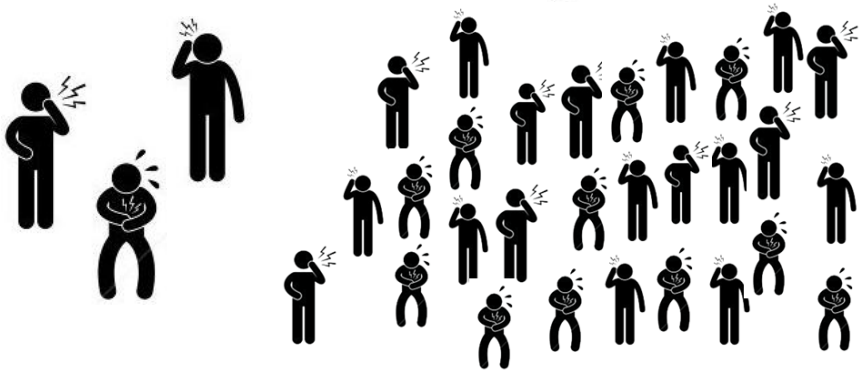
UMASH Upper Midwest Agricultural Safety and Health Center

We will learn:

- How workers are exposed to chemicals
- The effects of chemicals on worker health
- Basic safety practices
- How community health workers can help workers improve chemical safety on the job
- How to train workers about chemical safety



Despite the plant being sealed, the forklifts remained in use



Washington State Department of
Labor & Industries

Different Forms of Chemicals

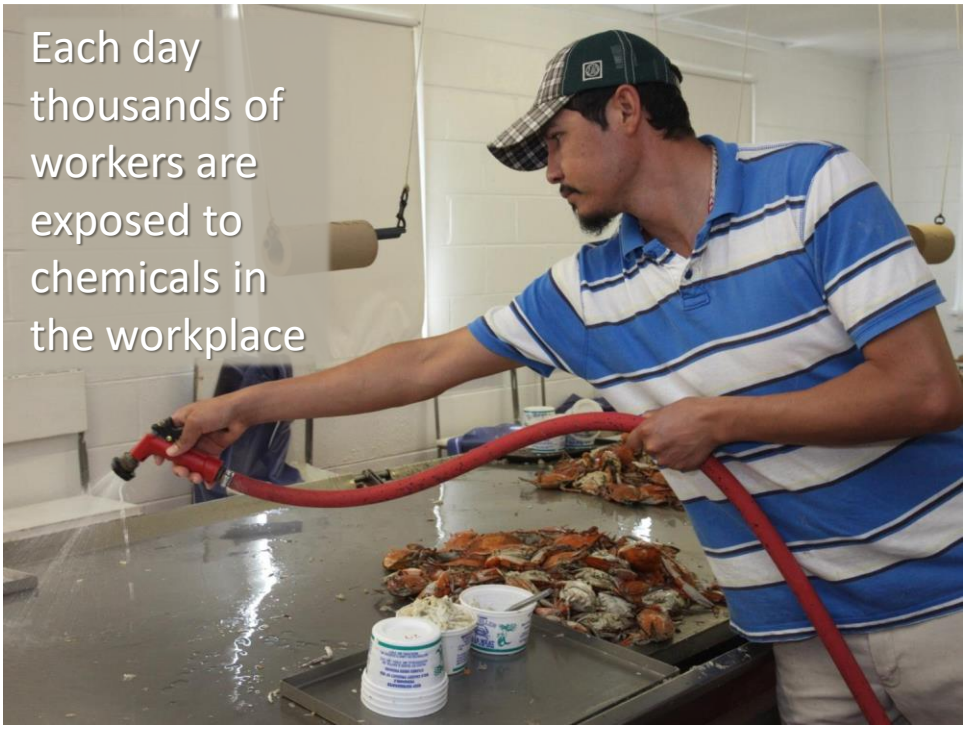
Solid

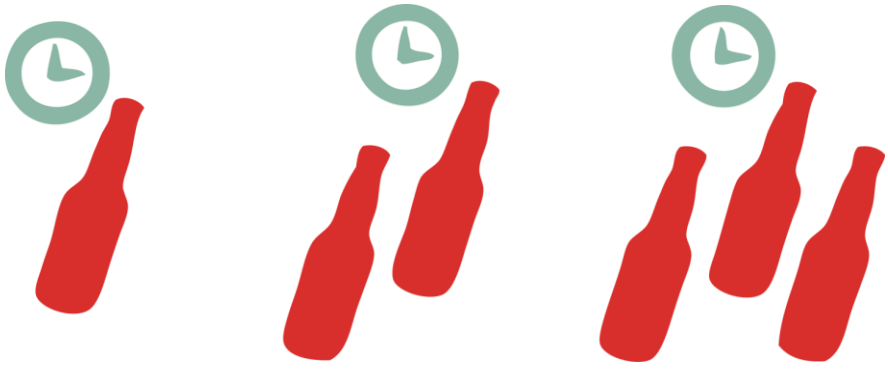
Liquid

Gas

Health Hazard

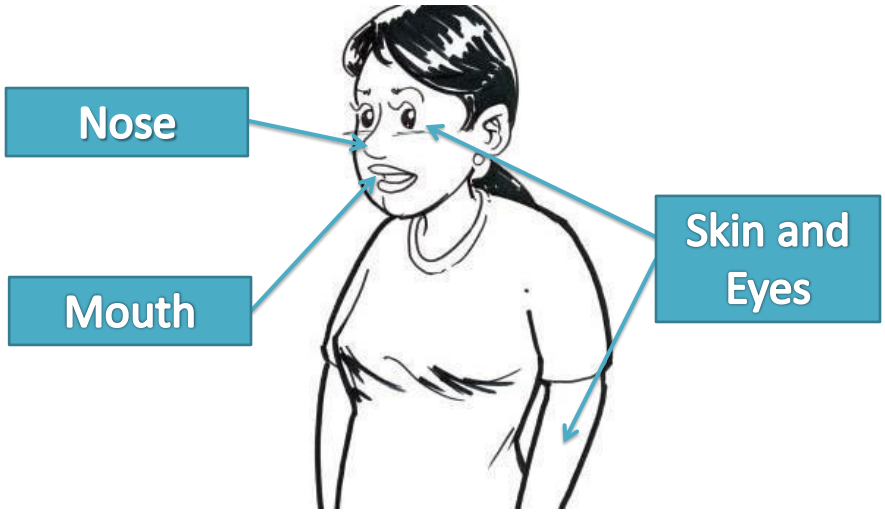
Do you know someone who has been harmed or become ill from working with chemicals?





Dose-time relationship

Routes of Exposure



Which of the following DOES NOT contribute to the way in which chemicals affect an individual?

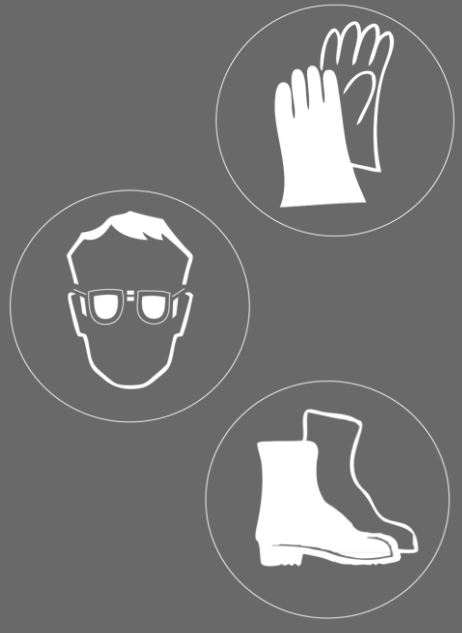
Other factors that impact how chemicals harm you

- ✓ Type of chemical
- ✓ Gender
- ✓ Age
- ✓ Health condition
- ✓ Body size
- ✓ Duration of exposure

Routes of Exposure

How can workers protect themselves from ammonia exposure?

Personal protective equipment for detergents



Other common exposures

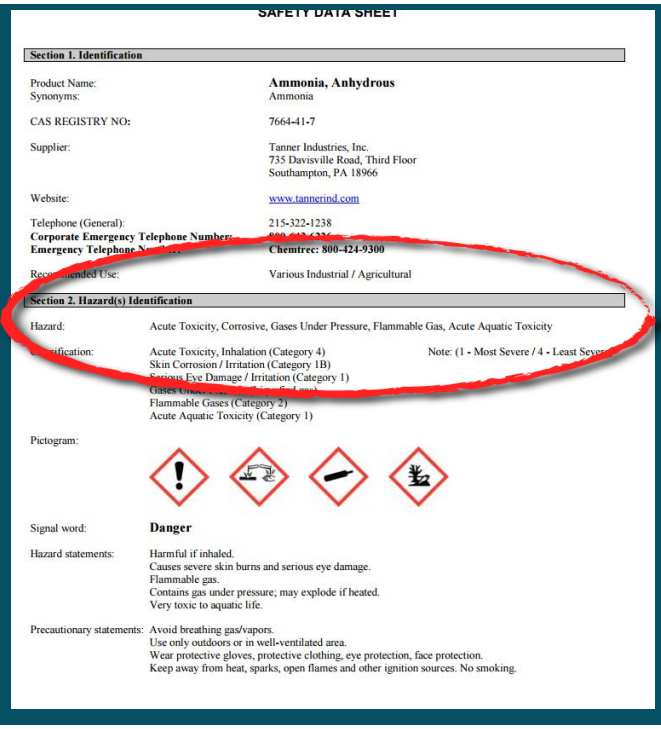
Pesticide application in the field

Workers are required to receive chemical safety training in a language they understand.

Labels

Safety Data Sheet (SDS)

Which of the following information is provided in the Safety Data Sheet?



SAFETY DATA SHEET

Section 1. Identification

Product Name:	**Ammonia, Anhydrous**
Synonyms:	Ammonia
CAS REGISTRY NO:	7664-41-7
Supplier:	Tanner Industries, Inc. 735 Davisville Road, Third Floor Southampton, PA 18966
Website:	www.tannerind.com
Telephone (General):	215-322-1238
Corporate Emergency Telephone Number:	
Emergency Telephone N	**Chemtrec: 800-424-9300**
Recommended Use:	Various Industrial / Agricultural

Section 2. Hazard(s) Identification

Hazard:	Acute Toxicity, Corrosive, Gases Under Pressure, Flammable Gas, Acute Aquatic Toxicity
Classification:	Acute Toxicity, Inhalation (Category 4) — Note: (1 - Most Severe / 4 - Least Severe) Skin Corrosion / Irritation (Category 1B) Serious Eye Damage / Irritation (Category 1) Gases Under Pressure (Liquefied) Flammable Gases (Category 2) Acute Aquatic Toxicity (Category 1)
Pictogram:	
Signal word:	**Danger**
Hazard statements:	Harmful if inhaled. Causes severe skin burns and serious eye damage. Flammable gas. Contains gas under pressure; may explode if heated. Very toxic to aquatic life.
Precautionary statements:	Avoid breathing gas/vapors. Use only outdoors or in well-ventilated area. Wear protective gloves, protective clothing, eye protection, face protection. Keep away from heat, sparks, open flames and other ignition sources. No smoking.

applicable. See section 13 (Disposal Considerations).

NFPA Rating:

HMIS Classification:

ANHYDROUS AMMONIA	
HEALTH	3
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	H

NFPA Numbering System
0 = Least Haza... 4 = Most Hazardous

HMIS Hazard Index:
0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe

Section 3. Composition / Information on Ingredients

CHEMICAL NAME: Ammonia, Anhydrous
CAS REGISTRY NO: 7664-41-7
SYNONYMS: Ammonia
CHEMICAL FAMILY: Inorganic nitrogen compounds
COMPOSITION: 99+% Ammonia

Section 4. ... Aid Measures

IF INHALED: Immediately remove ... fresh air and keep comfortable for breathing. ... use or severe exposure or if irritation persists, breathing difficulties or respiratory symptoms arise, seek medical attention. If not breathing, administer artificial respiration. If trained to do so, administer supplemental oxygen, if required.
IF ON SKIN: Immediately rinse skin and contaminated clothing with plenty of water before removing clothes. Clothing that has been contacted by liquid ammonia may freeze to the skin. Thaw frozen clothing from skin before removing. Flush skin with copious amounts of tepid water for a minimum of 20 minutes. Do not rub or apply topical, occlusive compounds, such as ointments, certain creams, etc., on affected area. For liquid ammonia contact, seek immediate medical attention. For severe vapor contact or if irritation persists, seek medical attention.
IF IN EYES: Immediately rinse continuously with copious amounts of tepid water for a minimum of 20 minutes. Eyelids should be held apart and away from eyeball for thorough rinsing. Do not rub or apply topical, occlusive compounds, such as ointments, certain creams, etc., on affected area. Seek medical attention.
IF SWALLOWED: Rinse mouth. Do not induce vomiting. If conscious, give large amounts of water to drink. May drink orange juice, citrus juice or diluted vinegar (1:4) to counteract ammonia. If unconscious, do not give anything by mouth. Seek medical attention.

NOTE TO PHYSICIAN: Respiratory injury may appear as a delayed phenomenon. Pulmonary edema may follow chemical bronchitis. Supportive treatment with necessary ventilation actions, including oxygen, may warrant consideration.

Section 8. Exposure Controls / Personal Protection

EXPOSURE LIMITS FOR AMMONIA: (Vapor)

OSHA	50 ppm,	35 mg / m^3 PEL	8 hour TWA
NIOSH	35 ppm,	27 mg / m^3 STEL	15 minutes
	25 ppm,	18 mg / m^3 REL	... hour TWA
	300 ppm,	IDLH	
ACGIH	25 ppm,	18 mg / m^3 TLV	8 hour TWA
	35 ppm,	27 mg / m^3 STEL	15 minutes

PROTECTIVE EQUIPMENT:
EYE/FACE PROTECTION: Chemical splash goggles should be worn when handling anhydrous ammonia. A face shield can be worn over chemical splash goggles as additional protection. Do not wear contact lenses when handling anhydrous ammonia. Refer to 29 CFR 1910.133 for OSHA eye protection requirements.

SKIN PROTECTION: Ammonia impervious gloves and clothing (such as neoprene, butyl and Teflon) should be worn to prevent contact during normal operations, such as loading/unloading and transfers.
Chemical boots can be worn as additional protection.

RESPIRATORY PROTECTION: Respiratory protection approved by NIOSH for ammonia must be used when applicable safety and health exposure limits are exceeded. For escape in emergencies, NIOSH approved respiratory protection should be used, such as a full-face gas mask and canisters/cartridges approved for ammonia or SCBA. A positive pressure SCBA is required for entry into ammonia atmospheres at or above 300 ppm (IDLH).
Refer to 29 CFR 1910.134 and ANSI: Z88.2 for OSHA respiratory protection requirements.
Also refer to 29 CFR 1910.111 for respiratory protection requirements at bulk installations.

VENTILATION: Local exhaust should be sufficient to keep ammonia vapor below applicable exposure standards.

FOR A HAZARDOUS MATERIAL RELEASE RESPONSE: Level A and/or Level B ensemble including positive-pressure SCBA should be used. A positive pressure SCBA is required for entry into ammonia atmospheres at or above 300 ppm (IDLH).

gases o vapores inflamables. Deben usarse detectores de gas cuando existe la posibilidad de que se produzcan escapes de gases tóxicos. En los sitios próximos a cualquier posible exposición debe haber regaderas y estaciones de emergencia para lavarse los ojos. Use equipo a prueba de explosiones. Asegúrese de cumplir con todos los reglamentos nacionales y locales.

Equipo de ... personal: Anteojos de protección. Guantes. Ropa de protección. Ventilación insuficiente: use protección para respirar. Careta de plástico para protección del rostro.

Emergencies

Call 911

- Address of the work place
- Condition of sick or injured worker
- Name of the chemical or explanation of the accident

The role of CHWs in promoting chemical safety at work.

How to train workers about chemical safety

- Trainer guide
- Activities
  - ✓ *Hand lotion*
  - ✓ *Games with prizes for the winner*
- Demonstrations
  - ✓ *Use Personal Protective Equipment*
  - ✓ *How to put on and take off gloves*
  - ✓ *How to wash hands*
  - ✓ *Bring copies of labels and Safety Data Sheets*

You can do it!

Learn:

- Policies and procedures
- Risks
- How to protect yourself
- What to do in an emergency
- Attend trainings

Use:

- Personal Protective Equipment
- Appropriate clothes and shoes

Practice:

- Stop, look, and think safely before doing
- Report any dangers or injuries

?

Post test polling questions

Which of the following can contribute to the way in which chemicals affect an individual? Select all that apply.

a) Body size
b) Body temperature
c) Age
d) Duration of exposure

Workers are required to receive chemical safety training in a language they understand.

- True
- False

Which of the following information is provided in the Safety Data Sheets?

a) First Aid measures
b) Handling and storage
c) Symptoms of exposure
d) Instructions for disposal
e) All of the above

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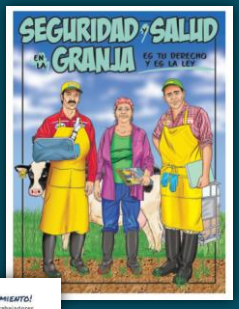
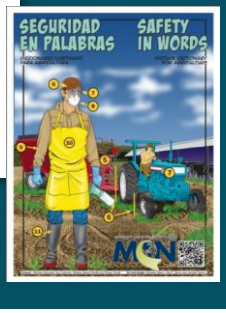
Resources

- *Safety and Health on the Farm- It's your right and It's the Law*
- OSHA webpage- Hazard Communication Standard
- *Safety in Words*





Thank you for your participation

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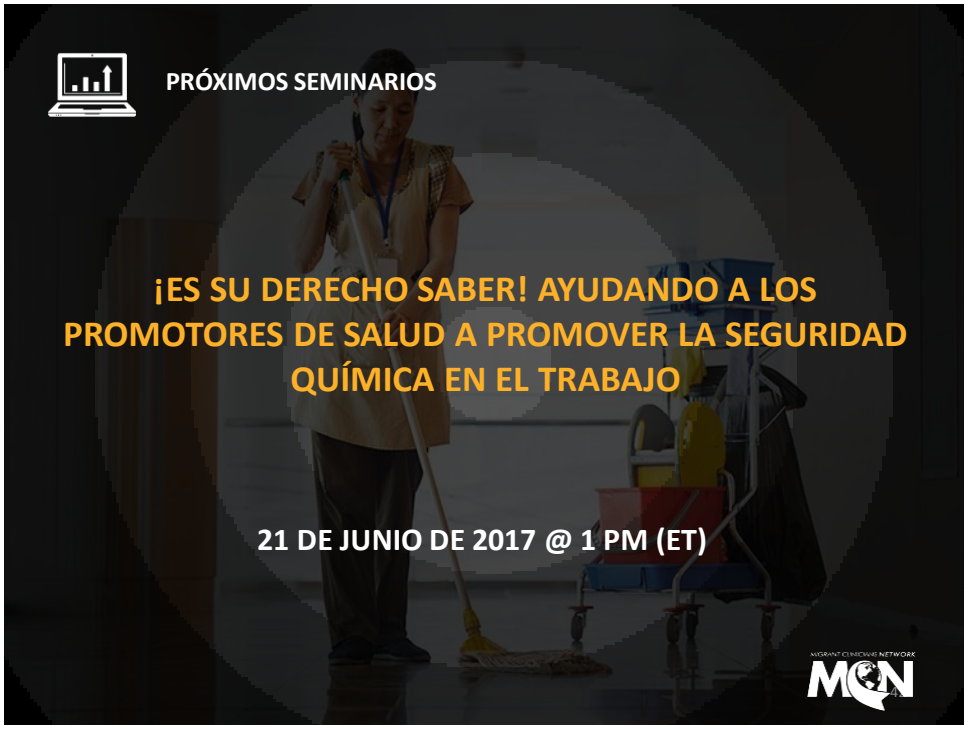
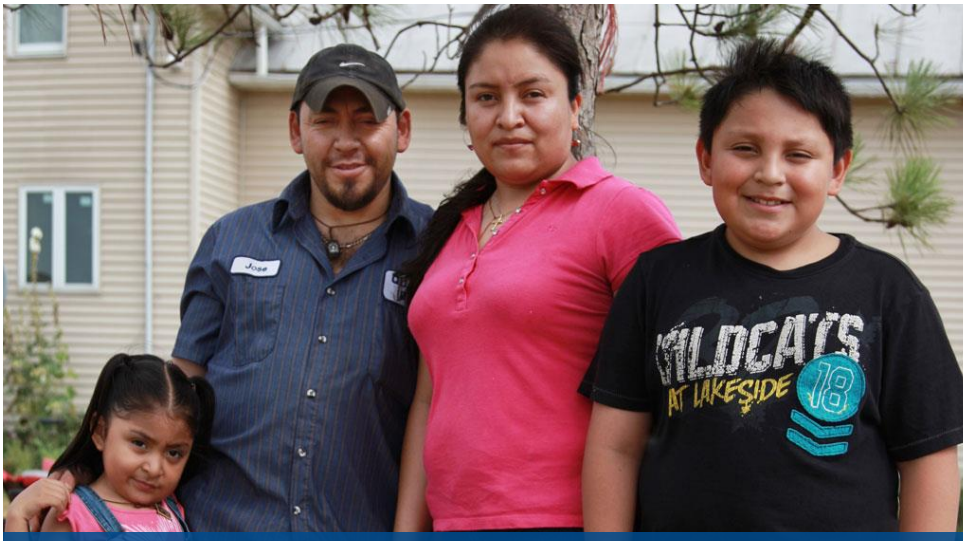
MIGRANT CLINICIANS NETWORK





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This presentation is adapted from Lesson 5: **Working Safely with Chemicals**, an educational module from *Seguridad en las Lecherías: Immigrant Dairy Worker Health and Safety Training Curriculum.*

http://www.migrantclinician.org/seguridad

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