



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>UNLEADED GASOLINE</b>
<b>Other means of identification</b>	
<b>SDS number</b>	002-GHS
<b>Synonyms</b>	Regular/Premium/Midgrade - Unleaded Gasoline, RFG - Reformulated Unleaded Gasoline, Conventional Unleaded Gasoline, Oxygenated Unleaded Gasoline, Non-Oxygenated Unleaded Gasoline, CARB (California Air Resource Board) Unleaded Gasoline, RBOB - Reformulated Blendstock for Oxygenate Blending, CBOB - Conventional Blendstock for Oxygenate Blending, Petrol, Motor Fuel. See section 16 for complete information.
<b>Recommended use</b>	Motor Fuel Motor fuels.
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer/Supplier</b>	Valero Marketing & Supply Company and Affiliates One Valero Way San Antonio, TX 78269-6000 210-345-4593
<b>General Assistance</b>	CorpHSE@valero.com
<b>E-Mail</b>	Industrial Hygienist
<b>Contact Person</b>	24 Hour Emergency 866-565-5220
<b>Emergency Telephone</b>	1-800-424-9300 (CHEMTREC USA)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 1
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



**Signal word**

Danger

**Hazard statement**

Extremely flammable liquid and vapor. Causes skin irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (blood, liver, kidney) through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.

## Precautionary statement

### Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting// equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe gas/mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

### Response

If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction. Collect spillage.

### Storage

Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Hazard(s) not otherwise classified (HNOC)

None known.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Gasoline	86290-81-5	80-100
Toluene	108-88-3	0-30
Hexane (Other Isomers)	96-14-0	5-25
Xylene (o, m, p isomers)	1330-20-7	0-25
Octane (All isomers)	111-65-9	0-18.5
Ethanol	64-17-5	0-10
1,2,4, Trimethylbenzene	95-63-6	0-6
n-Heptane	142-82-5	1-5
Pentane	109-66-0	1-5
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

## 4. First-aid measures

### Inhalation

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

### Skin contact

Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

### Ingestion

Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

### Most important symptoms/effects, acute and delayed

Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

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<b>Indication of immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.
<b>5. Fire-fighting measures</b>	
<b>Suitable extinguishing media</b>	Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire-fighting equipment/instructions</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
<b>Specific methods</b>	Use water spray to cool unopened containers.
<b>General fire hazards</b>	Extremely flammable liquid and vapor. Containers may explode when heated.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.  Use non-sparking tools and explosion-proof equipment.  Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste.  Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
<b>Environmental precautions</b>	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802.

## 7. Handling and storage

### Precautions for safe handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

### Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedings. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Cumene (CAS 98-82-8)	PEL	245 mg/m <sup>3</sup>
		50 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m <sup>3</sup>
		300 ppm
Ethanol (CAS 64-17-5)	PEL	1900 mg/m <sup>3</sup>
		1000 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m <sup>3</sup>
		100 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m <sup>3</sup>
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m <sup>3</sup>
		500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m <sup>3</sup>
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m <sup>3</sup>
		1000 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	PEL	435 mg/m <sup>3</sup>
		100 ppm

#### US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm

**US. ACGIH Threshold Limit Values**

<b>Components</b>	<b>Type</b>	<b>Value</b>
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

<b>Components</b>	<b>Type</b>	<b>Value</b>
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	1 ppm
	TWA	0.1 ppm
Cumene (CAS 98-82-8)	TWA	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	Ceiling	1800 mg/m3
		510 ppm
	TWA	350 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	Ceiling	1800 mg/m3
		385 ppm
	TWA	350 mg/m3
		75 ppm
Pentane (CAS 109-66-0)	Ceiling	1800 mg/m3

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Components	Type	Value
Toluene (CAS 108-88-3)	TWA	610 ppm
		350 mg/m3
		120 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	560 mg/m3
		150 ppm
		375 mg/m3
Xylene (o, m, p isomers) (CAS 1330-20-7)	TWA	100 ppm
		655 mg/m3
		150 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	TWA	435 mg/m3
		100 ppm
		100 ppm

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.7 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis		*
	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (o, m, p isomers) (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Exposure guidelines**

**US - California OELs: Skin designation**

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Cumene (CAS 98-82-8)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

Cumene (CAS 98-82-8)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

**US - Tennessee OELs: Skin designation**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**US ACGIH Threshold Limit Values: Skin designation**

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**Appropriate engineering controls**

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

## Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.
<b>Skin protection</b>	
<b>Hand protection</b>	Avoid exposure - obtain special instructions before use. Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.
<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Light straw to red clear liquid with characteristic strong odor of gasoline.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Light straw to red clear.
<b>Odor</b>	Characteristic Gasoline Odor (Strong).
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	44.01 °F (6.67 °C) May start to solidify at this temperature. This is based on data for the following ingredient: Cyclohexane. Weighted average: -91.9 deg C (-133.4 deg F)
<b>Initial boiling point and boiling range</b>	80.06 - 440.06 °F (26.7 - 226.7 °C)
<b>Flash point</b>	-40.0 °F (-40.0 °C) (closed cup)
<b>Evaporation rate</b>	10 - 11 BuAc
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	1.3 %
<b>Flammability limit - upper (%)</b>	7.1 %
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	60.8 - 101.3 kPa (20°C)
<b>Vapor density</b>	3 - 4 (Air=1)
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Very slightly soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	> 500 °F (> 260 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## Other information

Flash point class	Flammable IA
VOC (Weight %)	100 %

## 10. Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Ingestion	Swallowing or vomiting of the liquid may result in aspiration into the lungs.
Inhalation	In high concentrations, mists/vapors may irritate throat and respiratory system and cause coughing. May cause drowsiness or dizziness.
Skin contact	Causes skin irritation. Prolonged contact may cause dryness of the skin.
Eye contact	May cause eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

### Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 3160 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2000 mg/l, 48 Hours
<i>Oral</i>		
LD50	Rat	6 g/kg
Benzene (CAS 71-43-2)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	3306 mg/kg
Cumene (CAS 98-82-8)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Mouse	2000 mg/l, 7 Hours
	Rat	8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	1400 mg/kg
Cyclohexane (CAS 110-82-7)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	12705 mg/kg



Components	Species	Test Results
Ethanol (CAS 64-17-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	30000 mg/m3
Ethylbenzene (CAS 100-41-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	5.46 g/kg
n-Heptane (CAS 142-82-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	103 mg/l, 4 Hours
n-Hexane (CAS 110-54-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	28710 mg/kg
Octane (All isomers) (CAS 111-65-9)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	118 mg/l, 4 Hours
Pentane (CAS 109-66-0)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	364 mg/l, 4 Hours
Toluene (CAS 108-88-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	14.1 ml/kg
<i>Inhalation</i>		
LC50	Rat	8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	2.6 g/kg
Xylene (o, m, p isomers) (CAS 1330-20-7)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	4300 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.	
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met. This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.	
<b>Germ cell mutagenicity</b>	May cause genetic defects. In in-vitro experiments, neither benzene, toluene nor xylene changed the number of sister-chromatid exchanges (SCEs) or the number of chromosomal aberrations in human lymphocytes. However, toluene and xylene caused a significant cell growth inhibition which was not observed with benzene in the same concentrations. In in-vivo experiments, toluene changed the number of sister-chromatid exchanges (SCEs) in human lymphocytes. Toluene may cause heritable genetic damage.	

**Carcinogenicity** May cause cancer.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Gasoline (CAS 86290-81-5)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (o, m, p isomers) (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

**NTP Report on Carcinogens**

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.
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**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Benzene (CAS 71-43-2)	Cancer
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**Reproductive toxicity** Suspected of damaging fertility or the unborn child.  
Benzene, xylene and toluene have demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Ethanol has demonstrated human effects of reproductive toxicity. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Avoid exposure to women during early pregnancy. Avoid contact during pregnancy/while nursing.

**Specific target organ toxicity - single exposure** May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure** May cause damage to the following organs through prolonged or repeated exposure: Blood. Kidneys. Liver.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.

**Further information** Symptoms may be delayed.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 7.19 - 8.28 mg/l, 96 hours
Benzene (CAS 71-43-2)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> ) 8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> ) 7.2 - 11.7 mg/l, 96 hours
Cumene (CAS 98-82-8)		
<b>Aquatic</b>		
Crustacea	EC50	Brine shrimp ( <i>Artemia sp.</i> ) 3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> ) 2.7 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 3.961 - 5.181 mg/l, 96 hours Striped bass ( <i>Morone saxatilis</i> ) 8.3 mg/l, 96 hours

Components	Species		Test Results
Ethanol (CAS 64-17-5)			
<b>Aquatic</b>			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Ethylbenzene (CAS 100-41-4)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	4 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
<b>Aquatic</b>			
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> )	4924 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
<b>Aquatic</b>			
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Pink salmon ( <i>Oncorhynchus gorbuscha</i> )	6.86 - 8.48 mg/l, 96 hours
Xylene (o, m, p isomers) (CAS 1330-20-7)			
<b>Aquatic</b>			
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	8 mg/l, 96 Hours

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

Benzene (CAS 71-43-2)	2.13
Cumene (CAS 98-82-8)	3.66
Cyclohexane (CAS 110-82-7)	3.44
Ethanol (CAS 64-17-5)	-0.31
Ethylbenzene (CAS 100-41-4)	3.15
Hexane (Other Isomers) (CAS 96-14-0)	3.6
Octane (All isomers) (CAS 111-65-9)	5.18
Pentane (CAS 109-66-0)	3.39
Toluene (CAS 108-88-3)	2.73
Xylene (o, m, p isomers) (CAS 1330-20-7)	3.2
n-Heptane (CAS 142-82-5)	4.66
n-Hexane (CAS 110-54-3)	3.9

**Mobility in soil** Not available.

**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

**Hazardous waste code** D001: Waste Flammable material with a flash point <140 °F  
D018: Waste Benzene

## US RCRA Hazardous Waste U List: Reference

Benzene (CAS 71-43-2)	U019
Cumene (CAS 98-82-8)	U055
Cyclohexane (CAS 110-82-7)	U056
Toluene (CAS 108-88-3)	U220
Xylene (o, m, p isomers) (CAS 1330-20-7)	U239

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

## 14. Transport information

### DOT

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	139, B33, B101, T8
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	3H
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-E, S-E
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2)	Cancer
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Central nervous system  
Blood  
Aspiration  
Skin  
Eye  
Respiratory tract irritation  
Flammability

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Benzene (CAS 71-43-2)	LISTED
Cumene (CAS 98-82-8)	LISTED
Cyclohexane (CAS 110-82-7)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Ethylbenzene (CAS 100-41-4)	LISTED
Gasoline (CAS 86290-81-5)	LISTED
Hexane (Other Isomers) (CAS 96-14-0)	LISTED
n-Heptane (CAS 142-82-5)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
Octane (All isomers) (CAS 111-65-9)	LISTED
Pentane (CAS 109-66-0)	LISTED
Toluene (CAS 108-88-3)	LISTED
Xylene (o, m, p isomers) (CAS 1330-20-7)	LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

<b>Chemical name</b>	<b>CAS number</b>	<b>% by wt.</b>
Toluene	108-88-3	0-30
Xylene (o, m, p isomers)	1330-20-7	0-25
1,2,4, Trimethylbenzene	95-63-6	0-6
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Ethylbenzene (CAS 100-41-4)  
n-Hexane (CAS 110-54-3)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Pentane (CAS 109-66-0)

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Toluene (CAS 108-88-3) 6594

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Toluene (CAS 108-88-3) 35 % weight/volumn

**DEA Exempt Chemical Mixtures Code Number**

Toluene (CAS 108-88-3) 594

**US state regulations**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**US. Massachusetts RTK - Substance List**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
Hexane (Other Isomers) (CAS 96-14-0)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**US. New Jersey Worker and Community Right-to-Know Act**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
Gasoline (CAS 86290-81-5)  
Hexane (Other Isomers) (CAS 96-14-0)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**US. Rhode Island RTK**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethylbenzene (CAS 100-41-4)  
n-Hexane (CAS 110-54-3)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**US. California Proposition 65****US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Ethylbenzene (CAS 100-41-4)  
Toluene (CAS 108-88-3)

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

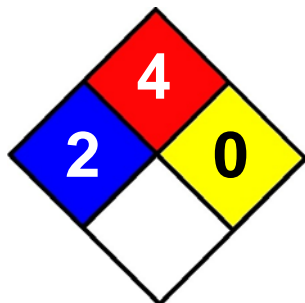
\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

Issue date	13-May-2013
Revision date	23-May-2014
Version #	03
Further information	HMIS® is a registered trade and service mark of the NPCA.

### NFPA Ratings



### References

ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

### Disclaimer

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