International Window Cleaning Association

SAFETY & TRAINING

INFORMATION PACKAGE

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Chemical Safety

DISCLAIMER

CHEMICAL USE

Hazard Communication

This section deals with some of the danger involved in the window cleaning industry. Primarily, one can envision that most of the danger lies within falls from elevations. This is typical, however, in this day and age and new concern is abound in just about every industry as well as ours.

This concern is the use of chemicals in the workplace and regulations have come about recently that will keep this concern to a minimum.

Before chemicals are introduced into the workplace, special considerations must be made, such as: training, handling, storage, transportation, health hazards and emergency measures. The use of chemicals in any work place is one of the hottest global topics today, and the following information will assist you in meeting compliance with the current regulations.

The use of common sense is usually all that is needed to identify the material to be removed from the window or architectural surface.

When dealing with water stains, a water sample can be taken and tested for minerals or other ingredients to aid you in choosing the proper chemical for removal of the stain. The trial and error method works as long as you choose an inconspicuous area of the window.

If you are removing stains or foreign materials from a building surface, the chemical you choose may produce an unwanted chemical reaction with the material you are trying to remove. Some reactions are dangerous fumes or heat that can injure workers or damage the building surface.

Choosing the correct chemical is critical. The manufacturers of exterior building materials may not tell you how to remove the foreign substance form their product, but they can provide you with name or names of chemicals that are not to be used. This valuable information may prevent you from using a chemical that will not only remove the foreign material from the surface but the surface itself.

A window cleaner needs an education of the following before any chemicals are used:

1. **The type of foreign material or residue to be removed**
2. **The reaction the chemical will have on the material/residue**
3. **The composition of the surface that the material/residue is to be removed from**
4. **The affect the chemical may have on the person using it [if exposed]**
5. **The affect the chemical may have on the environment [if exposed]**

The Importance of Reading a Label

Labels on chemicals you may use for window cleaning, come in many formats. Some labels use words to describe the hazards, and some use number and colors to help you quickly identify the kind and degree of hazard the chemical could present.

ALWAYS READ THE LABEL FIRST

Always read the label before you move, handle or open a chemical container. It has a lot of valuable information and instructions.

A Label Will Tell You:

- The identity of the chemical-the common name, the chemical name or both. If the substance contains more than one chemical, they will all be listed.
- The name and address of the company that manufactured or imported the chemical.
- The chemical's physical hazards. (What might happen if you handle it incorrectly)
- The chemical's health hazards. These are the possible health problems that could result from overexposure.
- Some labels include important information on storage and handling instructions.

- Basic protective clothing, equipment, and procedures that should be used when working with the chemical are usually listed.

Material Safety Data Sheets (MSDS)

The Material Safety Data Sheet (MSDS) is often called the key to hazard communication. The MSDS is the one place where you can find all the important information on the chemical. (Labels contain a lot of useful information, but because of their small size they can't provide all the information you may need to stay safe.)

MSDSs do not have to follow any specific format. But they all have to provide the same kinds of information. OSHA's recommended MSDS format is most widely used and is the one the IWCA recommends. The MSDS is divided into eight sections.

Important: Always be sure that you are using the latest version of an MSDS.

THE MSDS- SECTION BY SECTION

The MSDS will first tell you the identity of the chemical. This will include the product name and the common name of the material. The identity must be stated exactly the same as on the label.

Section 1-Supplier's Information

Section 1 tells you:

The name, address, and phone number of the company that makes the chemical; and

The date the MSDS was prepared.

Section 2-Hazardous Ingredients/ Identity Information

Section 2, Hazardous ingredients, identity, information, lists:

Hazardous components of the chemical, including mixtures, by their scientific and common names.

Safe exposure limits for workers will include OSHA's Permissible Exposure Limit (PEL). The American Conference of Governmental Industrial Hygienists' Threshold Limit Value (TLV) is another common limit listed.

The only time you won't see the exact chemical components listed here is if the chemical is a manufacturer's “trade secret”. The exposure limits and other hazard and safety information still have to be provided. And even trade secret identities must be given out in certain circumstances.

Section 3-Physical/Chemical Characteristics

Section 3, Physical/Chemical Characteristics, may look very scientific, but the information in the section is actually very basic and important. It tells you what conditions will change the chemical's form, which could affect the type and degree of the chemical's hazard.

Example: A chemical with a very high vapor pressure probably needs to be treated differently than one with a low vapor pressure. A high vapor pressure, which means the chemical evaporates quickly, will require better ventilation, and possibly a respirator and other protective measures.

Here's what you'll find in Section 3:

* Boiling point and melting point;

* Vapor pressure, vapor density, and evaporation rate; and

* Solubility in water and specific gravity.

This section also tells you how the chemical should look and smell under normal conditions,

Section 4-Fire and Explosion Hazard Data

Section 4 of the MSDS, Fire and Explosion Hazard Data, is just what It sounds like. This extremely important section tells you:

- The chemical's flash point and its

- Flammable or explosion limits.

This section also tells you what to use to put out a fire started by the chemical, as well as any special hazards or firefighting procedures to be aware of.

Section 5-Reactivity Data

Section 5, Reactivity Data, shows whether you need to be concerned about what could happen (the reaction) if the chemical is mixed with air, water, or other chemicals. It also explains what conditions and chemicals to keep it away from.

Section 6-Health Hazard Data

Section 6, Health Hazard Data, delivers critical information to help keep you safe. It begins by telling you how the chemical could get into your body:

- Inhaling; and/or
- Swallowing; and/or
- Through the skin.

Then it tells you what health hazards could result from exposure to the chemical. These health hazards could be either:

Acute, showing up right after exposure
Chronic, taking a long time to show up.

There's also space in this section for symptoms of exposure, like headache or skin rash. The MSDS also tells you whether the chemical might aggravate an existing medical condition, such as breathing or heart problems. If the chemical is believed to be carcinogenic (cancer-causing), that's here, too.

The final part of the health hazards section is emergency and first-aid procedures to follow for accidental exposure to the chemical. You should always be familiar with this information, in case something goes wrong.

Section 7-Precautions for Safe Handling and Use

In Section 7, Precautions for Safe Handling and Use, you'll find instructions for the correct way to handle, store, and dispose of the chemical. There's also information on what to do if the chemical spills, leaks, or is released into the air. Naturally, you need to know this information before you start the job.

Your company may have a standard procedure for handling the chemical, which takes into consideration the chemical's use at your workplace. Know your company's procedures and follow them.

Section 8-Control Measures

The final section, section 8, is Control Measures. This is where you'll find out what type of protective clothing and equipment to use when working with the chemical. You'll also see what type of ventilation is called for and what work and hygiene practices-such as washing your hands after working with the chemical-you need to follow to prevent accidental exposure.

Again, your company may have procedures different from those listed in the material safety data sheet. If you're not sure what to do, ask your supervisor.

REGULATIONS

In the past, any chemical hazards were fined by OSHA under the General Duty Clause, Sec. 5 (a) (1) of the Act. This worked well, however it was too broad. Recently, OSHA produced regulations that would cover every aspect of chemical use in it's CFR 1910.1200.

This is a very involved standard and at times difficult to understand.

Fortunately, the standard is available in pamphlet form and is titled: " Hazard Communication Standard " OSHA publication number 3084. Also available, " Hazard Communication Guidelines for Compliance " OSHA publication number 3111.

A brief summary of what your responsibility is under the Hazard Communication Standard is:

-To maintain a verbal and written hazard communication program for your work place.

-To assure that all containers of chemicals are and remain properly labeled.

-To implement a training program regarding the use of hazardous chemicals and protective measures.

-To maintain a list of chemicals used in the work place and the MSDS for inspection by employees and customers.

[SAMPLE MSDS]

Material Safety Data Sheet
May be used to comply with OSHA's 29 CFR 1910.1200. Standard must be consulted for specific requirements.

US Department of Labor
Occupational Safety and Health Administration
(Non mandatory form)
OMB No. 1218-0072

Identity (as used on label and list)

Blank spaces are not permitted and NA- not applicable must be used

DAWN DISH DETERGENT

Manufacturer's name, address, emergency phone number and date prepared.

Proctor & Gamble (800) 543-0485
Ivorydale Technical Center
Cincinnati, OH 45217 February, 1990

Section 2-HAZARDOUS COMPONENTS (Specific Chemical identity, common name(s)-OSHA pel-Other limits

Ethyl Alcohol	(Ethanol)		1900mg/m3		64-17-5
		OSHA PEL	**ACGIH TLV**	**% Optional**	**CAS No.**

Section 3-PHYSICAL/CHEMICAL CHARACTERISTICS

Component	**Boiling point**	**Vapor pressure**	**Vapor density(air=1)**	**Specific gravity(H20=1)**
DAWN	uknown	unknown	unknown	1.30 g/cc

Melting point	**Evaporation rate**	**Solubility in water**	**Appearance and odor**
N/A	unknown	completely soluble	clear blue liquid-perfumed

Section 4-FIRE AND EXPLOSION HAZARD DATA

Component	**Flash point**	**Flammable limits**	**LEL**	**UEL**
DAWN	116 F Closed cup	---------->	N/A	N/A

Extinguishing media
CO2, water or dry chemical

Special Fire Fighting Procedures
None. Although this product has a flash point below 200 F, it is an aqueous solution containing ethyl alcohol which does not sustain combustion.

Unusual Fire and Explosion Hazards
None

DOT Classification
N/A

Section 5-REACTIVITY DATA

Component
DAWN

Stability	**Stable/Unstable**	**Conditions to avoid**
	Stable----------	None known

Incompatibility(materials to avoid)	**Hazardous decomposition or by-products**
Chlorine Bleach	None

Hazardous polymerization may occur [ ] may not occur [WILL NOT]

Section 6-HEALTH HAZARD DATA

Routes of entry	Eyes	Inhalation	Skin	Ingestion
	AVOID	AVOID	AVOID	AVOID

Health Hazards[acute and chronic]
Eyes: May cause mild transient irritation
Ingestion: May cause transient gastrointestinal irritation
Skin: Transient irritation with prolonged exposure to concentrated material

Signs and symptoms of exposure
Eyes: May cause stinging, tearing, itching, swelling and or redness
Ingestion: May result in nausea, vomiting and or diarrhea
Skin: Prolonged contact with concentrated material may be drying or transiently irritating to the skin

Carcinogenicity: NO **NTP?:** NO **IARC Monographs?:** NO **OSHA Regulated:** NO

Medical conditions aggravated by exposure

Emergency and First Aid Procedures
Eyes: Immediately flush with water for at least 15 minutes
Skin: If prolonged contact occurs, rinse thoroughly with water, change clothes if they have been spilled on
Inhalation:
Ingestion: Drink 1 or 2 glasses of water

Section 7-PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken if material is released or spilled.

Small Quantities: Flush down acceptable sewer (contains biodegradable surfactants). Prevent large spills from reaching a waterway. Sorbents may be used.

Large Quantities: Disposal is to be performed in compliance with all regulations. For larger quantities, incineration is preferred. Do not landfill.

Waste disposal method Approved waste disposal site, do not landfill.

Handling and storing precautions No unusual precautions necessary

Other precautions None required under normal use.

Section 8-CONTROL MEASURES

Respiratory Protection [Specify Type] None

Ventilation **Local exhaust** [ ] **Mechanical exhaust** [ ]
None special **Other** [ ]

Protective gloves [Rubber if desired or for prolonged direct contact] **Eye protection** [None, unless a splash may occur]

Protective clothing or equipment: None

Work/Hygienic practices As with all chemicals, use with due care according to label instructions and precautions.

SHORT QUIZ

1. Before using any chemical for window cleaning or glass restoration, you should:
   a) Read the label
   b) Wear gloves
   c) Wear goggles
   d) Be trained in it's correct use by your employer
   e) All of the above

2. The best way to barricade a doorway you're working on is to:
   a) Stick your bucket in it
   b) Call the police
   c) Lock it and/or Guard it
   d) Just set up a Danger Sign

3. It's best to remove labels from chemicals so your competitors won't know what products you use as long as you have the MSDS with you at all times:
   a) True
   b) False

4. MSDS stands for:
   a) Material Safety Discovery Section
   b) My Silly Dog Spot
   c) Material Specification Dissolving Solution
   d) Material Safety Data Sheet
   e) None of the above

5. You should have an MSDS whenever:
   a) You're using a chemical at work
   b) You're buying chemicals from a supplier
   c) You're riding in your truck or car
   d) None of the above

6. An MSDS will tell most of the specifics about a particular chemical, but it won't tell you who makes it and their phone number:
   a) True
   b) False

7. Reactivity information on a MSDS tells you how:
   a) The chemical will react with air
   b) The chemical will react with water
   c) The chemical will react with other chemicals
   d) All of the above
   e) None of the above

8. Health Hazard Data on a MSDS is really just for a doctor to know:
   a) True
   b) False

9. The OSHA Hazard Communication Regulation basically requires which of the following four:
a) To maintain a verbal and written hazard communication program for your work place.
b) To assure that all containers of chemicals are and remain properly labeled.
c) To implement a training program regarding the use of hazardous chemicals and protective measures.
d) To maintain a list of chemicals used in the work place and the MSDS for inspection by employees and customers.
e) All the above

ANSWERS

1. Before using any chemical for window cleaning or glass restoration, you should:
   f) Read the label
   g) Wear gloves
   h) Wear goggles
   i) Be trained in it's correct use by your employer
   j) All of the above

2. The best way to barricade a doorway you're working on is to:
   e) Stick your bucket in it
   f) Call the police
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   h) Just set up a Danger Sign

3. It's best to remove labels from chemicals so your competitors won't know what products you use as long as you have the MSDS with you at all times:
   c) True
   d) False

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6. An MSDS will tell most of the specifics about a particular chemical, but it won't tell you who makes it and their phone number:
   c) True
   d) False

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   f) The chemical will react with air
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   j) None of the above

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   c) True
   d) False

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c) To implement a training program regarding the use of hazardous chemicals and protective measures.
d) To maintain a list of chemicals used in the work place and the MSDS for inspection by employees and customers.
e) All the above