

*Employee Right to Know and
GHS*

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ERTK What is Needed

- Written program that includes:
 - Inventory of hazardous substances/agents
 - Identification of exposed employees
 - MSDS sheets
 - Training
 - Labeling/warnings

*Take Inventory of Hazardous
Substances and Agents*

- Hazardous substances
- Noise
- Heat
- Ionizing radiation
- Non-ionizing radiation
- Infectious agents

Hazardous Substances

- Chemicals
 - Don't miss
 - CO – combustion bi-product
 - N02 – diesel bi-product
 - Wood dust
 - Welding fumes
 - Possibly consumer products

Noise

- Close to 85 dB over 8-hours
- Over 85 dB need hearing conservation program
- If have to shout to be heard – include
 - Lawn mowers
 - Power tools
 - Hammering

Heat

- Should include if not air conditioned

Ionizing Radiation

- X-rays
- Radioactive material
- Radon – working underground

*Non-ionizing Radiation
(radio & microwave frequencies)*

- Radio waves
- Radar
- Communication equipment

Infectious Agents

- Blood borne pathogens
- Others
 - Legionella
 - Salmonella
 - Measles
 - Histoplasmosis
 - Plasmodium

Identify Exposed Employees

- Not all employees exposed to same stuff

Material Safety Data Sheets (MSDS)

- Have for all substance
- Employee access
- Keep updated

Training

- Before exposure
- Annually
- Subcontractors/Temps
- Records to include
 - Date
 - Employees name and title
 - What was included
 - Name and qualifications of trainer

Labeling

- All hazardous substances
- High noise areas
- Radiation
- Infectious waste

Annual Review

- Recommended

GHS

- The GHS is an acronym for The United Nations Globally Harmonized System of Classification and Labeling of Chemicals

What is GHS?

- It is a logical and comprehensive approach to:
 - Defining health, physical and environmental hazards of chemicals;
 - Creating classification processes that use available data on chemicals for comparison with the defined hazard criteria; and
 - Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).

Kuzj Definition of GHS

- A worldwide effort to standardize hazardous information

Why GHS?

- To have a common worldwide approach to classifying and communicating chemical hazards.
 - Harmonized definition of hazards
 - Specific criteria for labels
 - Harmonized format for safety data sheets

History

- Working on it for many years
- Press release March 20, 2012
- Published in Federal Register March 26, 2012. 858 pages long

Effective Dates for New Rules

- For Wisconsin, North Dakota and other Federal OSHA states May 26, 2012

Effective Dates for New Rules

- Minnesota OSHA has a state plan
- Minnesota adopted Sept. 10, 2012

Effect

- Chemical manufacturers or distributors
 - Reclassification
 - Labeling
 - SDS
 - Training

Effect

- All Employers
 - Train on label elements
 - pictograms
 - signal words
 - hazard statements
 - precautionary statements
 - Train on new SDS format
 - Update to SDS

By When?

- Train employees by Dec 1, 2013
- June 1, 2015 manufacturers and distributors comply with all labeling and SDS
- June 1, 2016 fully implemented GHS – updated ERTK

9 Pictograms and Hazards

- See handout

Exploding Bomb

- Explosives
- Self-reactive substances
- Organic peroxides



Flame

- Flammables
- Emits flammable gas
- Self-reactive substances
- Pyrophorics (spontaneously igniting in air)
- Self-heating substances
- Organic peroxides



Flame Over Circle



- Oxidizers (removes electrons)

Gas Cylinder

- Compressed gases
- Liquefied gases
- Dissolved gases



Corrosion



- Skin corrosion
- Eye damage
- Corrosive to metals

Skull and crossbones

- Acute toxicity (fatal or toxic)



Exclamation Mark



- Acute toxicity
- Irritant
- Skin sensitizer
- Narcotic effects
- Target organ toxicity
- Hazard to ozone layer (non-mandatory)

Health Hazard



- Carcinogen
- Mutagen
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration hazard

*9th Pictogram,
not adopted by OSHA*

Environmental Toxicity



Signal Words

- The signal word indicates the relative degree of severity a hazard. The signal words used in the GHS are

"Danger" for the more severe hazards, and
"Warning" for the less severe hazards.

Hazard Statements

- A statement that describes the nature of the hazard(s) of a chemical; including, where appropriate, the degree of hazards
 - Example: Flammable liquids
 - Extremely flammable liquid and vapor
 - Highly flammable liquid and vapor
 - Flammable liquid and vapor
 - Combustible liquid

Hazard Statements Examples

- Fatal if swallowed
- Toxic if swallowed
- Harmful if swallowed
- May be harmful if swallowed

Precautionary Statements

- Precautionary information supplements the hazard information by briefly providing measures to be taken to minimize or prevent adverse effects from physical, health or environmental hazards. First aid is included in precautionary information.

Precautionary Statement Examples

- Only use non-sparking tools
- Keep container tightly closed
- Use with explosion-proof equipment
- Wear splash protection for face
- Wash hands after handling

Hazard Communication Standard label

- See handout

*New Safety Data Sheet (SDS)
Format*

- 16 category SDS
 - Identification of the substance or mixture and of the supplier
 - Hazards identification
 - Composition/information on ingredients
 - First aid measures
 - Firefighting measures

New SDS Format

- Accidental release measures
- Handling and storage
- Exposure controls/personal protection.
- Physical and chemical properties
- Stability and reactivity
- Toxicological information

New SDS Format

- Ecological information
- Disposal considerations
- Transport information
- Regulatory information
- Other information including information on preparation and revision of the SDS

New SDS Format

- See handout

1. Identification of the Substance or Mixture and of the Supplier

- GHS product identifier.
- Other means of identification.
- Recommended use of the chemical and restrictions on use.
- Supplier's details (including name, address, phone number, etc.).
- Emergency phone number.

2. Hazards Identification

- GHS classification of the substance/mixture and any national or regional information.
- GHS label elements, including precautionary statements. (Hazard symbols may be provided as a graphical reproduction of the symbols in black and white or the name of the symbol, e.g., flame, skull and crossbones.)
- Other hazards which do not result in classification (e.g., dust explosion hazard) or are not covered by the GHS.

3. Composition/Information on Ingredients

- Substance
 - Chemical identity.
 - Common name, synonyms, etc.
 - CAS number, EC number, etc.
 - Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.

3. Composition/Information on Ingredients Cont.

- Mixture

The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cutoff levels.

4. First Aid Measures

- Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion.
- Most important symptoms/effects, acute and delayed.
- Indication of immediate medical attention and special treatment needed, if necessary.

5. Firefighting Measures

- 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.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures.
- Environmental precautions.
- Methods and materials for containment and cleaning up.

7. Handling and Storage

- Precautions for safe handling.
- Conditions for safe storage, including any incompatibilities.

8. Exposure Controls/Personal Protection.

- Control parameters, e.g., occupational exposure limit values or biological limit values.
- Appropriate engineering controls.
- Individual protection measures, such as personal protective equipment.

9. Physical and Chemical Properties

- Appearance (physical state, color, etc.).
- Odor.
- Odor threshold.
- pH.
- melting point/freezing point.
- initial boiling point and boiling range.
- flash point.
- evaporation rate.

9. Physical and Chemical Properties Cont.

- flammability (solid, gas).
- upper/lower flammability or explosive limits.
- vapor pressure.
- vapor density.
- relative density.
- solubility(ies).
- partition coefficient: n-octanol/water.
- autoignition temperature.
- decomposition temperature.

10. Stability and Reactivity

- Chemical stability.
- Possibility of hazardous reactions.
- Conditions to avoid (e.g., static discharge, shock or vibration).
- Incompatible materials.
- Hazardous decomposition products.

11. Toxicological Information

- information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);
- Symptoms related to the physical, chemical and toxicological characteristics;
- Delayed and immediate effects and also chronic effects from short- and long-term exposure;
- Numerical measures of toxicity (such as acute toxicity estimates).

12. Ecological Information

- Not required for OSHA
 - Ecotoxicity (aquatic and terrestrial, where available).
 - Persistence and degradability.
 - Bioaccumulative potential.
 - Mobility in soil.
 - Other adverse effects.

13. Disposal Considerations

- Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

14. Transport Information

- UN Number.
- UN Proper shipping name.
- Transport Hazard class(es).
- Packing group, if applicable.
- Marine pollutant (Yes/No).
- 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.

15. Regulatory Information

- Safety, health and environmental regulations specific for the product in question.

16. Other Information Including Information on Preparation and Revision of the SDS

- Combustible dust?

MoreInformation

- A Guide to The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
– <http://www.osha.gov/dsg/hazcom/ghs.html>
- GHS and Hazardous Communication Federal web page with fact sheets and quick cards
– <http://www.osha.gov/dsg/hazcom/index.html>
