Conforms to ANSI Z400.5-2004 Standard (United States, Canada).

Material Safety Data Sheet

Gasoline (All Grades)

MURPHY OIL USA, INC.
200 Peach Street (71730)
P O Box 7000
El Dorado, AR 71731-7000
(870) 862-6411

1. Product and company identification

Product name	:	Gasoline (All Grades)
Chemical name	:	Mixture (C4 to C12 Hydrocarbons)
Synonym	:	Motor Gasoline, Petrol, Gas
Chemical family	:	Petroleum Hydrocarbon
MSDS #	:	1027
Material uses	:	Motor Fuel.
Supplier/Manufacturer	:	Murphy Oil Corporation USA, Inc. 200 Peach Street El Dorado, AR 71730 Tel: +1-870-862-6411 www.murphyoilcorp.com
MSDS authored by	:	KMK Regulatory Services inc.
In case of emergency	:	CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
Product type	:	Liquid.

2 . Hazards identification

Emergency overview

Color	:	Clear (May Be Dyed).
Physical state	:	Liquid.
Odor	:	Petroleum/Solvent.
Signal word	:	DANGER!
Hazard statements	:	EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS, BASED ON ANIMAL DATA.
Precautions	:	Extremely flammable. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge. Irritating to skin. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Prolonged and repeated exposure to benzene may cause serious injury to blood forming organs and is associated with anemia and to the later development of acute myelogenous leukemia (AML).
OSHA/HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential acute health effects

Inhalation	:	Minimally Toxic. Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	:	Aspiration hazard if swallowed. Can enter lungs and cause damage. May be harmful if swallowed.
Skin	:	Moderately irritating to skin with prolonged exposure. May be harmful in contact with skin.
Eyes	:	May cause mild, short-lasting discomfort to eyes.

Potential chronic health effects

2 . Hazards identification

Chronic effects : Contains material that can cause target organ damage.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : Contains material which may cause developmental abnormalities, based on animal data.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: blood, kidneys, the reproductive system, liver, gastrointestinal tract, upper respiratory tract, skin, eyes, bone marrow, central nervous system (CNS).

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : For the product itself: Laboratory animal studies have shown that prolonged and repeated inhalation exposure to light hydrocarbon vapors in the same boiling range as this product can produce adverse kidney effects in male rats. However, these effects were not observed in similar studies with female rats, male and female mice, or in limited studies with other animal species. Additionally, in a number of human studies, there was no clinical evidence of such effects at normal occupational levels. In 1991, The U.S. EPA determined that the male rat kidney is not useful for assessing human risk. Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Gasoline unleaded: Caused cancer in animal tests. Chronic inhalation studies resulted in liver tumors in female mice and kidney tumors in male rats. Neither result considered significant for human health risk assessment by the United States EPA and others. Did not cause mutations In Vitro or In Vivo. Negative in inhalation developmental studies and reproductive tox studies.Inhalation of high concentrations in animals resulted in reversible central nervous system depression, but no persistent toxic effect on the nervous system. Non-sensitizing in test animals. Caused nerve damage in humans from abusive use (sniffing).

See toxicological information (section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Gasoline	86290-81-5	89 - 100
Contains:		
Ethyl Alcohol	64-17-5	< 11
Xylene	1330-20-7	< 5
Toluene	108-88-3	< 5
Benzene	71-43-2	< 5
Ethylbenzene	100-41-4	< 5
n-Hexane	110-54-3	< 5
Naphthalene	91-20-3	< 5
1,2,4-Trimethylbenzene	95-63-6	< 5
Trimethylbenzene	25551-13-7	< 5

Canada

Name	CAS number	%
Gasoline	86290-81-5	89 - 100
Contains:		
Ethyl Alcohol	64-17-5	< 11
Xylene	1330-20-7	< 5
Toluene	108-88-3	< 5
Benzene	71-43-2	< 5
Ethylbenzene	100-41-4	< 5
n-Hexane	110-54-3	< 5
Naphthalene	91-20-3	< 5
1,2,4-Trimethylbenzene	95-63-6	< 5
Trimethylbenzene	25551-13-7	< 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

Skin contact : After contact with skin, wash immediately with plenty of soap and water. Get medical attention.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

5. Fire-fighting measures

Special exposure hazards : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous decomposition products : Smoke, Fume, Aldehydes, Sulfur Oxides, Incomplete combustion products, Oxides of carbon.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Prevent leaking substances from running into the aquatic environment or the sewage system.

Methods for cleaning up

Spill : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Avoid breathing mists or vapors. Avoid contact with skin. Use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Do not siphon by mouth. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Handle containers with care. Open slowly in order to control possible pressure release. Outside or detached storage preferred. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Gasoline	**ACGIH TLV (United States, 1/2009).** TWA: 300 ppm 8 hour(s). TWA: 890 mg/m³ 8 hour(s). STEL: 500 ppm 15 minute(s). STEL: 1480 mg/m³ 15 minute(s).
Ethyl Alcohol	**ACGIH TLV (United States, 1/2009).** STEL: 1000 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 1900 mg/m³ 10 hour(s). TWA: 1000 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 1900 mg/m³ 8 hour(s). TWA: 1000 ppm 8 hour(s).
Xylene	**ACGIH TLV (United States, 1/2009).** STEL: 651 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 434 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 435 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s).
Toluene	**NIOSH REL (United States, 6/2009).** STEL: 560 mg/m³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 375 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 500 ppm 10 minute(s). CEIL: 300 ppm TWA: 200 ppm 8 hour(s). **ACGIH TLV (United States, 1/2009).** TWA: 20 ppm 8 hour(s).
Benzene	**ACGIH TLV (United States, 1/2009). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). STEL: 2.5 ppm 15 minute(s). TWA: 1.6 mg/m³ 8 hour(s). TWA: 0.5 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 1 ppm 15 minute(s). TWA: 0.1 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** STEL: 5 ppm 15 minute(s). TWA: 1 ppm 8 hour(s). **OSHA PEL Z2 (United States, 11/2006).** AMP: 50 ppm 10 minute(s). CEIL: 25 ppm TWA: 10 ppm 8 hour(s).
Ethylbenzene	**ACGIH TLV (United States, 1/2009).** STEL: 125 ppm 15 minute(s). TWA: 100 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 545 mg/m³ 15 minute(s). STEL: 125 ppm 15 minute(s). TWA: 435 mg/m³ 10 hour(s). TWA: 100 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 435 mg/m³ 8 hour(s). TWA: 100 ppm 8 hour(s).
n-Hexane	**ACGIH TLV (United States, 1/2009). Absorbed through skin.** TWA: 50 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 180 mg/m³ 10 hour(s). TWA: 50 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 1800 mg/m³ 8 hour(s). TWA: 500 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 50 ppm 8 hour(s).

8. Exposure controls/personal protection

	TWA: 180 mg/m³ 8 hour(s).
Naphthalene	**ACGIH TLV (United States, 1/2009).** STEL: 79 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 52 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 75 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 50 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 50 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).
1,2,4-Trimethylbenzene	**ACGIH TLV (United States, 1/2009).** TWA: 123 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 125 mg/m³ 10 hour(s). TWA: 25 ppm 10 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 ppm 8 hour(s). TWA: 125 mg/m³ 8 hour(s).
Trimethylbenzene	**ACGIH TLV (United States, 1/2009).** TWA: 123 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 125 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s).

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Gasoline	US ACGIH 1/2009	300	890	-	500	1480	-	-	-	-	
	AB 4/2009	300	-	-	500	-	-	-	-	-	
	BC 9/2009	300	-	-	500	-	-	-	-	-	
	ON 8/2008	300	-	-	500	-	-	-	-	-	
Ethyl Alcohol	US ACGIH 1/2009	-	-	-	1000	-	-	-	-	-	
	AB 4/2009	1000	1880	-	-	-	-	-	-	-	
	BC 9/2009	-	-	-	1000	-	-	-	-	-	
	ON 8/2008	1000	1900	-	-	-	-	-	-	-	
	QC 6/2008	1000	1880	-	-	-	-	-	-	-	
Xylene	US ACGIH 1/2009	100	434	-	150	651	-	-	-	-	
	AB 4/2009	100	434	-	150	651	-	-	-	-	
	BC 9/2009	100	-	-	150	-	-	-	-	-	
	ON 8/2008	100	435	-	150	650	-	-	-	-	
	QC 6/2008	100	434	-	150	651	-	-	-	-	
Toluene	US ACGIH 1/2009	20	-	-	-	-	-	-	-	-	
	AB 4/2009	50	188	-	-	-	-	-	-	-	[1]
	BC 9/2009	20	-	-	-	-	-	-	-	-	
	ON 8/2008	20	-	-	-	-	-	-	-	-	
	QC 6/2008	50	188	-	-	-	-	-	-	-	[1]
Benzene	US ACGIH 1/2009	0.5	1.6	-	2.5	8	-	-	-	-	[1]
	AB 4/2009	0.5	1.6	-	2.5	8	-	-	-	-	[1]
	BC 9/2009	0.5	-	-	2.5	-	-	-	-	-	[1]
	ON 8/2008	0.5	-	-	2.5	-	-	-	-	-	
	QC 6/2008	1	3	-	5	15.5	-	-	-	-	
Ethylbenzene	US ACGIH 1/2009	100	-	-	125	-	-	-	-	-	
	AB 4/2009	100	434	-	125	543	-	-	-	-	
	BC 9/2009	100	-	-	125	-	-	-	-	-	
	ON 8/2008	100	435	-	125	540	-	-	-	-	
	QC 6/2008	100	434	-	125	543	-	-	-	-	
n-Hexane	US ACGIH 1/2009	50	-	-	-	-	-	-	-	-	[1]
	AB 4/2009	50	176	-	-	-	-	-	-	-	[1]
	BC 9/2009	20	-	-	-	-	-	-	-	-	[1]
	ON 8/2008	50	176	-	-	-	-	-	-	-	
	QC 6/2008	50	176	-	-	-	-	-	-	-	[1]
Naphthalene	US ACGIH 1/2009	10	52	-	15	79	-	-	-	-	
	AB 4/2009	10	52	-	15	79	-	-	-	-	[1]
	BC 9/2009	10	-	-	15	-	-	-	-	-	[1]

8. Exposure controls/personal protection

	ON 8/2008	10	52	-	15	78	-	-	-	-	
	QC 6/2008	10	52	-	15	79	-	-	-	-	
1,2,4-Trimethylbenzene	US ACGIH 1/2009	25	123	-	-	-	-	-	-	-	
	AB 4/2009	25	123	-	-	-	-	-	-	-	
	BC 9/2009	25	-	-	-	-	-	-	-	-	
	ON 8/2008	25	123	-	-	-	-	-	-	-	
	QC 6/2008	25	123	-	-	-	-	-	-	-	
	US ACGIH 1/2009	25	123	-	-	-	-	-	-	-	
	AB 4/2009	25	123	-	-	-	-	-	-	-	
	BC 9/2009	25	-	-	-	-	-	-	-	-	
	ON 8/2008	25	123	-	-	-	-	-	-	-	

[1]Absorbed through skin.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Respiratory : 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. Recommended: No special requirements under ordinary conditions of use and with adequate ventilation.

Hands : Use gloves appropriate for work or task being performed. Recommended: If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eyes : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: <-40°C (<-40°F) [Pensky-Martens.]

Auto-ignition temperature : >254°C (>489.2°F)

Flammable limits (in air) : Lower: 1.4%
Upper: 7.5%

Color : Clear (May Be Dyed).

Odor : Petroleum/Solvent.

pH : Not applicable.

Boiling/condensation point : 20°C (68°F)

Melting/freezing point : Not available.

Specific gravity : 0.72

9 . Physical and chemical properties

Vapor pressure : 7 psi to 13.5 psi, Reid Vapor Pressure (RVP) [depending on the time of year]

Vapor density : 3 [Air = 1]

Volatility : Not available.

Odor threshold : Not available.

Evaporation rate : >10 (butyl acetate = 1)

Viscosity : Kinematic (40°C (104°F)): <0.01 cm^2/s (<1 cSt)

Solubility : Negligible.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.

Materials to avoid : Halogens, Strong Acids, Alkalies, Strong oxidizers.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Gasoline	LD50 Oral	Rat	13.6 g/kg	-
Ethyl Alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m3	4 hours
	LD50 Oral	Rat	7 g/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Benzene	LD50 Oral	Rat	930 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-Hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	25 g/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	490 mg/kg	-
1,2,4-Trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m3	4 hours
	LD50 Oral	Rat	5 g/kg	-
Trimethylbenzene	LD50 Oral	Rat	8970 mg/kg	-

Chronic toxicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Gasoline	A3	2B	-	+	-	-
Ethyl Alcohol	A4	-	-	-	-	-
Xylene	A4	3	-	-	-	-
Toluene	A4	3	-	-	-	-
Benzene	A1	1	-	+	Proven.	+
Ethylbenzene	A3	2B	-	None.	-	-
Naphthalene	A4	2B	-	None.	Possible	-

12. Ecological information

Environmental effects : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Mobility

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Less volatile component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

Persistence/degradability

Majority of components -- Expected to be inherently biodegradable.

More volatile component -- Expected to degrade rapidly in air.

Bioaccumulative potential

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Ethyl Alcohol	Acute EC50 2000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 ug/L Marine water	Crustaceans - Artemia franchiscana - LARVAE	48 hours
	Acute LC50 42000 ug/L Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Daphnia magna	48 hours
Xylene	Acute IC50 10 mg/L	Algae	72 hours
	Acute LC50 8500 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Oncorhynchus mykiss - 0.6 g	96 hours
Toluene	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - FRY - 1 g	96 hours
	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
Benzene	Acute EC50 9230 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 21000 ug/L Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 5.28 ul/L Fresh water	Fish - Oncorhynchus gorbuscha - FRY	96 hours
	Chronic NOEC <13000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
Ethylbenzene	Acute EC50 2970 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 >5200 ug/L Marine water	Crustaceans - Americamysis bahia - <24 hours	48 hours
	Acute LC50 4200 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 6800 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Chronic NOEC 3300 ug/L Marine water	Fish - Menidia menidia	96 hours
n-Hexane	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Pimephales promelas - 31 days - 20.4 mm - 0.123 g	96 hours
Naphthalene	Acute EC50 1600 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <=24 hours	48 hours
	Acute LC50 2350 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 ug/L Fresh water	Fish - Melanotaenia fluviatilis - LARVAE - 1 days	96 hours
	Chronic NOEC 600 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
1,2,4-Trimethylbenzene	Acute LC50 17000 ug/L Marine water	Crustaceans - Cancer magister - Zoea	48 hours
	Acute LC50 7720 to 8280 ug/L Fresh water	Fish - Pimephales promelas - 34 days	96 hours
Trimethylbenzene	Acute LC50 5600 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours

Environmental summary : See above.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1203	GASOLINE. Marine pollutant	3	II		Marine pollutant
TDG Classification	UN1203	GASOLINE	3	II		**Special provisions** 17
IMDG Class	UN1203	GASOLINE. Marine pollutant	3	II		**Emergency schedules (EmS)** F-E, S-E Marine pollutant
IATA-DGR Class	UN1203	GASOLINE	3	II		-

PG* : Packing group Exemption to the above classification may apply. **AERG :** 128

15 . Regulatory information

United States

HCS Classification : Flammable liquid
Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Gasoline; Ethyl Alcohol; Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Trimethylbenzene
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Gasoline: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Ethyl Alcohol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Benzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Ethylbenzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; n-Hexane: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Naphthalene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; 1,2,4-Trimethylbenzene: Fire hazard, Delayed (chronic) health hazard; Trimethylbenzene: Fire hazard, Immediate (acute) health hazard

Clean Water Act (CWA) 307: Toluene; Benzene; Ethylbenzene; Naphthalene
Clean Water Act (CWA) 311: Xylene; Toluene; Benzene; Ethylbenzene; Naphthalene

15 . Regulatory information

Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Xylene Toluene Benzene Ethylbenzene n-Hexane Naphthalene 1,2,4-Trimethylbenzene	1330-20-7 108-88-3 71-43-2 100-41-4 110-54-3 91-20-3 95-63-6	1 - 5 1 - 5 1 - 5 1 - 5 1 - 5 1 - 5 1 - 5
Supplier notification	Xylene Toluene Benzene Ethylbenzene n-Hexane Naphthalene 1,2,4-Trimethylbenzene	1330-20-7 108-88-3 71-43-2 100-41-4 110-54-3 91-20-3 95-63-6	1 - 5 1 - 5 1 - 5 1 - 5 1 - 5 1 - 5 1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: Ethyl Alcohol; Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Trimethylbenzene
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: Ethyl Alcohol; Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Trimethylbenzene
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: The following components are listed: Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane; Naphthalene
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: Gasoline; Ethyl Alcohol; Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane;

15 . Regulatory information

Naphthalene; 1,2,4-Trimethylbenzene; Trimethylbenzene
Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Naphthalene	Yes.	No.	Yes.	No.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances**: The following components are listed: Benzene; Naphthalene
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Ethyl Alcohol; Xylene; Toluene; Benzene; Ethylbenzene; n-Hexane; Naphthalene; 1,2,4-Trimethylbenzene; Trimethylbenzene
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

16 . Other information

United States

Label requirements : EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) : **Health :** 1 * **Flammability :** 3 **Physical hazards :** 0

16 . Other information

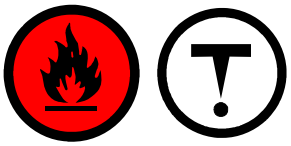
Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : **Health :** 1 **Flammability :** 3 **Instability :** 0

Canada

WHMIS (Canada) :



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

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Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.