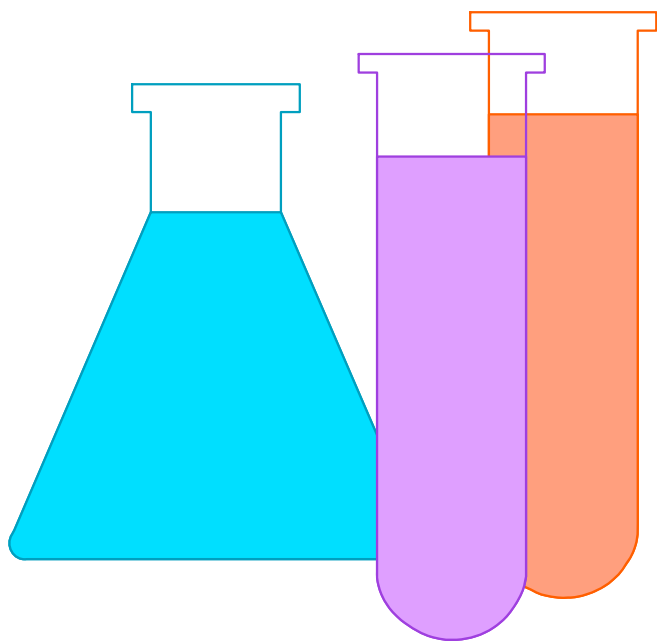


Hazard Communication

LSU



**Environmental Health and Safety
Public Safety Building, Suite 126
578-5640**

Questions: Pat West

Hazard Communication

Provides information to employees on how to recognize and deal with chemical hazards through:

- Training on Material safety Data Sheets
- How to use container labels
- How to protect yourself

Chemical Hazards

Chemicals can have two kinds of hazards

- **Physical Hazards-** a sudden violent reaction such as an explosion or fire
- **Health Hazards-** The ability of a chemical to affect your health either quickly (acutely) or over a long period of time (chronic)

Physical Hazards

Chemicals that pose a **physical hazard** are:

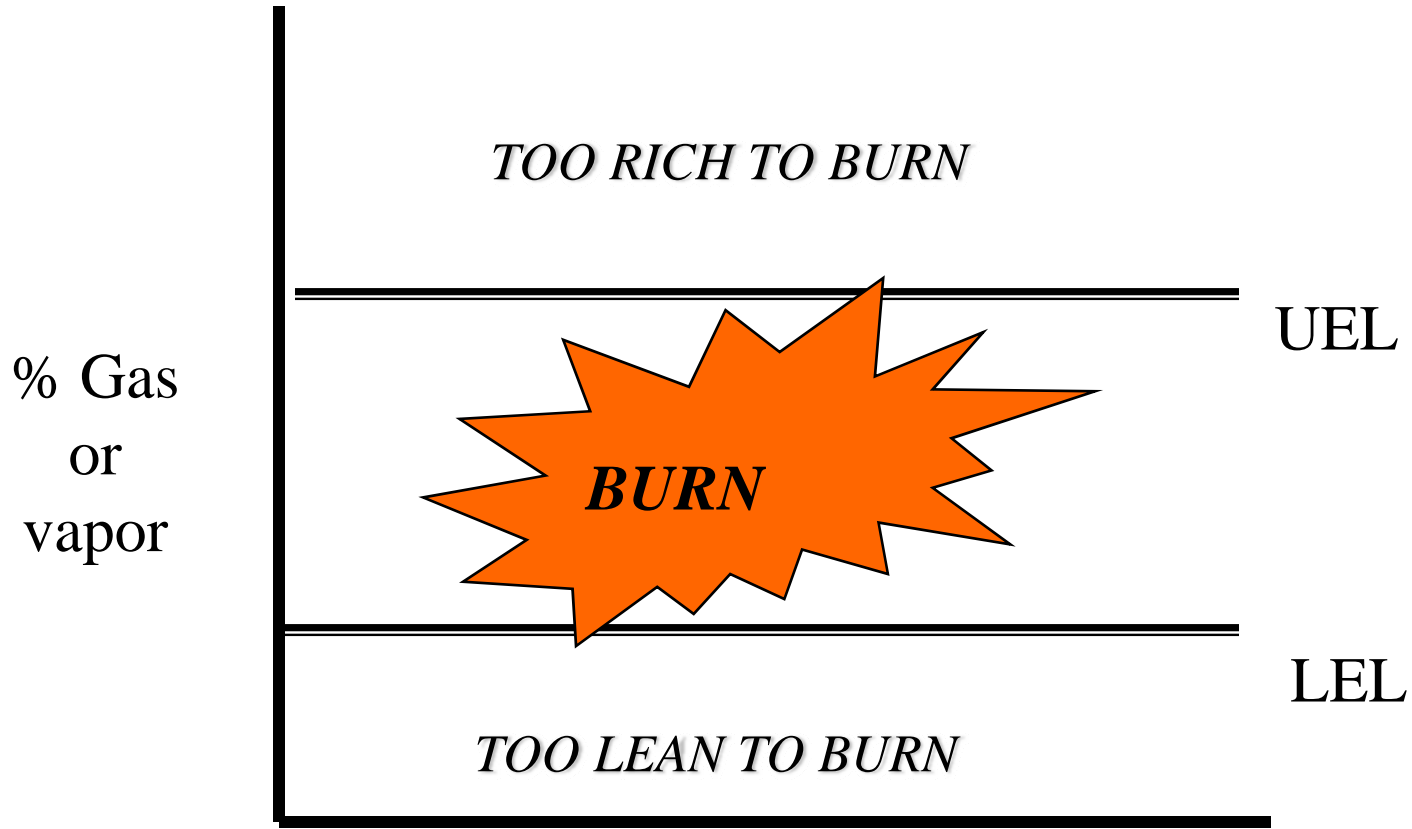
- Flammable-”Flammable, combustible, explosive”
- Explosive-”organic peroxide”
- Reactive-”water reactive, Oxidizer”

Physical Hazards

Controlled by proper handling.

Check the MSDS for best way to handle, mix and store the material physical hazards:

- Reactivity
- Incompatibility
- Flash point
- Storage precautions
- Flammable limits- LEL- “Lower explosive limit”
UEL- “Upper explosive limit”



AIR

Health Hazards

A chemical is considered a health hazard if it causes adverse health effects when a person is over-exposed. Health effects can be:

- **Acute** -quickly occurs such as burning, irritation, immediate damage to internal organs., or
- **Chronic** occurs over time. Examples of chronic health effects are liver disease, cancer, asbestosis, and lead poisoning.

Health Hazards

Chemicals in the following groups are health hazards:

- **Carcinogen**-a substance that may cause cancer
- **Corrosive**-a substance, such as acid, that destroys or changes skin tissues on contact
- **Highly toxic**- a substance that can kill quickly even if exposure is small and does not last long
- **Toxic**-causes damage to human organs

Health Hazards

continued

- **Irritant**-harms the skin, lungs or eyes at the sight of contact
- **Sensitizer**-a substance which causes allergic reaction that gets worse with subsequent exposures.
- **Target organ effects**-a substance that damages a specific body organ or system such as the liver, kidneys, reproductive system or central nervous system.
- **Teratogen**-a substance that causes harm to unborn children

Health Effects

Will not occur if you prevent or control exposure

Exposure limits: specified on the MSDS, some common terms:

- **PEL**- Permissible Exposure Limit- cannot exceed this amount when averaged over an 8 hour work day
- **TLV**-Threshold Limit Value-Recommended value not to exceed over an 8hour work day
- **STEL**-Short Term Excursion Limit-concentration you can safely be exposed to over a 15 minute period
- **IDLH**-Immediately Dangerous to Life and Health

•See next page

IDLH

Immediately dangerous to Life and Health

A concentration of exposure which over a 15 minute period can cause irreversible adverse health effects up to and including death.

Adverse health effects will NOT occur if you prevent or control exposure

Controlling Exposure

Facilities try to keep exposure below PEL's or TLV's through engineering controls or good work practices. Some materials will require using PPE (Personal Protective Equipment) to limit exposure. The type of PPE to use depends on **route of entry**;

- **Skin absorption**-gloves, goggles, rain or acid suit
- **Inhalation**-respirator, local ventilation
- **Ingestion**-limiting food and tobacco items in area, gloves
- **Injection**-gloves

Material Safety Data Sheet

your source of information!!

- **Physical Characteristics**-smell, color, flash point
- **Physical Hazards**-ability to react, explode or cause a fire
- **Health Hazards**-how material will harm your health
- **Route of entry**-how material gets into your body
- **Safe Handling and use**-precautions and protective measures
- **Control measures**-PPE, work practices, controls
- **Exposure limits**-exposure level considered safe
- **Emergency and First Aid procedures**-fire, spill, leak procedures

Labels

1. All containers must be labeled
2. Name of material on label match the MSDS
3. Specific hazard items (Physical and Health hazards) stated

NFPA Diamond

HEALTH HAZARD

- 4 Deadly
- 3 Extreme danger
- 2 Hazardous
- 1 Slightly hazardous
- 0 Normal material

FIRE HAZARD Flash Points

- 4 Below 73°F
- 3 Below 100°F
- 2 Above 100°F, Not Exceeding 200°F
- 1 Above 200°F
- 0 Will not burn

SPECIFIC HAZARD

Oxidizer	OX
Acid	ACID
Alkali	ALK
Corrosive	COR
Use NO WATER W	
Radioactive	*

REACTIVITY

- 4 May detonate
- 3 Shock and heat may detonate
- 2 Violent chemical change
- 1 Unstable if heated
- 0 Stable

Recorder No. 8008

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Chemical Safety

- Know hazards of Chemicals in your work area
- Know what to do in day-to-day operations and emergencies
- Wear proper PPE when required or when exposure potential exists
- Know emergency procedures for every chemical you use
- Know locations of safety showers, fire extinguishers, spill response material, and Exits
- If you notices signs of overexposure, leave area and summon help
- Wash hands frequently, and before eating or taking a break