



Hazardous Communications Chemical Entry Routes

Safety and Environmental Management System

SEMS 6-4

HOW CHEMICALS ENTER YOUR BODY

In order for a chemical to have any effect on you, you have to come in contact with a chemical in its solid, liquid or gas form.

There are (4) four “routes of entry” or paths a chemical can take:

BREATHING (Inhalation)

Chemicals can enter through your lungs as you breathe the air around you. Some chemicals can irritate your lungs, nose and throat, like ammonia. Others can be absorbed into your blood, traveling to and affecting the organs in your body. Prolonged exposure to hazardous substances like asbestos and other solid fiber materials can cause serious health problems. Dusts and fibers can become trapped in your lungs causing irritation, scarring and damage.

Regardless of the type of chemical you work with, your first line of defense against breathing in hazardous chemicals is to use an approved respirator.

THROUGH YOUR SKIN (Absorption)

Although the skin is a very effective barrier to most chemicals, it can be penetrated. Damage to the skin from cuts, scrapes, cracking, dryness or other conditions can allow a chemical to enter into the body. Some chemicals can damage the skin on contact and others pass through the skin and into your bloodstream. A group of chemical solvents such as toluene, gasoline and mineral spirits are absorbed easily through the skin. Some pesticides like parathion can easily pass through the skin, building up to poisonous levels in the body.

There are two easy steps which will prevent absorption—wearing gloves that are chemical resistant and washing off any chemical that contacts the skin as soon as possible. When you are washing, make sure you use a product designed for washing skin and not products like paint thinner, turpentine and benzene.

SWALLOWING (Ingestion)

A chemical can enter into your body if you accidentally swallow it or if your food or drink becomes contaminated. Simply by not washing your hands before you eat after working with chemicals or eating, smoking or drinking in an area where chemicals are in use could lead to trouble.

INJECTION

Like the shot you get from your doctor when you are ill, chemicals can be accidentally injected into your body. If you work around high pressure equipment of any kind like compressed air, grease guns, or hydraulic lines, the potential exists for this kind of accident. Be extra cautious around any kind of pressurized spray equipment or high pressure lines and never use compressed air to clean off your hands, arms or clothing.