HAZARD COMMUNICATION

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Bureau of Workers' Comp
PA Training for Health & Safety
(PATHS)

OSHA

29 CFR 1910.1200

(HCS-2012)

&

United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS, Rev 3)

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Intent - To provide employees with information to help them make knowledgeable decisions about chemical hazards in their workplace

Standard Requirements

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- Written program for each location to cover issues of chemical safety and hazard communication (HAZCOMM)
- Labels to identify each chemical
- Material Safety Data Sheets (MSDSs) (now SDSs under the Globally Harmonized System: GHS)
- Safe work procedures/practices
- Employee training on SDS information and safe chemical procedures and practices

Training

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- Upon initial employment
- When a new hazardous product/chemical is introduced into the workplace
- Change in process
- As deemed necessary by supervision/management

"Right to Know" Law

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- Ensures all employees' right to know the hazards of chemicals they work with at their job

- Mandates that employees must be provided with information about chemicals they work with through:
  - Information on chemical labels
  - Safety Data Sheets (SDSs)
  - Training on hazard communication
  - Written HAZCOMM plan

Why is a Standard Necessary?

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- To evaluate the hazards of all chemicals imported into, produced, or used in workplaces in the United States
- To prevent or minimize employee exposure to chemicals
- Because chemical exposure can contribute to serious health effects:
  - Heart ailments
  - Burns/rashes
  - Kidney/lung damage
  - Sterility
  - Cancer
  - Central nervous system damage

Globally Harmonized System

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"Globally Harmonized System" created by the United Nations

Also known as "GHS"

A system for standardizing chemical classification and labeling for world-wide implementation

Labels:

- ❑ Signal words (Danger/Warning)
- ❑ Hazard statements
- ❑ Precautionary statements
- ❑ Pictograms (9)

SDS-16 categories

Training

GHS

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Rationale:

"To provide a single, harmonized system to classify chemicals, labels and SDS with the primary benefit of increasing the quality and consistency of information provided to workers, employers and chemical users"*

Effective, in part, on June 26, 2012, with a built-in transition period and a fully effective date of June 1,2016

*Ruth Mayo, EHS Today, "GHS: The Power of One," December 1, 2009

Updating GHS/HCS

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- The adoption of this will affect the OSHA 29 CFR 1910.1200 Hazard Communication Standard with changes
- GHS is updated every two years
- Hazard Communication Standard, (HCS), to remain current, can be updated by:
  - Technical updates (minor terminology changes),
  - Direct final rules (for text clarification), and
  - Notice and comment rulemaking (for more substantive updates or changes)

OSHA HazComm Modifications due to GHS

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- Hazard classification of chemical hazards
- Revised labeling provisions that include requirements for:
  - Standardized signal words
  - Pictograms
  - Hazard statements
  - Precautionary statements
- Specified format for safety data sheets in 16 section format and
- Revisions to definitions of terms used in the standard and requirements for employee training on labels and Safety Data Sheets (SDS)

HCS Key Revisions also Include

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- Disclosure of PELs and voluntary threshold limit values (TLVs) established by the American Conference of Governmental Industrial Hygienists (ACGIH)
- Disclosure of carcinogen status from nationally and internationally recognized lists of carcinogens
- Inclusion of combustible dust in the definition of "hazardous chemical" covered on labels and SDS
- Workers be re-trained within 2 years of the publication of the final rule
- Mixtures (GHS)
  - Health hazards can be based on data for mixture
  - If no data, extrapolate from ingredient data or other similar mixtures to classify

HNOC: Hazards Not Otherwise Classified

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- Creation of a new category of hazards – "Hazards Not Otherwise Classified" (HNOC)
- OSHA originally classified this category
- HNOC (HCS) disclosed on SDS in section 2, not label
- Under new GHS standard, the following are not classified under HNOC but addressed individually:
  - Pyrophoric gases
  - Simple asphyxiants
  - Combustible dusts
- GHS label elements for combustible dusts:
  - Signal Word: Warning
  - Hazard Statement: "May form combustible dust concentrations in the air"

Other Label Elements

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OSHA label elements for:

Pyrophoric Gases:
- -Signal Word: Danger
- -Hazard Statement: "Catches fire spontaneously if exposed to air"

Simple Asphyxiants:
- -Signal Word: Warning
- -Hazard Statement: "May displace oxygen and cause rapid suffocation"

Combustible Dusts:
- -Signal Word: Warning
- -Hazard Statement: "May form combustible dust concentrations in the air"

OSHA will Also Revise

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Standards dealing with:

- Flammable and combustible liquids
- Process safety management
- Most substance-specific health standards

OSHA's Process Safety Management

Effective Dates for GHS

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Effective Completion Date	Requirements	Who
Dec. 1, 2013	Train employees on the new label elements and Safety Data Sheet (SDS) format	Employers
June 1, 2015	Compliance with all modified provisions of this final rule, except:	Chemical manufacturers, importers, distributors and employers
Dec. 1, 2015	The distributor may ship products labeled by manufacturers under the old system until December 1, 2015	

Effective Dates

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Effective Completion Date	Requirements	Who
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly-identified physical or health hazards	Employers
Transition period to the effective completion dates noted above	May comply with either 29 CFR 1910.1200 Hazard Communication (final standard), current standard, or both	Chemical manufacturers, distributors, and employers

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OSHA proposed all revisions of the Hazard Communication Standard (HCS) become effective by June 1, 2016

Hazard Classification

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- GHS has specific criteria for each health and physical hazard
- Detailed instructions for hazard evaluation and determinations whether mixtures of the substance are covered
- A and B (mandatory): Classification guidance for health hazards and physical hazards
- Test-method neutral (person classifying a chemical or substance should use available data and no additional testing is required to classify a chemical)

Hazard Classification

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GHS: Only terminology changes

GHS has no provisions regarding Hazard Communication programs

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Chemicals are all around us every day

Chemicals can be:

- Corrosive
- Reactive
- Flammable
- Explosive
- Oxidizing
- Inert

Chemical Safety

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In many cases, the chemicals you may deal with at work are no more dangerous than those you use at home

But in the workplace exposure may be greater, concentrations higher, exposure time longer: potential danger could be greater on the job

Routes of Occupational Exposure

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Inhalation - nearly all materials that are airborne can be inhaled

Skin Absorption - skin contact with a substance can result in a possible reaction

Ingestion - most workers do not deliberately swallow materials they handle

Injection – normally associated with bloodborne pathogens

Ocular - absorbed through the eyes

Hazards

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A chemical can pose a "physical hazard" or a "health hazard"

The hazard communication standard applies to *both* types of hazards

GHS looks at:

- Class-nature of hazard
- Category-degree of severity

Physical Hazards

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Physical hazards are exhibited by certain chemicals because of their physical properties (e.g. flammability, reactivity, etc.)

These chemicals fall into the following classes:

- Flammable liquids or solids
- Combustible liquids
- Compressed gases
- Explosives

Physical Hazards

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- Organic peroxide: May react explosively to temperature/pressure changes
- Oxidizers: Chemicals that initiate or promote combustion in other materials
- Pyrophoric materials: May ignite spontaneously in air temperatures of 130ºF or below
- Unstable materials
- Water reactive materials

Health Hazard

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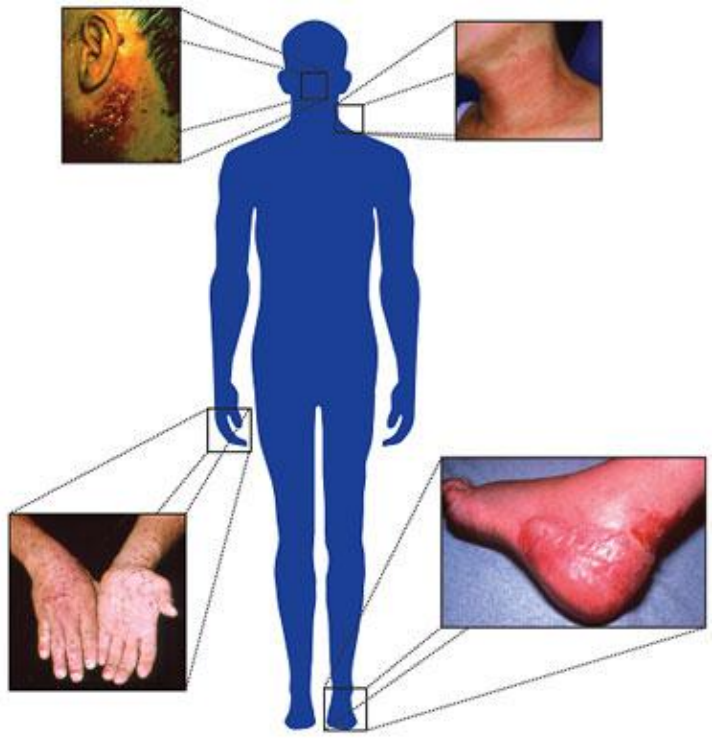
Health hazard - Occurs when a chemical produces an acute or chronic health effect on exposed employees



Acute Health Effects

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- Happen quickly
- High, brief exposure
- Examples:
  - Carbon monoxide poisoning
  - Cyanide inhalation
  - Hydrogen sulfide inhalation

Chronic Health Effects

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- May be caused by chemical exposures that do not cause immediate, obvious harm or make you feel sick right away
- May not see, feel, or smell the danger
- Effects are long, continuous and follow repeated long-term exposure; e.g.:
  - Lung cancer from cigarette smoking
  - Black lung from coal mine dust

Keeping It Safe

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- Corrosives, solvents and other chemical substances can be potentially dangerous
- Safe handling procedures
  - Read container labels
  - Check SDS(s)
- Never sniff a chemical for identification
- Use appropriate personal protective equipment

Labeling

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Example of one type of labeling system used

Chemical Labels

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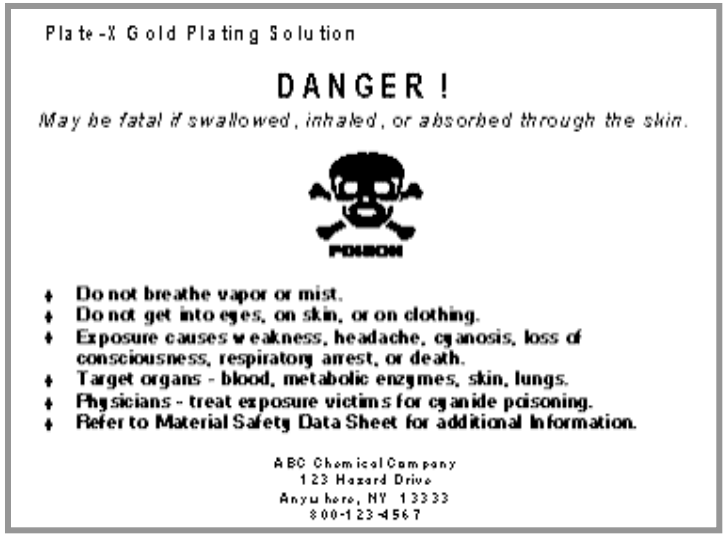
- Each container must be labeled, tagged or marked
- Warning can be a message, words, pictures or symbols
- Labels must be written in English and prominently displayed



Label Information

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Chemical manufacturers and importers must provide a label that includes:

- Harmonized signal word
- Pictogram
- Hazard statement for each hazard class and category
- Precautionary statements must also be provided as well as product identifier and supplier information

Reading Chemical Labels

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Warning labels provide important information about the chemical:

- ✓ DANGER
- ✓ WARNING

Always read the label *before* you begin a job using a potentially hazardous chemical

Labels/Other Warnings

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- Mandatory Appendix C: What specific information is to be provided for each hazard class and category once a chemical is classified
- Requirements are significantly different from existing HCS
- GHS uses nine pictograms to convey health, physical and environmental hazards
- Proposed HCS requires eight of these pictograms (no environmental hazard since environmental is not within OSHA's jurisdiction)

Labeling

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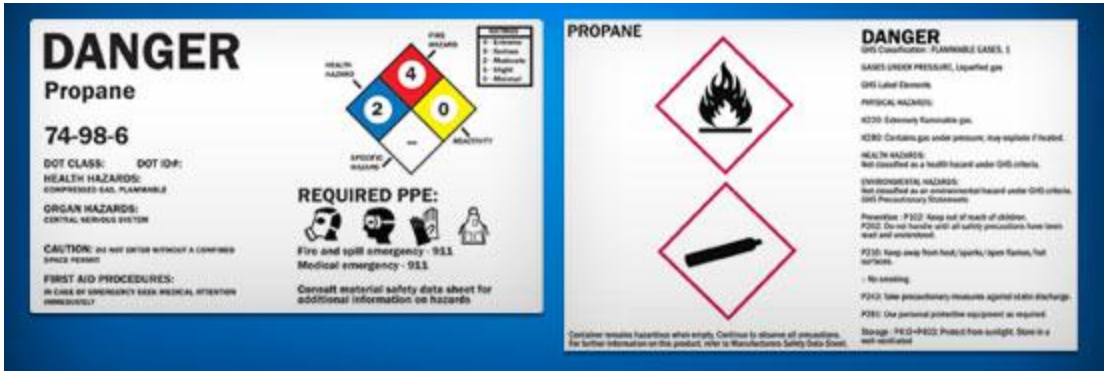
Employers who only store chemicals may either use OSHA's new labeling system or continue using the NFPA 704 rating system or HMIS system

(OSHA plans to change the labeling system June 1, 2016)



GHS Comparison

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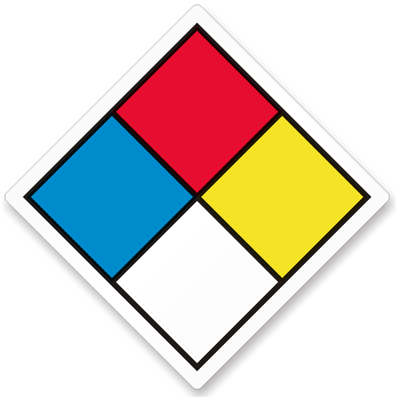
GHS classification ratings order of severity differ from NFPA and HMIS:

HMIS/NFPA

0 = Least Hazardous

4 = Most Hazardous



GHS

5 = Least Hazardous

1 = Most Hazardous

Pictograms

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Different symbol on white background with red square frame set on point

Eight pictograms are required by OSHA

The ninth one dealing with the environment is not within OSHA's jurisdiction

Hazard Symbols (to be used in pictograms for substances of the particular class)

FLAME OVER CIRCLE—USED FOR THESE CLASSES :

- Oxidizers

FLAME—USED FOR THESE CLASSES:

- Flammables
- Self Reactives
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Organic Peroxides

EXPLODING BOMB—USED FOR THESE CLASSES:

- Explosives
- Self Reactives
- Organic Peroxides

SKULL & CROSSBONES—USED FOR THESE CLASSES:

- Acute toxicity (severe)

CORROSION—USED FOR THESE CLASSES:

- Corrosives

GAS CYLINDER—USED FOR THESE CLASSES:

- Gases Under Pressure

HEALTH HAZARD—USED FOR THESE CLASSES:

- Carcinogen
- Respiratory Sensitizer
- Reproductive Toxicity
- Target Organ Toxicity
- Mutagenicity
- Aspiration Toxicity

ENVIRONMENTAL HAZARD—USED FOR THESE CLASSES:

- Environmental Toxicity

EXCLAMATION MARK—USED FOR THESE CLASSES:

- Irritant
- Dermal Sensitizer
- Acute toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritation

Health Hazard

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Used to describe:

- Carcinogen
- Mutagenicity
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration toxicity
- Germ cell mutagens

Flame

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Describes:

- Flammables
- Pyrophorics
- Self-heating
- Emits flammable gas
- Self-reactives
- Organic peroxides

Exclamation Mark

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Describes:

- Irritant (skin and eye)
- Skin sensitizer
- Acute toxicity (harmful)
- Narcotic effects
- Respiratory tract irritant
- Hazardous to ozone layer (non-mandatory)

Gas Cylinder

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Describes:

- Gases under pressure

Corrosion

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Describes:

- Skin corrosion/burns
- Eye damage
- Corrosive to metals

Exploding Bomb

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Describes:

- Explosives
- Self-reactives
- Organic peroxide

Flame Over Circle

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Describes:

- Oxidizers

Anything wrong with this picture?

Yes!

Unsafe storage – cylinders falling over!

Skull and Crossbones

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Describes:

- Acute toxicity (fatal or toxic)

Signal Word

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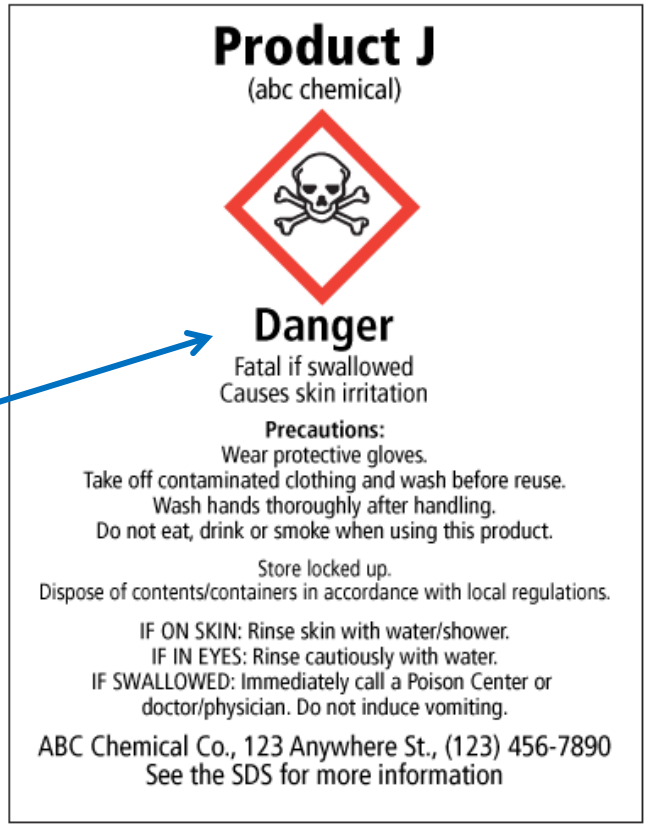
A single word indicating relative hazard severity

"Danger" for more severe hazards,

"Warning" for less severe hazards



Hazard Statement

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- Assigned to hazard class and category,
- Nature of hazard of a chemical, and
- Degree of hazard
- "Statements" are alphanumeric codes

Example: H221 (means flammable gas)
H= That this is a hazard statement
2=physical hazard
3=health hazard
4=environmental hazard
"21" in this code is specific to the hazard

Precautionary Statement

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- Measures to minimize/prevent adverse effects from exposure, improper storage, or handling
- Also an alphanumeric code

Example: P373
P=that this is a precautionary statement
1=general precaution
2=prevention precaution
3=response precaution
4=storage precaution
5=disposal precaution
P373="Don't fight fire when fire reaches explosives"

Labels

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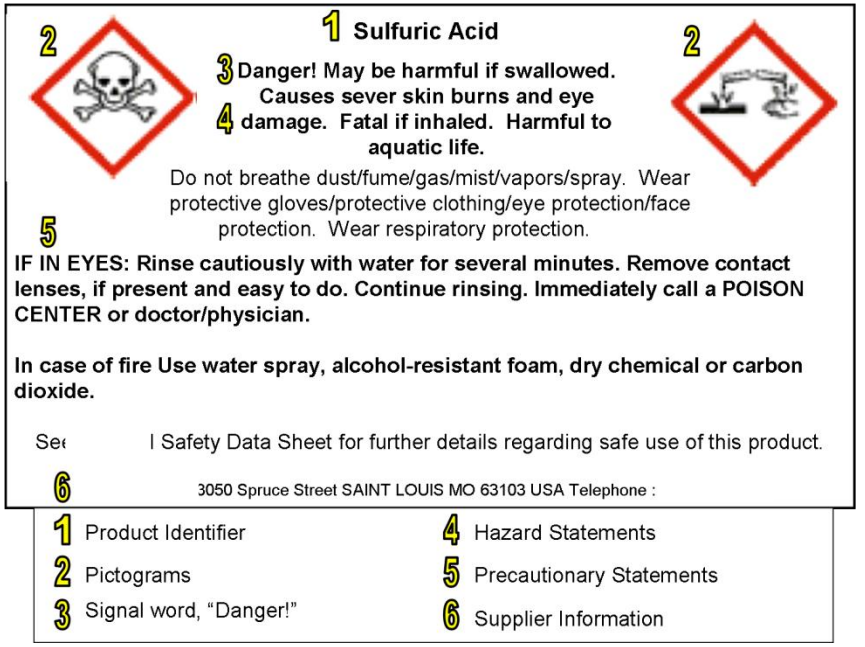
Information required on a GHS label:

1-Product identifier
2-Pictograms
3-Signal word
4-Hazard statement
5-Precautionary statement
6-Supplier information



GHS: Annex 2

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Classification and Labeling Summary Tables
A2.1 Explosives

Hazard	Criteria	Hazard Communication Elements	
Unstable Explosives	According to the results of the test in Part 1 of the Manual of Tests and Criteria … Transport of Dangerous Goods	Symbol	
		Signal Word	Danger
		Hazard Statement	Unstable Explosives

GHS: Annex 2

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Classification and Labeling Summary Tables
A2.6 Flammable Liquids

Hazard	Criteria	Hazard Communication Elements	
1	Flash point <23°C and initial boiling point ≤35°C	Symbol	
		Signal Word	Danger
		Hazard Statement	Extremely Flammable Liquid & Vapor

Table A3.1.2 Hazard Statement Codes

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Hazard Statement Codes for Health Hazards (Examples)

Code	Health Hazard	Hazard Class	Hazard Cat.
H301	Toxic if swallowed	Acute Toxicity, oral	3
H331	Toxic if inhaled	Acute Toxicity, inhalation	3
H311	Toxic in contact with skin	Acute Toxicity, dermal	3

Table A3.2.3 Precautionary Statements

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Codification of Response Precautionary Statements (Examples)

Code	Resp. Prec.	Hazard Class	Hazard Cat.
P301	If swallowed	Acute Toxicity, oral	1,2,3,4
		Skin corrosion	1A, 1B, 1C
		Aspiration hazard	1,2
P330	Rinse mouth	Acute Toxicity, oral	1,2,3,4
		Skin corrosion	1A, 1B, 1C
P331	Do NOT induce vomiting	Skin corrosion	1A, 1B, 1C
		Aspiration hazard	1,2

Labels

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Chemical manufacturer, importer or distributor: ensure each container of hazardous chemicals leaving workplace is labeled, tagged or marked with:

- Identity of chemical,
- Hazard warnings, and
- Name and address of manufacturer, distributor or importer

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008
Flammable liquids (Category 2)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Acute toxicity, Oral (Category 4)
Serious eye damage/eye irritation (Category 2)

According to European Directive 67/548/EEC as amended.
Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes.

Label elements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Hazard symbol(s)	
F	Highly flammable
Xn	Harmful
R-phrase(s)	
R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.
S-phrase(s)	
S16	Keep away from sources of ignition - No smoking.
S36/37	Wear suitable protective clothing and gloves.

Transporting

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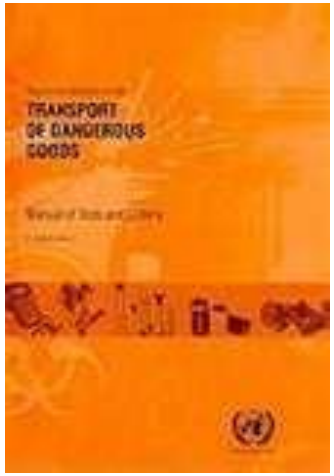
For transportation:
Use pictograms, referred to as labels in transport regulations, prescribed by UN Model Regulations on the Transport of Dangerous Goods



Dangerous Good Label

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UN regulations:

This symbol affixed to packaging on a background of contrasting color

Only UN transport markings and labels are required for outer packaging

Label Examples

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On containers

On shipping boxes

Intermodal Container Markings

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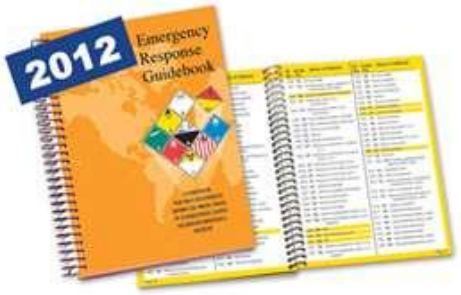
"Hazard Identification Numbers" may be used with intermodal containers

<u>Top panel</u>: 2 or 3 digits coded to group of hazards;

Highly flammable liquid

Gasoline

<u>Bottom panel</u>: these numbers can be searched in the Emergency Response Guidebook



SDS

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- Under the GHS, MSDSs (material safety data sheets) become SDS (safety data sheets)
- Categories (16) to be listed in a specific order
- Adheres to ANSI standard Z400.1
- GHS requires new SDSs be in uniform format by June 1, 2015
- Information for mixtures not individual chemicals in a mixture

SDS

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- Safety Data Sheet
- Developed by chemical manufacturers and importers
- An SDS must be on hand for each hazardous chemical used
- SDS for mixtures not individual chemicals in the mixtures

LPGenius from CALOR **Technical Publication**

Calor Safety Data Sheet - Liquefied Propane Gas

Data Sheet No 2 Revision 8 Replaces Revisions 03/00, 04/03, 08/05, 03/06, 06/09, 02/10, 12/10

This data sheet has been prepared in accordance with the requirements of Article 31 of EU Regulation 1907/2006 (as amended) on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

1. Identification of the Substance or Preparation and of the supplier

Identification of the substance or preparation:	Calor Liquefied Propane Gas including products marked as Calor Propane Calor Autogas, Calor Patio Gas & Calor High Purity Propane
Substance Type:	Petroleum product
Physical Status:	Liquefied Gas
Use of the substance or preparation:	Calor Liquefied Propane is a multi-purpose product intended for uses including fuels for equipment which has been specifically designed to run on commercial propane, an internal combustion engine fuel feedstock for the petrochemical industry
Company:	Calor Gas Limited
Address:	Athena House, Athena Drive, Tachbrook Park, Warwick, CV34 6RL
Telephone:	01926 330088
Emergency Number:	0845 7 444 999
Web Address:	www.calor.co.uk
Technical Help Desk	0845 602 1143

2. Hazard Identification

- Extremely Flammable (F+)
- Readily forms and explosive air-vapour mixture at ambient temperature.
- Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, into basements etc.).
- Liquid leaks generate large volumes of flammable vapour (approximately 250:1).
- Cold burns (frostbite) will result from skin/eye contact with liquid product
- Liquid release or vapour pressure jets present a risk of serious damage to the eyes.
- Abuse involving wilful inhalation of very high concentrations of vapour, even for short periods can produce unconsciousness and might prove fatal. Inhalation may cause irritation to the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated or confined spaces, unconsciousness or asphyxiation may result.

3. Composition and Information on Ingredients

Description
Liquefied petroleum gas consisting predominately C_3 Hydrocarbons supplied as a fuel in a closed system meeting the requirements for commercial propane of BS4250.

As a liquefied petroleum gas, which occurs in nature and is not chemically modified, this is exempted from Titles II (Registration), V (Downstream Users)

104800 V 8 07/11- Calor Liquefied Propane Gas Safety Data Sheet
Published by the Safety, Health and Environment Department

Page 1 of 9

Information on a SDS

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- Chemical names
- Manufacturer info (name, address and telephone numbers)
- List of chemical ingredients
- Permissible exposure limits (PELs) and threshold limit values (TLVs)

Information on a SDS

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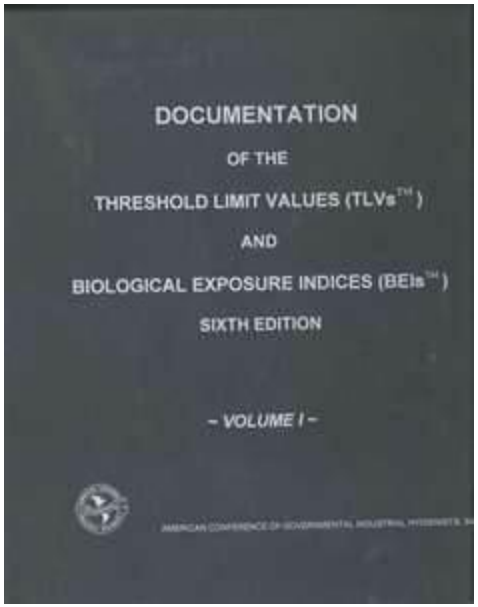
Any other exposure limit used or recommended by chemical manufacturer, importer or employer preparing the SDSs now are required on the SDS



Information on a SDS

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- Reactions with other chemicals
- Physical appearance
- Date of preparation
- Plus:
  - How to put out a fire caused by a chemical
  - How to handle spills
  - How to prevent dangerous exposures

Where are your SDSs?

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SDSs:

- Must be readily accessible to employees during their work shift
- Are typically kept in a centralized location
- Must be updated as new information becomes available

SDS Categories

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Section 1: Identification

Section 2: Hazard identification

Section 3: Ingredients

Section 4: First-aid measures

Section 5: Fire fighting measure

Section 6: Accidental release measures

Section 7: Handling and storage

SDS Categories

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Section 8: Exposure controls and personal protection

Section 9: Physical and chemical properties

Section 10: Stability and reactivity

Section 11: Toxicological information

Section 12: Ecological information*

Section 13: Disposal considerations*

Section 14: Transport information*

Section 15: Regulatory information*

Section 16: Other information

*OSHA indicated that since other agencies regulate sections 12-15, OSHA will not be enforcing them

Section 1: Identification

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- Product identifier used on label
- Other means of identification
- Recommended use of chemical and restrictions on use
- Name, address, telephone number of manufacturer, importer or other responsible party
- Emergency phone number

Section 2: Hazard Identification

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- Instead of hazard determination, employer must classify a hazardous chemical according to changed conditions provided in Appendices A and B
- Pictograms are a new requirement
- Standardized hazard statements
- Signal words
- Precautionary statements are now required
- SDS required for each mixture rather than one for each chemical comprising a mixture
- If one study in 10 indicates material is carcinogenic, but others don’t, must list the one carcinogenic study

Section 2: Hazard Identification

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- Classification of chemical
- Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of this section (hazard symbols may be provided as graphical reproductions or the name of the symbol, e.g. flame, skull and crossbones)
- Unclassified hazards (e.g., combustible dust or dust explosion hazard)
- Where an ingredient with unknown acute toxicity is used in a mixture at a concentration $\geq$ 1 percent, a statement that x percent of mixture consists of ingredient(s) of unknown toxicity is required

Section 3: Composition

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No new requirements other than:

- Format
- A separate SDS will be required for each mixture rather than one for each chemical comprising the mixture

Section 3: Composition

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Except as provided in (i) this section on trade secrets

<u>For Substances</u>

- Chemical name
- Common name and synonyms
- CAS number and other unique identifiers
- Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance

Section 3: Composition

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- The chemical name and concentration or concentration ranges of all ingredients, which are classified as health hazards in accordance with (d) this section

- For all chemicals where a trade secret is claimed Trade Secret per (i) this section, a statement that the specific chemical identity and/or percent of composition has been withheld as a trade secret is required

Section 4: First Aid

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- No new requirements other than format
- Description of necessary measures, subdivided according to the different routes of exposure, i.e. inhalation, skin and eye contact, ingestion
- Most important symptoms/effects, acute and delayed
- Indication of immediate medical attention and special treatment needed, if necessary

Section 5: Fire-fighting

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No new requirements other than format

- Suitable (and unsuitable) extinguishing media
- Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products)
- Special protective equipment and precautions for firefighters

Section 6: Accidental Release

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- No new requirements other than format
- Personal precautions, protective equipment, emergency procedures
- Methods and materials for containment and clean up

Section 7: Handling & Storage

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- No new requirements other than format
- Precautions for safe handling
- Conditions for safe storage, including any incompatibilities

Cylinders unchained;
Drum not labeled properly;
No spill containment for drum;
Materials may be incompatible

Is this safe storage?

NO!

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No new requirements other than format

- OSHA PEL (permissible exposure limit) and any other exposure limit used or recommended by the chemical manufacturer, importer or employer preparing the SDS
- Appropriate engineering controls
- Individual protection measures, such as PPE

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No new requirements other than format:

- Appearance (physical state, color, etc)
- Odor
- pH
- Melting point/freezing point
- Initial boiling point and boiling range
- Flash point
- Evaporation rate
- Flammability (solid, liquid, gas)
- Upper/lower flammability or explosive limits
- Vapor pressure
- Vapor density
- Relative density
- Solubility

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- Partition coefficient: n-octanol/water
- Auto-ignition temperature
- Decomposition temperature
- Viscosity

Section 10: Stability and Reactivity

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- Conditions to avoid
- New to HCS (as has been required in ANSI Z400.1 standard)
- Reactivity
- Chemical stability
- Possibility of hazardous reactions

- Conditions to avoid (static discharge, shock or vibration)
- Incompatible materials
- Hazardous decomposition products

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No new requirements other than format:

- Description of various toxicological effects and available data used to identify those effects, including:
  - Likely exposure routes (inhalation, ingestion, skin and eye contact)
  - Symptoms related to the physical, chemical and toxicological characteristics
  - Delayed and immediate effects and chronic effects from short and long term exposure
  - Numerical measures of toxicity (such as acute toxicity estimates)

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Non-mandatory

- To be GHS-compliant, the requirements for this section would be:
  - Ecotoxicity (aquatic and terrestrial, where available)
  - Persistence and degradability
  - Bioaccumulative potential
  - Mobility in soil
  - Other adverse effects

Section 13: Disposal Considerations

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- To be GHS compliant, this section is provided, but compliance is outside OSHA jurisdiction
- However, OSHA may enforce provisions associated with safe handling and use, including appropriate hygienic practices (see Section 7, above)
- Description of waste residues and information on their safe handling
- Methods of disposal
- Disposal of any contaminated packaging

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- To be GHS compliant, this section is provided, but compliance is outside OSHA jurisdiction.
- UN number
- UN proper shipping name
- Transport hazard classes
- Packing group, if applicable
- Environmental hazards such as marine pollutant (yes/no)
- Transport in bulk (per Annex II of MARPOL 73/78 and IBC Code)
- Special precautions which a user needs to be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises

Section 15: Regulatory Information

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- To be GHS compliant, this section is provided, but compliance is outside OSHA jurisdiction
- Safety
- Health
- Environmental regulations specific to product

Section 16: Other Information

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- No new requirements other than format
- Date of preparation of SDS or last revision date

Written Hazard Communication Plan

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The standard requires industry:

- To develop and implement a written hazard communication program
- To provide hazard communication training for employees:
  - Initially (to newly hired personnel)
  - Whenever a new hazard is introduced into the workplace

Written HAZCOMM Plan Should Include

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- How SDS filing requirements are being met
- Type of labeling system being used
- Detailed information on training and compliance
- Methods to inform you of non-routine tasks and safe procedures
- Methods to inform outside contractors of the HAZCOMM program

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Management of process spills or leaks:

- Implement the facility's emergency control program
- Secure the area

Contractor Requirements

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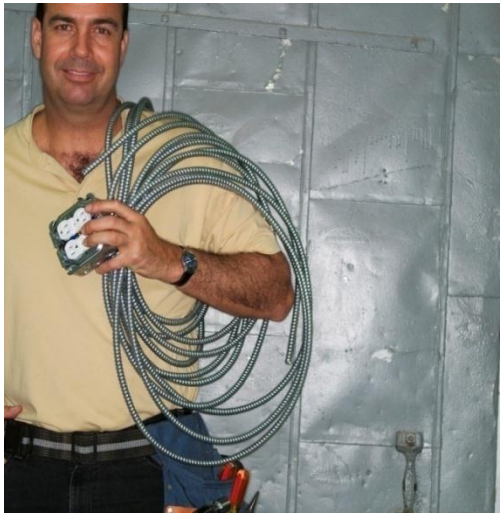
- Contractors must abide by the applicable provisions of federal, state and local hazard communication and right to know laws/regulations

- Any contractor found not meeting the provisions of the laws or contractor requirements may be required to cease work until compliance is achieved



Contractor Requirements

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- The company will review and provide SDSs for any hazardous chemicals
- The contractor will maintain a copy of the hazard communication program
- The contractor will certify that it has met the provisions of applicable laws
- The contractor will notify the host safety department
- The contractor will state where chemicals will be used or stored

GHS- to Comply

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- Find good source for relevant/compliant SDSs
- Ensure accurate inventory of products and find corresponding new SDS
- Current classifications, labels, and packaging need to be noted for comparison
- Ensure new SDSs are in place and accessible
- Ensure all containers properly labeled including secondary containers
- Ensure all concerned are appropriately trained

Preparing your Company

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Suggestions for making the transition:

1. Assemble new GHS information
2. Check implementation dates for:
   - Your country, and
   - Out-of-country clients
3. Plan the transition
4. Inventory in-house chemicals
5. Make a plan to:
   - Acquire,
   - Update, and
   - Manage SDS documents
6. Update workplace labels
7. Schedule/conduct employee training

Summary

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- All facilities should have a hazard communication plan in a location that is accessible to all employees
- All hazardous products should be labeled and all employees should be aware of what and where they are
- SDSs should be available and accessible for all hazardous products

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Do you see any problems here?

Large containers balanced on edge of shelf- not safe

If chemical, coffee can is not proper type of storage container

Maybe improperly labeled container- what's in the coffee can?
Coffee not allowed with chemicals; if chemical, not labeled properly

Contact Information

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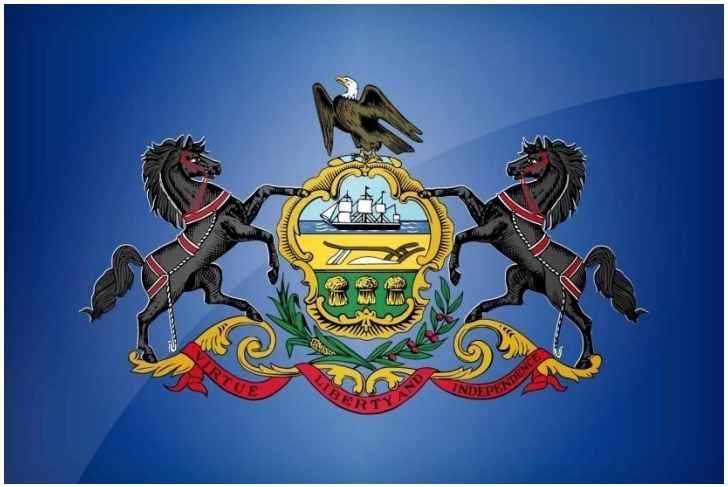

Questions

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