Preparing a Safety Data Sheet (SDS) for Research Products

Industrial Hygiene/Occupational Safety Special Interest Group Steering Committee Conference Call

Dina Siegel
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Preparing a Safety Data Sheet (SDS) for Research Products

We will cover:

• Regulations
• SDS requirements
• Hazard Determination
• Precautionary Statements/Pictograms (labels)
• Other Considerations
Regulations

• 29 CFR 1910.1200 Hazard Communication
  – (g) Safety data sheets.
  – (g)(1) Chemical manufacturers and importers shall obtain or develop a safety data sheet for each hazardous chemical they produce or import. Employers shall have a safety data sheet in the workplace for each hazardous chemical which they use.
Regulations

• 29 CFR 1910.1450 Occupational Exposure to Hazardous Chemicals in Laboratories
  • 1910.1450(h)(2) The following provisions shall apply to chemical substances developed in the laboratory:
    – 1910.1450(h)(2)(iii) If the chemical substance is produced for another user outside of the laboratory, the employer shall comply with the Hazard Communication Standard (29 CFR 1910.1200) including the requirements for preparation of safety data sheets and labeling.
SDS requirements

• Standardized 16-section format (Appendix D, 20 CFR 1910.1200
  – Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
  – Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.
  – Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.
  – Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.
  – Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.
  – Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.
  – Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.
  – Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE).
  – Section 9, Physical and chemical properties lists the chemical's characteristics.
  – Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.
  – Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
  – Section 16, Other information, includes the date of preparation or last revision.
Hazard Determination

• Hazard Determination: review of available data about both health and physical hazards.
  – General considerations (steps)
  – Hazard Class
  – Precautionary Statements (labels)
Hazard Determination

• General considerations (steps)
  1. Identify relevant hazard data.
  2. Review data.
  3. Determine hazard classification/degree of classification.*

*Many hazard classes require expert judgement for interpretation.
Hazard Class

• Health Hazard (Appendix A, 20 CFR 1910.1200)
  – Acute Toxicity
  – Skin Corrosion/Irritation
  – Serious Eye Damage/Eye Irritation
  – Respiratory or Skin Sensitization
  – Germ Cell Mutagenicity
  – Carcinogenicity (see also Appendix F)
  – Reproductive Toxicity
  – Specific Organ Toxicity-Single Exposure
  – Specific Organ Toxicity-Repeated or Prolonged Exposure
  – Aspiration Hazard
Hazard Class

  - Explosives
  - Flammable Gases
  - Flammable Aerosols
  - Oxidizing Gases
  - Gases under Pressure
  - Flammable Liquids
  - Flammable Solids
  - Self-Reactive Chemicals
  - Pyrophoric Liquids
  - Pyrophoric Solids
  - Self-Heating Chemicals
  - Chemicals which, in Contact with Water, Emit Flammable Gases
  - Oxidizing Liquids
  - Oxidizing Solids
  - Organic Peroxides
  - Corrosive to Metals
Precautionary Statements/Pictograms (Labels)

Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). All labels are required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more Information:

www.osha.gov  (800) 321-OSHA (6742)
Other Considerations

• Mixtures
• Subject Matter Expertise
Questions?

Thank you

Dina Siegel
dinas@lanl.gov