

Health, Safety and Environmental Affairs — Dermatitis Prevention and Control

While it has been said that "a certain percentage of the population is sensitive and/or allergic to nearly anything," an aggressive program of health and safety testing in independent laboratories, extensive field testing and ongoing monitoring of customer complaints ensures the number of people who experience problems with TRIM® metalworking fluids is very low. Yet since "used metalworking fluids" are often implicated in industrial dermatitis cases, it is important we understand what we can do to protect workers from potential irritants.

The following observations are based on more than 65 years of work with Metalworking Fluids (MWF) chemistry in the industrial environment. The information is offered with the understanding that it should not be substituted for the advice of a health care professional with experience working in the industrial environment.

1. **Good personal hygiene is key to minimizing skin contact with harmful agents.** This entails washing the skin as frequently as needed with a mild soap in warm water and drying thoroughly (particularly in cold weather to prevent chaffing).

Although keeping clean is essential, it is important that it be done with appropriate materials. The use of solvents such as alcohol, gasoline, turpentine, paint remover, or degreasing agents should be avoided completely. Such materials not only remove dirt from the skin, but also its protective oil layer. Water alone is not sufficient either; soap is needed to remove water-insoluble irritants from the skin. However, it is important that the correct type of soap is used. Abrasive soaps and powdered or granular soaps clean by physical abrasion, so use of this type of soap for four, six, ten times a day or more can easily result in irritated skin. Waterless hand cleaners often contain materials harsh to the skin also, so mild bar or lotion soap is recommended for general use. For individuals already affected by skin irritation, the use of mineral oil or oatmeal type soaps may be helpful. It is important to wash the skin before consuming any food and whenever gloves are changed.

2. **Using simple hand creams.** Should it become necessary to use "aggressive" techniques or



Good personal hygiene is important

cleaners on the skin, it may be very beneficial to replace some of the oil removed by the cleaning with a "good" hand cream. Experience indicates that "simple" hand creams produce the best long term results. These "simple" hand creams typically have a minimum amount of dye, very low to no fragrance and no "germicides." In short, use a product that is designed to replace the oil that has been depleted from your skin and nothing else.

3. **Good housekeeping** is also an important element in the prevention of dermatitis. Contamination of the working solution by tramp oils, solvents, garbage, and other foreign material should be reduced as much as possible. With the vast majority of dermatitis cases that are traced to "used" metalworking fluids, the problem was not caused by the fluid itself, but rather by the "stuff" that had gotten into the fluid.
4. **Use only clean shop rags or towels** for personal clean up. Used shop towels often carry solvents or other chemicals that have been wiped up in addition to chips and swarf that have become embedded in the fabric; small chips create scratches in the skin that serve as a starting point for irritation.
5. **Wearing gloves and preventing dermatitis.** There are several health and safety issues associated with the use of gloves



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in the industrial environment, but we will not get into them here. However, if you wear gloves there are certain things that will help prevent dermatitis. Be sure when using rewashed gloves that they have all the cleaning compounds rinsed out of them. If you are using rubber gloves it is important to ensure that they stay dry inside. Change them regularly; be sure that new gloves you put on are clean and dry inside and that you put them on clean hands. (You don't want to trap fluid between the glove and your skin.) If you are wearing rubber gloves you may want to turn up or roll the cuffs to keep any fluid that gets on your gloves from "migrating" inside the gloves.

6. **"Barrier creams" can be useful in reducing skin problems** in some situations. Again, it is critical that these barrier creams be applied to clean dry skin and that the proper barrier cream be selected for the specific situation. There are two basic types of barrier creams that are of general interest to the metal removal industry: those designed for protection against alkaline, water-based systems (most coolants and cleaners) and those for protection against petroleum oil such as straight cutting or stamping compounds. Again, where possible, use simple barrier creams with no dye, fragrance or germicide.

Notes:

1. While the information in this Master Fluid Solutions Technical Bulletin is based on many years of experience with metalworking fluids it cannot and should not be substituted for the advice of a medical professional who is experienced with the issues found in the metalworking environment.
2. If it is appropriate to use a "medicated" hand cream or barrier cream it should be with the advice and supervision of a medical professional.
3. If you encounter a dermatitis problem and decide to change out the metalworking fluid, keep several pint samples of the "used" fluid so it can be evaluated by your fluid supplier and/or an independent laboratory or used in patch testing by a dermatologist at a later date.