

Script for Module Five

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Welcome to Module 5, which will go over what you need to know when working with Iodine and other iodine-based sanitizers. As with each of the other presentations, this material was produced under grant number SH-05046-SH8 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does the mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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Iodine and iodine mixtures can be used as both antiseptics and disinfectants. The commonly used form used is called povidone. Povidone-iodine is a common antiseptic used on skin and for small wounds (often used as a surgical scrub). It is also known as "Betadine." This image shows an example of what the label would look like for the antiseptic form of iodine. Iodine is a very effective microbiocide. The word microbiocide means that it lowers the chance of infection from bacteria and viruses. This product is used in the medical industry, and you may have had it used on a cut or wound. It has a characteristic red to brown color in solution, that sometimes leaves a stain. It works by breaking down the cell wall of bacteria and viruses, rendering them ineffective. When used as a disinfectant, typically iodine is mixed with a detergent or a chemical.

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Iodine is used for disinfection in agricultural, medical, food processing, and a variety of other settings. Diluted **iodophor** is often used by brewers and winemakers to sanitize equipment and bottles. Its major advantage over other sanitizers is that when used in proper proportions, it **does** not require rinsing. Depending upon the product used, it is usually non-corrosive and has a long shelf life as packaged. However, it can leave unattractive orange-brown stains on fabrics, plastic parts and equipment if left in contact with them for an extended period of time or not used in properly diluted concentrations.

Your employer should let you know the locations that Iodophor is being used and the concentration that is being applied in each location.

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Iodophors are well suited for a variety of conditions and surfaces. As a result, you may see them in a variety of different types of containers and stored in many different forms. What is most important is

that your supervisor provides you with training on what product to use on what surface, how to properly dilute the substance to the desired concentration, what personal protective equipment should be worn when handling the product, and how long the product needs to come in contact with the surface to be effective.

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For example, one form of an iodophor is Fam 30. This product is designed for use in situations such as cattle markets, livestock housing, disinfecting fish nets, holding tanks, and crates, as well as in ponds and fisheries to prevent the spread of disease. It is approved for use with poultry as well as to treat foot and mouth disease, swine vesicular, and blue ear pig disease. However, the product must be diluted to very different concentrations depending on the use. For that reason, it is important that before using any product, your employer should train you on how to properly handle the material.

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Where should you look for more information about Iodine or Iodophor? You can start by reading the label on the container used to store the undiluted form of the chemical. For Iodophor, this may be a drum, or even a small plastic container. You can also ask to read the safety data sheet for the chemical being used. This slide shows a picture of what the label looks like for Iodine Teat Dip, which is used to treat cows before and after milking.

From this label, you can see it lists how to use the product, what precautions should be taken, and what to do in the event that you become exposed to the chemical. However, this label provides very little information about the health effects of exposure to iodine. To answer this question, we have to look for more information.

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To find the potential health hazards associated with exposure to iodophor we have to review the SDS.

However, there are many different products that include the name Iodophor. Some are iodine and a detergent, causing irritation and some have corrosives or acids in them. Personal protective equipment must be provided and used based on the hazard(s) listed in the safety data sheet or SDS. Your employer should have copies of SDSs for all chemicals used at the facility.

We might find that this chemical is generally non-corrosive, but can cause irritation in situations with higher concentrations of the chemical AND longer contact with skin.

You may also find the pictograms shown here on either the container label or on the safety data sheet. These pictograms represent the main hazards posed by iodophor.

The first pictogram of an exclamation point (!) indicates the following POSSIBLE hazards:

- Irritant (skin and eye)

- Skin Sensitizer
- Acute Toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritant

Note: NOT all of these hazards is likely applicable to iodophor, so read the SDS carefully.

The second pictogram of liquid in test tubes being poured on a hand and a surface to represent corrosion. These signify that the chemical may cause eye damage, skin corrosion or burns, and it may be corrosive to certain metals.

If you feel like you need more information about the use of iodine or iodophor in your workplace, make sure to ask your supervisor or the safety and health representative, and notify them right away if you experience any symptoms discussed here.

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