

Gasoline (Mixture)
CAS 86290-81-5 and 8006-61-9; UN 1203

Synonyms include gas, petrol, casing head gasoline, motor spirit, natural gasoline, and motor fuel.

Persons exposed only to gasoline vapors do not pose significant risks of secondary contamination; however, persons whose clothing or skin is contaminated with liquid gasoline can cause secondary contamination by direct contact or through off-gassing vapors.

Gasoline is a volatile, flammable liquid. It is colorless to pale brown or pink in color with a distinctive odor. Generally, the odor of gasoline provides adequate warning of hazardous concentrations. Its vapors may travel to a source of ignition and flash back. Gasoline vapors are heavier than air and may collect in low-lying areas.

The hydrocarbons in gasoline are readily absorbed by the lungs, less readily absorbed by the gastrointestinal tract, and poorly absorbed by intact skin. Skin burns may result from prolonged contact with gasoline.

Description

Gasoline is a mixture of petroleum hydrocarbons containing straight, branched, and cycloalkanes, which contain 5 to 18 carbons, olefins (alkenes), and aromatic hydrocarbons, including benzene, toluene, and xylenes. Gasoline vapors contain about 90% alkanes and 2% aromatics (0.9% benzene).

Various additives are blended into gasolines and may influence the properties and toxicity of specific gasoline samples (Table 1). In the United States, organic lead compounds were phased out as anti-knock additives in 1997 and are no longer used in commercial gasoline.

Table 1. Gasoline Additives

Octane enhancers	methyl <i>t</i> -butyl ether (MTBE) <i>t</i> -butyl alcohol (TBA) ethanol methanol
Antioxidants	butylated methyl, ethyl and dimethyl phenols various other phenols and amines

	Metal deactivators	disalicylidene- <i>N</i> -methyl-dipropylene-triamine <i>N,N'</i> -disalicylidene-1,2-ethanediamine other related amines
	Ignition controllers	tri- <i>o</i> -cresylphosphate (TOCP)
	Icing inhibitors	isopropyl alcohol
	Detergents/dispersants	various phosphates, amines, phenols, alcohols and carboxylic acids
acids	Corrosion inhibitors	carboxylic, phosphoric and sulfonic

At room temperature, gasoline is a colorless to pale brown or pink liquid with a wide range of boiling points: 90 °F to 399 °F (39 °C to 204 °C). Many of the hydrocarbons found in gasoline vaporize readily at room temperature. Gasoline is flammable at temperatures above -51 °F (-46 °C). Most of the hydrocarbons in gasoline are insoluble in water and soluble in some organic solvents.

Routes of Exposure

Inhalation

Inhalation is a common route of exposure to gasoline. Generally, gasoline's odor provides adequate warning of hazardous concentrations. The odor threshold is 0.025 ppm. Its vapors are heavier than air and may cause asphyxiation in enclosed, poorly ventilated, or low-lying areas.

Children exposed to the same levels of gasoline vapor as adults may receive larger doses because they have greater lung surface area:body weight ratios and increased minute volumes:weight ratios. In addition, they may be exposed to higher levels than adults in the same location because of their short stature and the higher levels of gasoline vapor found nearer to the ground.

Skin/Eye Contact

Gasoline vapors are mildly irritating to mucous membranes; however, gasoline splashed in the eyes can result in transient corneal injury. Repeated or prolonged skin contact with liquid gasoline can degrease the skin, causing irritation and dermatitis. First- and second-degree skin burns can occur from continuous contact with liquid gasoline for several hours. Percutaneous absorption is slow.

Ingestion

Gasoline is not as readily absorbed from the gastrointestinal tract as from the respiratory tract. In adults, about 20 to 50 g can cause severe intoxication and 350 g (12 oz.) can result in death for a 70 kg individual. As little as 10 to 15 g (less than one-half

ounce) may be fatal in children. Symptoms of intoxication by ingestion of gasoline can range from vomiting, vertigo, drowsiness and confusion to loss of consciousness, convulsions, hemorrhaging of the lungs and internal organs, and death due to circulatory failure. Ingestion can cause irritation to the gastrointestinal mucosa and can be complicated by pulmonary aspiration, resulting in chemical pneumonitis.

Sources/Uses

Gasoline is produced by the distillation, cracking, and reforming of crude oil. Various additives influence use and physical properties of the mixture. Gasoline's primary use is as a fuel for reciprocating, spark ignition, and internal combustion engines in automobiles, trucks, and light aircraft.

Standards and Guidelines

ACGIH (TLV-TWA) = 300 ppm (averaged over an 8-hour workshift)

Physical Properties

Description: Clear, pale brown or pink volatile liquid

Warning properties: Characteristic pungent odor at <1 ppm; adequate warning for acute and chronic exposure

Molecular weight: Varies by composition; average molecular weight = 108 daltons

Boiling point (760 mm Hg): Varies by composition; >90 °F (>32 °C)

Freezing point: Varies by composition

Specific Gravity: 0.8 (water = 1)

Vapor pressure: Varies by composition; 773 mm Hg at 41 °C

Vapor density: 3 to 4 (air = 1)

Water solubility: Practically insoluble in water

Flammability: Flammable at temperatures >-51 °F (-46 °C)

Flammable range: 1.4% to 7.4% (concentration in air). Vapors may travel to a source of ignition and flash back.

Incompatibilities

Gasoline reacts with strong oxidizers such as peroxides, nitric acid, and perchlorates.

Health Effects

Gasoline is a mild skin, eye, and respiratory tract irritant. Ingestion of gasoline causes mild to severe irritation to the gastrointestinal mucosa; chemical pneumonitis is often severe. Systemic effects of gasoline exposure are mainly a result of CNS depression.

- **Systemic effects can occur from all routes of exposure. Exposure to low concentrations may produce flushing of the face, staggering gait, slurred speech, and mental confusion. Higher concentrations may result in unconsciousness, coma, and possible death due to respiratory failure.**
- **Gasoline vapors sensitize the myocardium which may result in ventricular fibrillation. Delayed effects may include hemorrhage of the pancreas and fatty degeneration of the liver and of the proximal convoluted tubules and glomeruli of the kidneys.**

Acute Exposure

Most adverse health effects from acute exposure to gasoline are caused by the hydrocarbon component. However, persons who have repeated or massive exposure (e.g., inhalation abuse, prolonged skin contact) to leaded gasoline may develop lead poisoning (lead is no longer added to gasoline in the United States). Immediate effects of exposure to gasoline are primarily due to pulmonary injury and CNS depression. Other systemic effects may develop over several hours. Components of gasoline probably cross the placenta and may be excreted in breast milk.

Children do not always respond to chemicals in the same way that adults do. Different protocols for managing their care may be needed.

CNS

Acute gasoline exposure can cause transient CNS excitation followed by CNS depression. Confusion, giddiness, nausea, headache, blurred vision, dizziness, and weakness can occur. In massive exposures, rapid CNS depression, respiratory depression, seizures, loss of consciousness, coma, and death have been reported.

Respiratory

Gasoline can irritate the mucous membranes of the respiratory tract. Pulmonary congestion, edema, acute exudative tracheobronchitis, and intrapulmonary hemorrhage have been reported in severe exposures. Pulmonary aspiration of ingested gasoline may cause pneumonitis.

Exposure to certain chemicals can lead to Reactive Airway Dysfunction Syndrome (RADS), a chemically- or irritant-induced type of asthma.

Children may be more vulnerable because of relatively increased minute ventilation per kg and failure to evacuate an area promptly when exposed.

Hydrocarbon pneumonitis may be a problem in children.

Cardiovascular

Gasoline vapors sensitize the myocardium to circulating epinephrine which may cause potentially fatal ventricular fibrillation.

Renal

Inhalation of massive amounts of gasoline may result in fatty degeneration of the proximal convoluted tubules and glomeruli and renal failure. Ingestion of gasoline has been reported to cause oliguria, tubular necrosis, interstitial edema, hematuria, reduced creatinine clearance and elevated serum creatinine, elevated urinary protein, glucose, and hemoglobin, and elevated BUN.

Gastrointestinal

Damage to the digestive tract following ingestion of gasoline may include severe esophagitis, gastritis, degeneration of the epithelium, and mucositis of the oral cavity.

Dermal

Gasoline vapors can cause inflammation of the skin. Prolonged contact with liquid gasoline causes significant irritation (i.e., irritant contact dermatitis), degreasing, and burns. Redness and blisters may occur.

Ocular

Eye irritation from gasoline vapors begins at about 200 ppm. Inflammation is generally slight. When splashed in the eye, gasoline may cause burning pain and transient corneal injury. Chronic exposure to gasoline may cause damage to the cornea, retina, and ciliary body.

Potential Sequelae

Acute hydrocarbon-induced CNS depression generally is completely reversible after exposure ceases unless the episode has been complicated by lack of oxygen. Acute renal toxicity may persist for several weeks following ingestion of gasoline, but usually resolves with treatment. Chronic lung dysfunction may result from pulmonary aspiration.

Chronic Exposure

No health effects are expected from normal use of gasoline as a fuel. Chronic, excessive exposure such as occurs in intentional gasoline abuse (sniffing) can cause irritability, tremor, nausea,

insomnia, loss of memory, drowsiness, mental dullness, confusion, seizures, muscle spasms, altered vision, hallucinations, impaired gait, inflammation of the optic nerve, dizziness, and involuntary eye movements. Some of these effects may be due to lead or other additives in gasoline (lead is no longer added to gasoline in the United States). Sudden deaths have been reported.

Chronic abuse of gasoline may cause kidney disease (i.e., renal tubular dysfunction). Nerve disorders, causing motor weakness and muscular degeneration, can also occur in gasoline abusers. Abuse of leaded gasoline has been reported to cause brain disease (i.e., lead encephalopathy) (lead is no longer added to gasoline in the United States). Behavioral and intellectual changes, including immediate and delayed visual memory and perception, psychomotor disturbances, and visuomotor learning ability, have been reported (probably involving leaded gasoline). Chronic exposure may be more serious for children because of their potential longer latency period.

Degreasing dermatitis with skin cracking and peeling results when skin has repeated or prolonged contact with gasoline.

Carcinogenicity

The International Agency for Research on Cancer has classified gasoline in Group 2B, possibly carcinogenic to humans. The classification is based on inadequate evidence of carcinogenicity in humans and limited evidence for carcinogenicity in experimental animals.

Reproductive and Developmental Effects

The hydrocarbons found in gasoline can cross the placenta. There is no direct evidence that maternal exposure to gasoline causes fetotoxic or teratogenic effects. Gasoline is not included in *Reproductive and Developmental Toxicants*, a 1991 report published by the U.S. General Accounting Office (GAO) that lists 30 chemicals of concern because of widely acknowledged reproductive and developmental consequences.

Special consideration regarding the exposure of pregnant women is warranted, since gasoline may be a genotoxin; thus, medical counseling is recommended for the acutely exposed pregnant woman.

Prehospital Management

Victims exposed only to gasoline vapors do not pose contamination risks to rescuers. Victims whose clothing or skin is contaminated with liquid gasoline can secondarily contaminate response personnel by direct contact or through off-gassing vapors.

Gasoline is a skin, eye, and respiratory-tract irritant and a CNS depressant in acute exposures. Pulmonary aspiration of even small amounts of ingested gasoline can cause chemical pneumonitis. Systemic effects may also include renal failure, and increased susceptibility to ventricular fibrillation.

There is no antidote for gasoline poisoning. Treatment consists of support of cardiovascular and respiratory functions.

Hot Zone

Rescuers should be trained and appropriately attired before entering the Hot Zone. If the proper equipment is not available, or if rescuers have not been trained in its use, assistance should be obtained from a local or regional HAZMAT team or other properly equipped response organization.

Rescuer Protection

Gasoline vapors are mild respiratory-tract irritants that are absorbed well by inhalation. The liquid is a mild skin irritant with slow skin absorption.

Respiratory Protection: Positive-pressure, self-contained breathing apparatus (SCBA) is recommended in response situations that involve exposure to potentially unsafe levels of gasoline vapors.

Skin Protection: Chemical-protective clothing is not generally required when only vapor exposure is expected because gasoline vapors are neither irritating to skin nor absorbed well through the skin. Chemical-protective clothing is recommended when repeated or prolonged contact with liquid gasoline is anticipated because skin irritation and dermal absorption may occur.

Gasoline is highly flammable and explosive. In case of fire, SCBA and chemical-protective clothing will provide limited or no thermal protection. Any clothing that produces a static charge potential exceeding 3,000 volts can cause the ignition of gasoline-air mixtures.

ABC Reminders

Quickly access for a patent airway, ensure adequate respiration and pulse. If trauma is suspected, maintain cervical

immobilization manually and apply a cervical collar and a backboard when feasible.

Victim Removal

If victims can walk, lead them out of the Hot Zone to the Decontamination Zone. Victims who are unable to walk may be removed on backboards or gurneys; if these are not available, carefully carry or drag victims to safety.

Consider appropriate management of chemically contaminated children, such as measures to reduce separation anxiety if a child is separated from a parent or other adult.

Decontamination Zone

Patients exposed only to gasoline vapors who have no skin or eye irritation may be transferred immediately to the Support Zone. Other patients will require decontamination as described below.

Rescuer Protection

If exposure levels are determined to be safe, decontamination may be conducted by personnel wearing a lower level of protection than that worn in the Hot Zone (described above).

ABC Reminders

Quickly access for a patent airway, ensure adequate respiration and pulse. Stabilize the cervical spine with a collar and a backboard if trauma is suspected. Administer supplemental oxygen as required. Assist ventilation with a bag-valve-mask device if necessary.

Basic Decontamination

Victims who are able may assist with their own decontamination. Remove and double-bag contaminated clothing and personal belongings.

Flush exposed skin and hair with plain water for 2 to 3 minutes, then wash with mild soap. Rinse thoroughly with water. Use caution to avoid hypothermia when decontaminating children or the elderly. Use blankets or warmers when appropriate.

Irrigate exposed or irritated eyes with plain water or saline for 15 minutes. Remove contact lenses if easily removable without additional trauma to the eye.

In cases of ingestion, **do not induce emesis or use gastric lavage** and do not administer activated charcoal. Gasoline is poorly absorbed from the stomach. Catharsis with magnesium or sodium sulfate is acceptable. If spontaneous vomiting occurs, watch for signs of pulmonary aspiration.

Consider appropriate management of chemically contaminated children at the exposure site. Also, provide reassurance to the child during decontamination, especially if separation from a parent occurs. If possible, seek assistance from a child separation expert.

Transfer to Support Zone

As soon as basic decontamination is complete, move the victim to the Support Zone.

Support Zone

Be certain that victims have been decontaminated properly (see *Decontamination Zone* above). Victims who have undergone decontamination or who have been exposed only to vapor pose no serious risks of secondary contamination to rescuers. In such cases, Support Zone personnel require no specialized protective gear.

ABC Reminders

Quickly access for a patent airway. If trauma is suspected, maintain cervical immobilization manually and apply a cervical collar and a backboard when feasible. Ensure adequate respiration and pulse. Administer supplemental oxygen as required and establish intravenous access if necessary. Place on a cardiac monitor.

Additional Decontamination

Continue irrigating exposed skin and eyes, as appropriate.

In cases of ingestion, **do not induce emesis or use gastric lavage** and do not administer activated charcoal. Gasoline is poorly absorbed from the stomach. Catharsis with magnesium or sodium sulfate is acceptable. If spontaneous vomiting occurs, watch for signs of pulmonary aspiration.

Advanced Treatment

In cases of respiratory compromise secure airway and respiration via endotracheal intubation. If not possible, perform cricothyroidotomy if equipped and trained to do so.

Treat patients who have bronchospasm with aerosolized bronchodilators. The use of bronchial sensitizing agents in situations of multiple chemical exposures may pose additional risks. Consider the health of the myocardium before choosing which type of bronchodilator should be administered. **Do not administer epinephrine or related substances** because they may induce cardiac arrhythmias.

Patients who are comatose, hypotensive, or are having seizures or cardiac arrhythmias should be treated according to advanced life support (ALS) protocols.

If evidence of shock or hypotension is observed begin fluid administration. For adults, bolus 1,000 mL/hour intravenous saline or lactated Ringer's solution if blood pressure is under 80 mm Hg; if systolic pressure is over 90 mm Hg, an infusion rate of 150 to 200 mL/hour is sufficient. For children with compromised perfusion administer a 20 mL/kg bolus of normal saline over 10 to 20 minutes, then infuse at 2 to 3 mL/kg/hour.

Transport to Medical Facility

Only decontaminated patients or patients not requiring decontamination should be transported to a medical facility. "Body bags" are not recommended.

Report to the base station and the receiving medical facility the condition of the patient, treatment given, and estimated time of arrival at the medical facility.

If gasoline has been ingested, prepare the ambulance in case the victim vomits toxic material. Have ready several towels and open plastic bags to quickly clean up and isolate vomitus.

Multi-Casualty Triage

Consult with the base station physician or the regional poison control center for advice regarding triage of multiple victims.

Patients who have evidence suggesting substantial exposure (e.g., coughing or coma) should be transported to a medical facility for evaluation.

Patients without significant symptoms may be discharged at the scene after their names, addresses, and telephone numbers are recorded. Those discharged should be advised to seek medical care promptly if symptoms develop or recur (see the *Patient Information Sheet* below).

Emergency Department Management

Patients do not pose risks of secondary contamination if they have been exposed only to gasoline vapors. However, hospital personnel in an enclosed area can be secondarily contaminated by vapors off-gassing from heavily soaked clothing or skin or from vomitus. Patients do not pose serious contamination risks after contaminated clothing is removed and the skin is thoroughly washed.

Gasoline is a mild skin, eye, and respiratory tract irritant and a CNS depressant in acute exposures. Pulmonary aspiration of even small amounts of ingested gasoline can cause chemical pneumonitis. Systemic effects may also include renal failure and increased susceptibility to ventricular fibrillation.

There is no antidote for gasoline. Treatment consists of support of respiratory and cardiovascular functions.

Decontamination Area

Patients who have been decontaminated previously and patients exposed only to gasoline vapors who have no skin or eye irritation may be transferred immediately to the Critical Care Area. All other patients will require decontamination as described below.

Be aware that use of protective equipment by the provider may cause fear in children, resulting in decreased compliance with further management efforts.

ABC Reminders

Evaluate and support airway, breathing, and circulation. In cases of respiratory compromise secure airway and respiration via endotracheal intubation. If not possible, surgically create an airway.

Treat patients who have bronchospasm with aerosolized bronchodilators. The use of bronchial sensitizing agents in situations of multiple chemical exposures may pose additional risks. Consider the health of the myocardium before choosing which type of bronchodilator should be administered. **Do not administer epinephrine or related substances** because they may induce cardiac arrhythmias.

Patients who are comatose, hypotensive, or having seizures or cardiac arrhythmias should be treated in the conventional manner.

Basic Decontamination

Patients who are able and cooperative may assist with their own decontamination. If the patient's clothing is wet with gasoline,

remove and double-bag the contaminated clothing and personal belongings.

Flush exposed skin and hair with plain water for 2 to 3 minutes (preferably under a shower), then wash with mild soap. Rinse thoroughly with water. Use caution to avoid hypothermia when decontaminating children or the elderly. Use blankets or warmers when appropriate.

Irrigate exposed eyes with plain water or saline for 15 minutes. Remove contact lenses if easily removable without additional trauma to the eye. If pain or injury is evident, continue irrigation while transferring the patient to the Critical Care Area.

In cases of ingestion, **do not induce emesis or use gastric lavage** or administer activated charcoal. Gasoline is poorly absorbed through the stomach. Spontaneous vomiting may occur. If the patient is coughing or dyspneic, pulmonary aspiration may have occurred. Treat accordingly.

Critical Care Area

Be certain that appropriate decontamination has been carried out (see *Decontamination Area* above).

ABC Reminders

Evaluate and support airway, breathing, and circulation as in ABC Reminders above. Children may be more vulnerable to corrosive agents than adults because of the relatively smaller diameter of their airways. Establish intravenous access in seriously symptomatic patients if this has not been done previously. Continuously monitor cardiac rhythm.

Patients who are comatose, hypotensive, or having seizures or cardiac arrhythmias should be treated in the conventional manner.

Inhalation Exposure

Administer supplemental oxygen by mask to patients who have respiratory symptoms. Patients in respiratory distress or who have abnormal pulmonary examination will require pulse oximetry (or ABG measurements) and chest radiography.

Treat patients who have bronchospasm with aerosolized bronchodilators. The use of bronchial sensitizing agents in situations of multiple chemical exposures may pose additional risks. Consider the health of the myocardium before choosing which type of bronchodilator should be administered. **Do not administer epinephrine or related substances** because they may induce cardiac arrhythmias.

<i>Skin Exposure</i>	If liquid gasoline comes in contact with the skin for a prolonged period, chemical burns may occur; treat as thermal burns.
<i>Eye Exposure</i>	Ensure that adequate eye irrigation has been completed. If eye irritation or injury is evident, test visual acuity. Examine the eyes for corneal damage and treat appropriately. Immediately consult an ophthalmologist for patients who have severe corneal injuries.
<i>Ingestion Exposure</i>	Do not induce emesis or use gastric lavage or administer activated charcoal. Gasoline is poorly absorbed through the stomach. Spontaneous vomiting and diarrhea may occur. If the patient is coughing or dyspneic, pulmonary aspiration may have occurred. Treat accordingly. Toxic vomitus should be isolated in a closed container.
<i>Antidotes and Other Treatments</i>	There is no antidote for gasoline. Treatment is supportive.
<i>Laboratory Tests</i>	Routine laboratory studies for all exposed patients include CBC, glucose, and electrolyte determinations. Additional studies for patients exposed to gasoline include ECG monitoring and renal-function tests. Chest radiography and pulse oximetry (or ABG measurements) are recommended for severe inhalation exposure or if pulmonary aspiration is suspected. Identification or measurement of hydrocarbons in blood is not clinically useful; however, such tests may be used to document exposure.
Disposition and Follow-up	Consider hospitalizing patients who have had significant oral or inhalation exposure and patients who have symptoms of chemical pneumonitis.
<i>Delayed Effects</i>	Patients who have ingested gasoline should be observed for at least 6 hours for signs of chemical pneumonitis. Systemic effects may develop over several hours and may include hemorrhage of the pancreas and fatty degeneration of the liver and of the proximal convoluted tubules and glomeruli of the kidneys. Acute renal toxicity may persist for several weeks following ingestion of gasoline but usually resolves with treatment.
<i>Patient Release</i>	Patients who are asymptomatic for 6 to 8 hours may be discharged and advised to seek medical care promptly if symptoms develop (see the <i>Gasoline—Patient Information</i> below).

Follow-up

Obtain the name of the patient's primary care physician so that the hospital can send a copy of the ED visit to the patient's doctor.

Patients who have aspirated gasoline should receive follow-up pulmonary function tests.

Acute renal toxicity may persist for several weeks following ingestion of gasoline but usually resolves with treatment.

Patients who have corneal injuries should be reexamined within 24 hours.

Reporting

If a work-related incident has occurred, you may be legally required to file a report; contact your state or local health department.

Other persons may still be at risk in the setting where this incident occurred. If the incident occurred in the workplace, discussing it with company personnel may prevent future incidents. If a public health risk exists, notify your state or local health department or other responsible public agency. When appropriate, inform patients that they may request an evaluation of their workplace from OSHA or NIOSH. See Appendices III and IV for a list of agencies that may be of assistance.

Gasoline Patient Information Sheet

This handout provides information and follow-up instructions for persons who have been exposed to gasoline.

What is gasoline?

At room temperature, gasoline is a clear to pale brown or pink liquid that contains a mixture of hydrocarbons (from crude oil) with a variety of substances added to improve its performance as a fuel. It is used as a fuel in cars, trucks, and light aircraft.

What immediate health effects can be caused by exposure to gasoline?

Breathing gasoline vapor can cause headache, nausea, and dizziness. Extremely high levels can cause fainting and even death. Gasoline in the air can also irritate the eyes, nose, and throat. Gasoline splashed in the eyes can cause eye injury. Swallowing gasoline can cause irritation of the gastric tract and breathing difficulties. When liquid gasoline contacts the skin, it may cause redness and blisters. Generally, the longer the exposure or the greater level of exposure, the more severe the symptoms.

Can gasoline poisoning be treated?

There is no antidote for gasoline poisoning, but its effects can be treated, and most exposed persons get well. Persons who have experienced serious symptoms may need to be hospitalized.

Are any future health effects likely to occur?

A single small exposure from which a person recovers quickly is not likely to cause delayed or long-term effects. Repeated exposure to very high levels of gasoline can cause poor appetite, weakness, and even brain or kidney damage. Gasoline contains benzene and other additives that may cause future health problems after repeated, high-level exposures.

What tests can be done if a person has been exposed to gasoline?

Specific tests for the presence of gasoline in blood generally are not useful to the doctor. If a severe exposure has occurred, blood and urine analyses and other tests may show whether the nervous system, heart, kidneys, liver, or lungs have been damaged. Testing is not needed in every case.

Where can more information about gasoline be found?

More information about gasoline can be obtained from your regional poison control center; your state, county, or local health department; the Agency for Toxic Substances and Disease Registry (ATSDR); your doctor; or a clinic in your area that specializes in occupational and environmental health. If the exposure happened at work, you may wish to discuss it with your employer, the Occupational Safety and Health Administration (OSHA), or the National Institute for Occupational Safety and Health (NIOSH). Ask the person who gave you this form for help in locating these telephone numbers.

Follow-up Instructions

Keep this page and take it with you to your next appointment. Follow *only* the instructions checked below.

- Call your doctor or the Emergency Department if you develop any unusual signs or symptoms within the next 24 hours, especially:
 - stomach pain or vomiting
 - coughing, wheezing, or shortness of breath
 - confusion or fainting
 - increased pain or a discharge from exposed eyes
 - increased redness pain or a pus-like discharge in the area of a skin burn
 - lack of or infrequent urination

No follow-up appointment is necessary unless you develop any of the symptoms listed above.

Call for an appointment with Dr. _____ in the practice of _____.
When you call for your appointment, please say that you were treated in the Emergency Department at _____ Hospital by _____ and were advised to be seen again in _____ days.

Return to the Emergency Department/ _____ Clinic on (date) _____ at _____ AM/PM for a follow-up examination.

Do not perform vigorous physical activities for 1 to 2 days.

You may resume everyday activities including driving and operating machinery.

Do not return to work for _____ days.

You may return to work on a limited basis. See instructions below.

Avoid exposure to cigarette smoke for 72 hours; smoke may worsen the condition of your lungs.

Avoid drinking alcoholic beverages for at least 24 hours; alcohol may worsen injury to your stomach or have other effects.

Avoid taking the following medications: _____

You may continue taking the following medication(s) that your doctor(s) prescribed for you: _____

Other instructions: _____

• Provide the Emergency Department with the name and the number of your primary care physician so that the ED can send him or her a record of your emergency department visit.

• You or your physician can get more information on the chemical by contacting: _____ or _____, or by checking out the following Internet Web sites: _____;

Signature of patient _____ Date _____

Signature of physician _____ Date _____