

This fact sheet answers the most frequently asked health questions about vinyl acetate. For more information, you may call 404-639-6000. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

**SUMMARY:** Exposure to vinyl acetate occurs mainly in the workplace. Breathing high levels of it for a short time may irritate your eyes, nose, and throat. This chemical has been found in at least 48 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

## What is vinyl acetate?

(Pronounced vī'nəl ăs'ē-tāt')

Vinyl acetate is an industrial chemical that is produced in large amounts in the United States. It is a clear, colorless liquid with a sweet, fruity smell. It is very flammable and may be ignited by heat, sparks, or flames.

Vinyl acetate is used to make other industrial chemicals. These chemicals are used mainly to make glues for the packaging and building industries. They are also used to make paints, textiles, and paper. Vinyl acetate is also used as a coating in plastic films for food packaging and as a modifier of food starch.

## What happens to vinyl acetate when it enters the environment?

- Vinyl acetate enters the environment from industries that make, use, or process it.
- Vinyl acetate breaks down readily in the environment.
- It takes about 6 hours for one-half of the chemical to break down in the air.
- It takes about 7 days for one-half of it to break down in water.
- It is not known how long vinyl acetate stays in the soil.

## How might I be exposed to vinyl acetate?

- Working in a factory that makes or uses it.
- Breathing air near a factory that makes or uses vinyl acetate.
- Breathing air near a hazardous waste site containing vinyl acetate.
- Drinking contaminated water.
- Touching products that were made with it, such as glues and paints.

## How can vinyl acetate affect my health?

The major effects experienced from breathing high levels of vinyl acetate for a short time are irritated eyes, nose, and throat.

We don't know what the effects are from breathing lower levels of vinyl acetate for a long time. We also don't know what happens if you ingest vinyl acetate.

Long-term animal studies show a reduced ability of animals to fight infection when rats and mice ingested high levels of the chemical.

Birth defects were not seen in the offspring of animals that were exposed to vinyl acetate in drinking water during their pregnancies.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

Vinyl acetate has caused skin irritation and blisters in workers who accidentally spilled it on their skin. Eye irritation has also been seen when people were exposed to vinyl acetate in the air or through accidents when the chemical went into their eyes.

### How likely is vinyl acetate to cause cancer?

The International Agency for Research on Cancer has determined that vinyl acetate is not classifiable as to its carcinogenicity to humans.

There are no human studies on the carcinogenicity of vinyl acetate. Animal studies have shown mixed results; one study showed an increase in tumors of the noses of rats who breathed vinyl acetate, while another study did not show an increase in tumors in rats who drank water containing the chemical.

### Is there a medical test to show whether I've been exposed to vinyl acetate?

No tests are available to measure vinyl acetate in the blood, urine, or body tissues. Vinyl acetate breaks down very quickly in the body to substances that are normally found in the body; thus, measurement of these break down products is not useful for determining whether you have been exposed to vinyl acetate.

### Has the federal government made recommendations to protect human health?

The Environmental Protection Agency (EPA) requires that discharges or accidental spills into the environment of

5,000 pounds or more of vinyl acetate be reported to the EPA.

The Food and Drug Administration (FDA) has determined that vinyl acetate may be safely used as a coating or a part of a coating that is used in plastic films for food packaging, and as a modifier of food starch.

The American Conference of Governmental Industrial Hygienists (ACGIH) has established an exposure limit of 10 parts of vinyl acetate per million parts of workplace air (10 ppm) for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that exposure to vinyl acetate in the workplace not exceed 4 ppm over a 15-minute period.

### Glossary

Carcinogenicity: Ability to cause cancer.

Ingesting: Taking food or drink into your body.

Long-term: Lasting one year or longer.

ppm: Parts per million.

Short-time: Lasting 14 days or less.

Tumor: An abnormal mass of tissue.

### References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for vinyl acetate. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

**Where can I get more information?** For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.