Objectives Worksheet

Hazardous Materials, Personal Safety, And Refinish Safety

I-CAR®

Version 1.6

WKR01-STHO01-E

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Module 1 - Safety Data Sheets

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SDS Layout

SDS Detailed Information

Employers are allowed to _____ an SDS for a material's use at the _____. The revised SDS may not contain less information than the original SDS, and must contain the specified 16 sections, but may include information on hazards relating to the specific workplace, and include local laws, such as waste disposal laws and additional exposure limits. The original SDS must be kept on file at the workplace.

Section 1: Product Identification

This includes the product name, product maker name and address and _____ phone numbers.

Section 2: Hazards Identification

This contains all of the hazards of the _____ that should be identified on the label.

Section 3: Composition / Information on Ingredients

This lists material ingredients and the _____ of each ingredient.

Section 4: First Aid Measures

This explains how to treat a _____ who has been overexposed and emergency steps to take for immediate treatment.

Section 5: Firefighting Measures

This section is for flammables and combustibles. If a material is flammable, it can _____ catch fire and burn rapidly or _____. The section lists protective equipment to wear if a fire starts, and both the _____ and _____ explosion limits (UEL and LEL) of a product. The type of extinguisher required for a fire (A, B, C, or D) is identified.

These types include:

- A – ordinary combustibles. Class A fire extinguishers use water.

- B – flammable liquids. Class B and C fire extinguishers use carbon dioxide.
- C – electrical fires.
- D – combustible _____. Dry powder is used for extinguishing class D fires.

Most fires in collision repair facilities are A, B, or C fires and there are "A-B-C" fire extinguishers available.

Section 6: Accidental Release Measures
This specifies emergency procedures for what to do in case of a _____ or _____ release, how to contain the spill or release, and instructions for cleanup.

Section 7: Handling And Storage
This identifies precautions for safe handling, and how to _____ the material.

Section 8: Exposure Controls / Personal Protection
This section identifies what _____ protection is required when using the material, what protective equipment to _____, and engineering controls, such as _____ requirements.

Section 9: Physical And Chemical Properties
This section describes how the chemical looks in its _____ state, how quickly it pours if a liquid, or appears like if a powder or solid.

Section 10: Stability And Reactivity
This section identifies what the chemical reacts to, and its chemical _____.

Section 11: Toxicological Information
This section identifies the routes of how a worker can be exposed to the material, as well as acute and chronic effects of exposure. Chemicals can _____ the body from either contact, absorption, ingestion, or inhalation.

Acute exposure is the physical effects a worker might feel after being exposed to one high dose of the material or several doses over a short time.

Chronic exposure is the physical effects a worker might feel after being exposed to repeated doses over a long time.

Section 12: Ecological Information (Non-mandatory)

Sections 12 – 15 are not regulated by OSHA so content in these sections is not _____.

Section 12. Ecological Information
Section 13. Disposal Considerations
Section 14. Transport Information
Section 15. Regulatory Information

Section 16: Other Information

This section lists the date of preparation and last revision.

An SDS does not contain _____ emergency contact information.

If a product is no longer used at a facility, it is required that the SDS or at least product inventory sheets be kept on file for ____ years for medical purposes.

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Module 2 - Labels

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Label Indicators

Label Types
There are three types of labels commonly used for identifying hazardous materials. These labels include _____, workplace, and other means of identification. _____ of these labels may replace the SDS.

Supplier Label Requirements
All hazardous chemicals shipped after June 1, _____, must be labeled with specified elements including _____, signal words, hazard statements, and precautionary statements.

If there is a container without a label do not _____ it until you find out from the repair facility manager, what the material is. Once you have determined what the product is, place a label on the container.

Hazard Pictograms
Pictograms are graphic symbols used to communicate specific information about the hazards of a material. They are placed on _____ _____ being shipped or transported from a manufacturer, importer, or distributor.

Exclamation Mark
The Exclamation mark appears on materials with _____ severe toxicity as compared to material identified by the skull and crossbones.

Signal Word
There will only be one signal word on the label no matter how many hazards a chemical may have. If one of the hazards warrants a “Danger” signal word and another warrants the signal word “Warning,” then only “_____” should appear on the label.

Label Types

Inner And Outer Containers
The supplier does not have to label the outer container if the _____ container label can be seen and read through the outer container.

When Workplace Labels Are Required

Workplace labels are required when the original supplier label is _____ or defaced. Additionally workplace labels are required if a product is _____ or diluted and kept for further use, such as mixing an all-purpose cleaner solution into a spray bottle.

NFPA Number Codes

An NFPA code has five numbers, the higher the number, the higher the danger level. With this system:

___ is very low danger.

___ is slightly dangerous.

___ is moderately dangerous.

___ is seriously dangerous.

___ is severely dangerous.

Module 3 - Hazardous Materials

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Hazardous Material Exposure

Acute And Chronic Exposure

Often a phenomenon called "_____ (sensory) fatigue" occurs after being exposed to a chemical for a period of time. The chemical can no longer be _____, even though the exposure is over the allowable limits.

Routes Of Entry

Hazardous materials can enter the body by breathing or _____. This does not mean only by eating or drinking the materials, but such unsanitary practices such as not washing hands before eating, eating or smoking in an area where hazardous materials are used or stored, or touching hands to the face when sneezing or coughing.

Absorption can occur through the skin or eyes. Skin is porous, like a sponge. This includes picking up a solvent-soaked cloth, or _____ hands with gasoline or other solvents.

Hazardous Material Categories

Isocyanates

Isocyanates are also released when a product is opened and mixed. _____ rubber gloves are recommended to prevent skin exposure. Refinisher's _____ are recommended to prevent or reduce eye exposure. If an isocyanate-containing finish splashes on bare skin, wash the exposed area with soap and water for 15 minutes. Refer to the product SDS for specific recommendations.

Isocyanate vapors are released when _____, pouring, and applying these products. They are also released when _____ a panel with a catalyzed finish residue.

Bloodborne Pathogens

Bloodborne pathogens include _____ or hepatitis _____ viruses that may be present in blood stains. Detailing technicians may be at the highest risk of exposure.

According to the Centers For Disease Control, "HIV was detectable by tissue-culture techniques ___–___ days after drying, but the rate of inactivation was rapid." The hepatitis

B virus can live at least one week, and possibly up to _____ days in a blood stain outside the body. Following any chance of exposure to bloodborne pathogens, employees should be instructed to see a physician.

Carcinogens

Certain materials contain known _____ (cancer-causing agents). This is a _____ effect of exposure to a chemical.

These chemicals are listed by different agencies, such as OSHA, the United States National Toxicology Program (NTP), and the International Agency for Research on Cancer (IARC).

Module 4 - Personal Protective Equipment

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Hearing Protection

Decibel Levels

Jet engine	140 dB
Riveting hammer	130 dB
Hammer banging on sheet metal	100 dB
Ventilating fan @708 L/sec (1500 CFM)	90 dB
Arc welder	____dB
Inside a car @ 50 mph	75 dB
Ordinary conversation	____ dB
Quiet whisper	30 dB

Allowable Sound Levels

The extent of damage depends primarily on the _____ of the noise and _____ of the exposure.

Depending on location, hearing protection is required when noise exposures begin to exceed 85 dB, averaged over eight working hours, or an eight-hour time-weighted average (TWA). Hearing protection is recommended, but not required, when noise exposures are at 85 dB TWA. If over 90 dB, the average is over a shorter time. The chart shows how the allowable duration decreases as the average noise level increases. Information on dB levels for specific equipment is provided by equipment makers.

Having to raise your voice to be heard is a good indication that hearing protection is required. At 85 dB, it is necessary to raise your voice to be heard from 1 ft. You need to shout to be heard from 2 ft.

Respiratory Protection

NIOSH

Any respirator for use in the workplace in North America must be approved by the National Institute for Occupational Safety and _____ (NIOSH). NIOSH is responsible for testing and approving respirators. Respirators approved by NIOSH undergo a testing and certification process. The use of non-approved respirators is a violation of _____ and could result in citations and fines.

Particulates

When choosing the proper _____-_____ respirator, it may be necessary to distinguish between particulates and vapors. Particulates are solid or liquid particles suspended in the air. Particulates include fumes, which are the solid particulates given off by welding.

_____ are solid particulates from sanding or grinding. Dust particulates are larger than fume particulates.

Dust / mist masks are used only for _____ particulates that can be seen, such as dust. Do not protect against hazardous contaminants because they are generally loose-fitting, and difficult to achieve a proper face seal.

Grade D Air Specifications

Current Grade D requires that _____ _____ must always be monitored on a supplied air breathing system.

Respirator Fit-Testing

Respirators with a face seal must be properly fit-tested before using the respirator on-the-job. Fit-testing must be done _____, whenever a different respirator _____ is used, and if there is a change in the employee's physical condition which could affect respirator fit. Examples include dental work, significant weight change, or facial scars.

Module 5 - Repair Facility Safety

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Work And Tool Safety

Ultraviolet Ray Protection

A lens shade of 10 - _____ is recommended for GMA (MIG) welding, and a lens shade of 11 - _____ is recommended for aluminum and GTA (TIG) welding.

Another safety measure is to use protective welding curtains that shield a portion of the ultraviolet rays from the welding arc.

Workplace Education

Written Hazardous Communication Program

Each workplace is responsible for starting and maintaining a written _____ _____ program for all employees who work with hazardous materials.

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