



American College of Medical Toxicology

Physicians Specializing in the Care of Poisoned Patients

Automotive Products

How can automotive products be dangerous?

Automotive products are ubiquitous and commonly stored in garages, sheds and basements. Some of these products are dangerous when inhaled, swallowed or splashed onto the skin or into the eyes.

What can happen if someone is exposed to automotive products?

If accidentally ingested, many of these compounds may result in gastrointestinal symptoms such as nausea, vomiting, abdominal pain and cramps. Caustic compounds, such as some cleaning agents, may directly damage the lining of the gastrointestinal tract and lead to bleeding, swelling and perforation of the bowel.

Other chemicals, such as antifreeze and windshield washer solution are also absorbed and may lead to damage to the kidneys, brain or eyes.

Aspiration, which is the passage of fluid into the lungs, may occur when accidentally swallowing one of these products, or if they are vomited. This is especially a risk with fuels and solvents. This may result in chemical pneumonia.

Other dangers include direct splash to the eyes with irritation, burns and corneal scarring. Excessive skin exposure may lead to excessive drying of the skin, chapped skin and irritation. More caustic products may also cause painful burns.

What are some of the more dangerous automotive products?

Automotive products contain many different products and chemicals. Below is a list of some of the more dangerous products. This is not a complete list:

- Coolants/ Antifreeze- Ethylene glycol is the most common automotive antifreeze. Ethylene glycol is highly toxic, even in small amounts, and may result in coma, kidney and central nervous system injury. Untreated ethylene glycol ingestion may cause death. Propylene glycol antifreeze, antifreeze marketed as non-toxic or “safety-freeze”, is not as dangerous as ethylene glycol but may also result in sedation and coma.

- Brake Fluid- Brake fluid components include diethylene glycol and glycol ethers. Diethylene glycol is highly toxic and ingestion may result in irreversible nervous system and kidney damage. Glycol ethers may also result in significant toxicity.
- Windshield washer solution and gas line antifreeze often contain methanol. Methanol is a toxic alcohol that can cause irreversible visual loss or brain damage.
- Wheel cleaners- Ammonium bifluoride and hydrogen fluoride are found in some wheel cleaners. These are very dangerous chemicals that may result in very painful burns to the skin if appropriate gloves and other skin protection are not used. One of the dangers of these chemicals is that they may not initially be painful, with pain and skin changes only developing hours later. Accidental ingestion of these chemicals is extremely dangerous and can cause damage to the lining of the esophagus and stomach as well as lethal cardiac arrhythmias.
- Fuels- Inhalation of gasoline and other fuels can cause incoordination, feelings of intoxication, depressed consciousness and even passing out. Aspiration of gasoline and other fuels may result in severe lung injury. The risk associated with induced vomiting is greater than the risk of allowing the fuel to pass through the GI tract. With some fuel additives such as gas line antifreeze and gas line cleaner other components of the product may be of greater risk than the fuel itself and should be reviewed with your physician or Poison Control. Fuels also pose a fire and explosive risk if vapors are allowed to accumulate in a poorly ventilated space.
- Motor Oil- Accidental ingestions of motor oil are usually of low risk beyond the risk of aspiration from vomiting.
- Car waxes/liquid car wash solutions- These products are mostly safe and minimally toxic. Some car wash powders may be more dangerous, with the potential for irritation and burns to the digestive tract if ingested.

What can I do if someone is exposed?

Remove the person or yourself from the source to a well ventilated area.

If ingestion has occurred, do not make the person vomit as some of these products may cause lung injury with vomiting.

Wiping out the inside of the mouth may decrease some exposure if a thicker liquid is swallowed or in the mouth.

With a skin exposure, copious soap and water should be used to clean the area.

Contact your local poison center, 800-222-1222. Have the exact name of the product handy when you call. Many products have multiple formulations and the exact product name will assist the poison information specialist in the evaluation of the exposure.

If you are unable to contact a poison center seek prompt evaluation at the nearest hospital emergency department.

How can I keep my family safe?

PREVENTION is the key to a safe home and community. Understanding that automotive products can be very dangerous is the first step.

Do not keep products you do not expect to use. These should be disposed of properly. Your local waste management / recycling facility should be able to assist.

Tragic accidental exposures have occurred from the storage of these products in unmarked containers, often jars or used drinking containers. Store automotive products in their original containers, and in a cool, well ventilated area.

Products should be stored in an area safe from curious young children and in secure containers.

Do not pour automotive products down storm drains or on the ground. This can cause contamination of soil and water. Contact your local government for alternatives, as many communities have programs established to help residents properly and safely dispose of hazardous materials and liquids from the home.

Do not smoke around automotive products

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