

Unit A: General Agricultural Machinery

Lesson 4: Maintaining A Safe Environment around Agricultural Machinery

Terms to Know

- Caution
- Danger
- Flammable
- Hazard
- Material safety data sheet (MSDS)
- Personal Protective Equipment (PPE)
- Poison
- Safety
- warning

What does safety mean?

- Safety is the prevention of injury and loss
- It would be impossible to make an activity or place totally safe. We can, however, take steps to make an activity or place as safe as possible.
- General safety guidelines should be considered at all times.

How can you practice safety?

1. Be aware of safety at all times. Always pay attention to what is going on around you and the potential dangers presented.
2. Think before you act. Rushing into things can often lead to accidents.
3. Learn safe practices and follow them every time.
4. Note where dangers are and avoid them.
5. If you see a potential safety risk, alert others of the danger.

How can you practice safety?

6. Always read and follow directions carefully and completely.
7. Keep all tools and equipment in good condition.
8. Always use the proper safety equipment.
9. Do not take unnecessary risks.
10. Follow all safety rules.

How can you practice safety?

- To practice safety, we must be prepared and have the proper tools.
 - Education
 - Signs
 - MSDS
 - Proper storage
 - Emergency response

Education

- Education is an important step in keeping safe.
- Knowing what things to look out for helps us avoid dangers.
- Getting safety training before using a tool or performing an activity makes it easier for us to act safely.

Signs

- Many signs are posted to help keep us safe.
- Always read and obey all signs.
- Learn what different signs mean and the dangers they point out.

MSDS

- All chemicals are shipped with an MSDS. A ***material safety data sheet (MSDS)*** is a sheet containing information about the safe use of a chemical.
- An MSDS should accompany not only agricultural chemicals but also chemicals used in school laboratories.
- The information provided in the MSDS helps us use chemicals properly and stay safe.

Material Safety Data Sheet (MSDS)

MATERIAL SAFETY DATA SHEET
LAMOTTE COMPANY
PO BOX 329 • CHESTERTOWN • MARYLAND • 21559
TELEPHONE • FOR INFORMATION 410-778-3100
IN AN EMERGENCY LOCAL POISON CONTROL CENTER

Name: Alkalinity Indicator pH 8-3 Code # 3870

I • PRODUCT IDENTIFICATION

| Name | CAS # | % | PEL | TLV |
|------------|---------|----|---------|---------|
| 2-propanol | 67-63-0 | 47 | 400 ppm | 400 ppm |

II • HAZARDOUS INGREDIENTS

| Name | CAS# | % |
|-----------------|---------|-----|
| Phenolphthalein | 77-09-8 | 0.5 |

III • NON-HAZARDOUS INGREDIENTS EXCEPT WATER (7732-18-5)

IV • PHYSICAL DATA
Appearance: Clear, colorless liquid
Solubility in water: Soluble
Boiling point: Unknown
Vapor pressure (mmHg): Unknown
Odor: Alcohol
pH: NA
Melting point: NA
Vapor Density (Air=1): Unknown

V • FIRE & EXPLOSION DATA
Flash point (method used): Unknown
Flammable limit: LEL: Unknown
Extinguishing Media: Dry chemical or CO₂ extinguisher, water
UEL: Unknown

Spray
Special Fire Fighting Procedures: NA
Unusual Fire & Explosion Hazard: NA

VI • REACTIVITY DATA
Stability: Stable | X | Unstable |
Conditions to Avoid: Heat and
Incompatibility (Materials to Avoid):
Hazard: composition Proportions
Sizers

Proper Storage

- Dangerous chemicals and other solutions should be stored properly.
- Cabinets that can be secured should be used to keep harmful substances and the people around them safe.

Emergency Response

- Even with all of the proper safety precautions, accidents do happen.
- The response time can make the difference between a minor accident and a serious injury.
- Know how to respond.

What are hazards?

- A hazard is a danger.
- We can often see danger, but we cannot always avoid it. Even though hazards are around us, we can take steps to reduce the hazards we face.

Where are hazards?

- There are many areas in agriculture where hazards exist.
- Hazards can be found on the farm, in agribusiness, and in and around our homes.
- Plants and animals can always be hazards.
- Knowing where potential hazards exist can help us avoid them.

Where are hazards?

- Hand tools (hammers, pliers, screwdrivers, etc.) should be in good working condition and used only for their intended purpose.

Where are hazards?

- Power tools (saws, drills, grinders, etc.) are particularly hazardous. They should always be used properly according to the manufacturer's directions. All safety devices should be in place and working properly.

Where are hazards?

- Engines and fuel can be hazardous. Prevent burns by being very careful of heat and hot parts. When working with engines and fuel, good ventilation is necessary. Fuels should always be stored in proper containers in a safe location.

Where are hazards?

- Working with electricity requires great care to avoid hazards. Be sure all electrical devices are working properly and in good condition.

Where are hazards?

- Tractors and other equipment involve using power to do work. Training on proper usage and operating at a reasonable speed are ways to decrease the danger of operating these machines. Be sure to wear a seatbelt and make sure that all safety shields are in place and functioning properly.

Where are hazards?

- Chemicals must be handled carefully to avoid hazards. Always know what a chemical is intended to be used for and use it accordingly. If in doubt, check the MSDS. Follow all safety instructions and clean up any surface that came in contact with chemicals.

Where are hazards?

- Working near fire or heat requires great care. Heat is especially dangerous because it is often invisible.

Where are hazards?

- Be careful when working around animals. Animals can cause many injuries to humans, especially to children. The best way to avoid injury is to understand how animals behave and always use caution around them.

Where are hazards?

- Plants can be hazardous. Some plants are poisonous. It is important to know what plants are around you and what plants you should be careful of.

How can household products be hazardous?

- Products we use around the home can be just as dangerous as those found on a farm or in a laboratory.
- Many household products can hurt your eyes, burn your skin, and even make you sick if they aren't used properly or if the label isn't followed carefully.
- These products are generally called poisons.

How can household products be hazardous?

- A *poison* is a substance that, even in small quantities, can cause illness or death.
- Most poisonous liquids have special words or symbols on their labels that tell us that they could be hazardous.
- It is important that we look for these special words and symbols and understand their meaning.

How can household products be hazardous?

- ***Caution***: Indicates care should be taken when using the product.
- ***Warning***: Notifies us in advance that the product presents a danger if directions are not followed.
- ***Danger***: There is a potential exposure to injury.
- ***Flammable***: The product is capable of being easily caught on fire.

How can household products be hazardous?

- All poisons should be stored in special places that are out of the reach of children and pets.
- Any products that the labels have fallen off of should be properly discarded. These are dangerous because you cannot tell what is in them, and you do not know how to properly handle them.

Personal Protective Equipment

- Proper protective equipment must always be worn and be worn properly when hazards are involved.
- Personal protective equipment (PPE) is equipment that helps protect people from certain kinds of injury.

Personal Protective Equipment

- The proper PPE depends on the activity and the hazards involved.
- Equipment is available for many different purposes: eye, hearing, skin and body, and respiratory protection.

Common PPE

1. Rubber boots and steel-toed shoes
2. Earmuffs (hearing muffs)
3. Particle mask
4. Face shield
5. Safety glasses
6. Goggles
7. Earplugs (corded or uncorded)
8. Apron
9. Gloves
10. Eyewash bottle

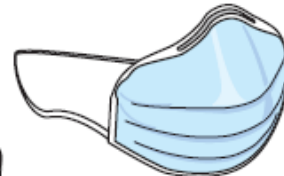
Common PPE



Rubber Boots and
Steel-Toed Shoes



Earmuffs (Hearing Muffs)



Particle Mask



Safety Glasses
with side shields and brow guard



Goggles
(double lens)



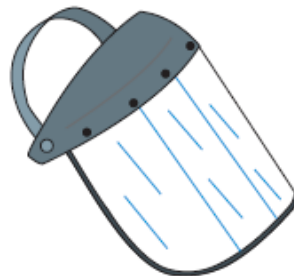
Corded and Uncorded
Earplugs



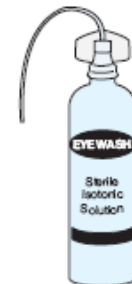
Apron



Gloves



Face Shield



Eyewash Bottle

Review/Summary

- What does safety mean? How can you practice safety?
- What are hazards and where can they be found?
- How can household products be hazardous?
- What are some common types of personal protective equipment?