

# Benzene

## Summary:

*Benzene is a widely used chemical formed from both natural processes and human activities. Breathing benzene can cause drowsiness, dizziness, sleepiness, and unconsciousness; long term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia. Benzene has been found in at least 813 of 1,430 National Priorities List sites identified by the EPA.*

## Your Right to Know

### Exposure Risks

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

The major effect from long term (365 days or longer) exposure is on the blood. Benzene causes harmful effects in the bone marrow and causes a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

It is not known whether benzene exposure affects the developing fetus in pregnant

women or fertility in men. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

*The Department of Health and Human Services has determined that benzene is a known carcinogen. Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include volcanoes and forest fires. Benzene is a natural part of crude oil and gasoline.*

### Do You Know Your Benzene Exposure?

*Passive dosimeters are the most convenient way to monitor your environment!*

The *Kem Medical VAPOR-TRAK*<sup>®</sup> 8600 organic monitor has been validated for the OSHA 8-hour TWA exposure limit of 1.0 ppm and 5.0 ppm for a 15-minute STEL.

All VAPOR-TRAK<sup>®</sup> badges are:

- Accurate, with reproducible results
- Easy to Use
- Designed for personal and area monitoring
- Full validation studies available
- Phone Notification of High Results
- Technical Assistance
- Pre-paid return postage and laboratory analysis inclusive



# Toluene

## Summary:

*Exposure to toluene happens mostly through breathing it in the workplace air, in automobile exhaust, or during deliberate glue sniffing or solvent abuse. It is also used in many consumer products. Breathing high levels of toluene affects the brain and can cause headaches, confusion, dizziness, sleepiness, and memory loss. This substance has been found in at least 869 of 1,416 National Priorities List sites identified by the EPA.*



## Your Right to Know

### Exposure Risks

Toluene affects the brain. Low to moderate levels from long-term exposure can cause tiredness, confusion, weakness, drunken-type actions, memory loss, nausea, and loss of appetite, and hearing loss.

Inhaling a high level of toluene in a short time can make you feel light-headed, dizzy, or sleepy. It can cause unconsciousness or even death.

Several studies have shown that unborn animals were harmed when high levels of toluene were breathed by their mothers.

Babies can have neurological problems and retarded growth and development if their mother s breathe a high level of toluene during pregnancy. We do not know if toluene harms the unborn child if the mother

is exposed to low levels of toluene during pregnancy.

Toluene also affects the kidneys.

*U.S. demand for toluene is expected to grow moderately over the next several years. The largest users of "recovered" toluene are companies that make benzene. Companies also add toluene to aerosol spray paints, wall paints, lacquers, paint strippers, adhesives, printing ink, spot removers, cosmetics, perfumes, and antifreeze.*

### Do You Know Your Toluene Exposure?

*Passive dosimeters are the most convenient way to monitor your environment!*

The *Kem Medical* **VAPOR-TRAK**<sup>®</sup> 8541 toluene monitor has been validated for the OSHA 8-hour TWA exposure limit of 100 ppm and 150 ppm for a 15-minute STEL.

All VAPOR-TRAK<sup>®</sup> badges are:

- Accurate, with reproducible results
- Easy to Use
- Designed for personal and area monitoring
- Full validation studies available
- Phone Notification of High Results
- Technical Assistance
- Pre-paid return postage and laboratory analysis inclusive

# Xylene

## Summary:

*Exposure to xylene can occur in the workplace air when using paint, gasoline, paint thinners, and other products that contain it. People who breathe high levels may have dizziness, confusion, and a change in their sense of balance. This substance has been found in at least 658 of 1,430 National Priorities List sites identified by the EPA.*

## Your Right to Know

### Exposure Risks

Xylene affects the brain. Xylene is a fat solvent that causes Central Nervous System dysfunction and destruction of other tissues. High levels from exposure for short periods (14 days or less) or long periods (1 year or more) can cause headaches, lack of muscle coordination, dizziness, confusion, and change in one's sense of balance. Exposure of people to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possible changes in the liver and kidneys. It can cause unconsciousness and even death at very high levels.

Studies of unborn animals indicate that high concentrations of xylene may cause increased numbers of deaths, and delayed growth and

development. In many instances, these same concentrations also cause damage to the mothers. We do not know if xylene harms the unborn child if the mother is exposed to low levels of xylene during pregnancy..

*Xylene is one of the top 30 chemicals produced in the USA in terms of volume. It is used as a solvent in the printing, rubber, and leather industries. Xylene is also used as a cleaning agent, and a thinner for paint and in varnishes. It is found in small amounts in airplane fuel and gasoline. Xylene is used as a material in the chemical, plastics, and synthetic fiber industries, and as an ingredient in the coating of fabrics and papers. Isomers of xylene are used in the manufacture of polymers, such as plastics.*

### Do You Know Your Xylene Exposure?

*Passive dosimeters are the most convenient way to monitor your environment!*

The *Kem Medical VAPOR-TRAK*<sup>®</sup> 8540 xylene monitor has been validated for the O S H A 8 - h o u r T W A exposure limit of 100 ppm and 150 ppm for a 15-minute STEL.

All VAPOR-TRAK<sup>®</sup> badges are:

- Accurate, with reproducible results
- Easy to Use
- Designed for personal and area monitoring
- Full validation studies available
- Phone Notification of High Results
- Technical Assistance
- Pre-paid return postage and laboratory analysis inclusive

