

# SAFETY DATA SHEET



## Section 1. Identification

**Product name** Avgas 100LL (<0.1% Benzene)  
**SDS #** SAV2103  
**Code** SAV2103.

### Relevant identified uses of the substance or mixture and uses advised against

**Product use** Use only as a motor fuel for aviation. Should NOT be used as a solvent nor cleaning agent.  
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

**Supplier** BP Products North America  
150 W. Warrenville Road  
Naperville, IL 60563  
USA

**EMERGENCY HEALTH INFORMATION:** 1 (800) 447-8735

**EMERGENCY SPILL INFORMATION:** 1 (800) 424-9300 CHEMTREC (USA)  
Outside the US: +1 703-527-3887

## Section 2. Hazards identification

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** **F** LAMMABLE LIQUIDS - Category 2  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN IRRITATION - Category 2  
TOXIC TO REPRODUCTION (Fertility) - Category 2  
TOXIC TO REPRODUCTION (Unborn child) - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
ASPIRATION HAZARD - Category 1

### GHS label elements

#### Hazard pictograms



**Signal word** **D**anger

**Hazard statements** **H**ighly flammable liquid and vapor.  
Harmful if swallowed, in contact with skin or if inhaled.  
Causes skin irritation.  
Suspected of damaging fertility or the unborn child.  
May be fatal if swallowed and enters airways.  
May cause drowsiness or dizziness.  
May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

<b>Product name</b> Avgas 100LL (<0.1% Benzene)	<b>Product code</b> SAV2103.	<b>Page:</b> 1/14
<b>Version</b> 1	<b>Date of issue</b> 11/17/2016.	<b>Format</b> US
	(US)	<b>Language</b> ENGLISH (ENGLISH)

## Section 2. Hazards identification

<b>General</b>	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
<b>Response</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
<b>Storage</b>	Keep cool. Keep container tightly closed.
<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified</b>	None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

Complex mixture of volatile hydrocarbons containing paraffins, naphthenes, olefins and aromatics with carbon numbers predominantly between C4 and C12. Contains <0.1% Benzene. May also contain small quantities of proprietary performance additives. Contains lead. May be dyed.

Ingredient name	CAS number	%
Gasoline	mixture	>99
2-(2-methoxyethoxy)ethanol	111-77-3	0 - 0.15
Tetraethyl lead (Lead alkyls)	78-00-2	0 - 0.125

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**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.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Clean shoes thoroughly before reuse. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Get medical attention.
<b>Inhalation</b>	If inhaled, remove 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.  If exposure to vapor, mists or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any symptoms persist obtain medical advice.

<b>Product name</b> Gas 100LL (<0.1% Benzene)	<b>Product code</b> SAV2103.	<b>Page:</b> 2/14
<b>Version</b> 1	<b>Date of issue</b> 11/17/2016.	<b>Format</b> US
		<b>Language</b> ENGLISH
		(US)
		(ENGLISH)

## Section 4. First aid measures

<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.
<b>Protection of first-aiders</b>	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.

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

See Section 11 for more detailed information on health effects and symptoms.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.
<b>Specific treatments</b>	No specific treatment.

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Do not use water jet.

### Specific hazards arising from the chemical

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Vapors can form explosive mixtures with air. Vapors are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Liquid will float and may reignite on surface of water.

### Hazardous combustion products

Combustion products may include the following:  
carbon dioxide  
carbon monoxide

### Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

### Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.
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<b>Product name</b>	AVgas 100LL (<0.1% Benzene)	<b>Product code</b>	SAV2103.	<b>Page:</b> 3/14
<b>Version</b> 1	<b>Date of issue</b> 11/17/2016.	<b>Format</b> US (US)	<b>Language</b> ENGLISH (ENGLISH)	

## Section 6. Accidental release measures

### For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

### Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recycle, recovery or safe disposal.

### Methods and materials for containment and cleaning up

#### Small spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

#### Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Take precautionary measures against electrostatic discharges. Avoid contact of spilled material and runoff with soil and surface waterways. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Do not breathe vapor or mist. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth.

To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Product name  gas 100LL (<0.1% Benzene)

Product code  SAV2103.

Page: 4/14

Version 1 Date of issue 11/17/2016.

Format US  
(US)

Language ENGLISH  
(ENGLISH)

## Section 7. Handling and storage

### Conditions for safe storage, including any incompatibilities

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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use. Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work.

Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapor concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Gasoline	<b>ACGIH TLV (United States).</b> TWA: 300 ppm 8 hours. Issued/Revised: 5/1996 TWA: 890 mg/m <sup>3</sup> 8 hours. Issued/Revised: 5/1996 STEL: 500 ppm 15 minutes. Issued/Revised: 5/1996 STEL: 1480 mg/m <sup>3</sup> 15 minutes. Issued/Revised: 5/1996
2-(2-methoxyethoxy)ethanol	None.
Tetraethyl lead (Lead alkyls)	<b>ACGIH TLV (United States). Absorbed through skin.</b> TWA: 0.1 mg/m <sup>3</sup> , (as Pb) 8 hours. Issued/Revised: 5/1996 <b>OSHA PEL (United States). Absorbed through skin.</b> TWA: 0.075 mg/m <sup>3</sup> , (as Pb) 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Product name gas 100LL (<0.1% Benzene)

Product code SAV2103.

Page: 5/14

Version 1 Date of issue 11/17/2016.

Format US  
(US)

Language ENGLISH  
(ENGLISH)

## Section 8. Exposure controls/personal protection

### Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

### 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.

### Individual protection measures

#### Hygiene measures

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

Chemical splash goggles.

#### Skin protection

##### Hand protection

☑ Wear chemical resistant gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

##### Body protection

☑ Use of protective clothing is good industrial practice.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Wear suitable protective clothing.

Footwear highly resistant to chemicals.

When there is a risk of ignition from static electricity, wear anti-static protective clothing.

For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static.

When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.

Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required.

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.

##### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

### Respiratory protection

Use only with adequate ventilation. Do not breathe vapor or mist. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

If operating conditions cause high vapor concentrations or the TLV is exceeded, use NIOSH-certified, supplied-air respirator.

Use with adequate ventilation.

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

## Section 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Color	Blue.
Odor	Gasoline
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	40 to 170°C (104 to 338°F)
Flash point	Closed cup: <-40°C (<-40°F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	38 to 49 kPa (285 to 367.5 mm Hg) [37.8°C (100°F)]
Vapor density	3 to 4 [Air = 1]
Density	710 kg/m <sup>3</sup> (0.71 g/cm <sup>3</sup> ) at 15°C
Solubility	Very slightly soluble in water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: <7 mm <sup>2</sup> /s (<7 cSt) at 40°C

## Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Product name  gas 100LL (<0.1% Benzene)

Product code  SAV2103.

Page: 7/14

Version 1 Date of issue 11/17/2016.

Format US  
(US)

Language ENGLISH  
(ENGLISH)

# Section 11. Toxicological information

## Information on toxicological effects

### Classification

Product/ingredient name	OSHA	IARC	NTP
Tetraethyl lead (Lead alkyls)	-	3	Reasonably anticipated to be a human carcinogen.

**Descriptors:**  
**OSHA:**  
 + - Potential occupational carcinogen  
**IARC:**  
 1 - Carcinogenic to human.  
 2A - Probable human carcinogen.  
 2B - Possible carcinogen to human.  
 3 - Not classifiable as a human carcinogen.  
 4 - Probably not a human carcinogen.  
**NTP:**  
 Proven - Known to be human carcinogens.  
 Possible - Reasonably anticipated to be human carcinogens.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Gasoline	Category 3	Not applicable.	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
(2-methoxyethoxy)ethanol Tetraethyl lead (Lead alkyls)	Category 2 Category 1	Skin Not determined	liver blood system, central nervous system (CNS), kidneys and reproductive organs

### Aspiration hazard

Name	Result
Gasoline	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

### Potential acute health effects

#### Eye contact

No known significant effects or critical hazards.

#### Skin contact

Harmful in contact with skin. Causes skin irritation.

#### Inhalation

Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

#### Ingestion

Harmful if swallowed. Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

### Symptoms related to the physical, chemical and toxicological characteristics

#### Eye contact

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

#### Skin contact

Adverse symptoms may include the following:  
 irritation  
 redness  
 reduced fetal weight  
 increase in fetal deaths  
 skeletal malformations

## Section 11. Toxicological information

**Inhalation** Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness

**Ingestion** Adverse symptoms may include the following:  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** Not available.

**Potential delayed effects** Not available.

#### Long term exposure

**Potential immediate effects** Not available.

**Potential delayed effects** Not available.

#### Potential chronic health effects

**General** May cause damage to organs through prolonged or repeated exposure. Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** Suspected of damaging the unborn child.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

**Other information** Lead is a cumulative poison. It can cause anaemia, central nervous system effects, gastro-intestinal symptoms and kidney damage.

**Additional information** Gasoline - Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and

**Product name** AVgas 100LL (<0.1% Benzene)

**Product code** SAV2103.

**Page:** 9/14

**Version** 1 **Date of issue** 11/17/2016.

**Format** US  
(US)

**Language** ENGLISH  
(ENGLISH)

## Section 11. Toxicological information

because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital). Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

Gasoline as a mixture is classified as a 2B (possible human) carcinogen by IARC.

Gasoline engine exhaust is classified as possibly carcinogenic to humans by IARC (2B). This classification is based primarily on animal and in vitro studies of gasoline engine exhaust condensates/extracts. Studies of the gaseous exhaust stream in animals did not provide sufficient evidence for classification as a carcinogen.

Gasoline: Additional toxicity information on the components:

**Toluene:** Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this material. Deliberate inhalation of high concentrations of toluene has been linked to damage of the brain, liver and kidney. Inhalation of very high concentrations of toluene, such as in cases of solvent abuse, has resulted in sudden death which may be a result of cardiac arrhythmia or central nervous system depression. Mental and/or growth retardation has been reported in children of women who deliberately inhale toluene during pregnancy (usually at thousands of ppm). Fetal developmental toxicity was observed when pregnant rats were exposed to toluene at levels of 1500 ppm. Maternal toxicity was also observed at this concentration. Prolonged, high level exposure to toluene in laboratory animals has resulted in hearing loss. Exposure studies in rats have resulted in adverse effects on the kidney, liver and central nervous system. Studies in occupationally exposed individuals indicate that toluene exposure has been associated with impaired color vision and decreased performance in some neurobehavioral tests. There are occupational studies which report an association between inhalation exposure to toluene and adverse effects on reproduction including spontaneous abortion. The methodology of these studies and the reliability of the results have been questioned. In a two-generation study in rats, inhalation of toluene at levels up to 2000 ppm did not produce adverse effects on fertility or reproductive performance.

**Xylenes:** Xylene has been reported to cause central nervous system effects at concentrations above the recommended exposure limit. Xylene vapor becomes irritating at relatively high levels. In one study, eye irritation was reported at exposures of 460 ppm and in one person at 230 ppm after 15 minutes. In another study, no one reported eyes, nose and throat irritation at mixed xylene exposures up to 230 ppm for 30 minutes. Dermal LD50 is expected to be greater than 10g/kg in rabbits, based on test results from similar materials.

Mixed xylenes caused slight hearing loss in rats exposed to 800 ppm in the air for 14 hours/day for six weeks. There is no information available for lower concentrations; however, similar chemicals that have caused these hearing effects at similar concentrations have not caused effects at lower concentrations.

Pregnant animals exposed to xylene or its isomers have been reported to cause development toxicity in rodents when exposed by inhalation. The developmental effects observed consisted of delayed development and minor skeletal variations, but no malformations. Because of the high exposure levels used in these studies, we do not believe that these results imply an increased risk of reproductive toxicity to workers exposed to xylene levels at or below the exposure limits.

## Section 11. Toxicological information

Xylene and its isomers are not genotoxic.

Technical grade xylene has been tested in a National Toxicology Program carcinogenicity study in rats and mice dosed orally for two years. There was no evidence of carcinogenicity.

Ethylbenzene: :The National Toxicology Program (NTP) conducted a 13-week inhalation study with male and female rats and mice at exposure concentrations ranging from 100 to 1000 ppm ethylbenzene. No rats or mice died during the study. Kidney, liver, and lung weights were increased in the exposed rats, while weight increases were observed only in the livers of exposed mice. Treatment-related histopathologic changes were not observed in any tissues of rats and mice.

NTP also exposed male and female rats and mice by inhalation to 0, 75, 250, or 750 ppm ethylbenzene for 2 years. There was a statistically significant increase in the number of kidney tumors in male and female rats at 750 ppm. There were also increased incidences of lung tumors in male mice and liver tumors in female mice that were statistically significant at 750 ppm. Except for the male rat kidney tumors, the incidence of the tumors were within the range observed for non-exposed animals from other studies conducted by NTP. The significance of these findings to humans is unknown. Ethylbenzene is not genotoxic. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and found it to be possibly carcinogenic to humans (Group 2B).

Ethylbenzene is not genotoxic.

## Section 12. Ecological information

### Toxicity

No testing has been performed by the manufacturer.

### Persistence and degradability

Expected to be biodegradable. Non-persistent per IMO criteria.

### Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

### Mobility in soil

Soil/water partition coefficient ( $K_{oc}$ )

Not available.

Mobility

Spillages may penetrate the soil causing ground water contamination.

### Other adverse effects

No known significant effects or critical hazards.

### Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

## Section 13. Disposal considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere

Product name  Vgas 100LL (<0.1% Benzene)

Product code  AV2103.

Page: 11/14

Version 1 Date of issue 11/17/2016.

Format US  
(US)

Language ENGLISH  
(ENGLISH)

## Section 13. Disposal considerations

inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
<b>UN number</b>	UN1203	UN1203	UN1203	UN1203
<b>UN proper shipping name</b>	<input checked="" type="checkbox"/> GASOLINE or MOTOR SPIRIT. Marine pollutant (Tetraethyl lead)	<input checked="" type="checkbox"/> GASOLINE or MOTOR SPIRIT	<input checked="" type="checkbox"/> GASOLINE or MOTOR SPIRIT. Marine pollutant	GASOLINE or MOTOR SPIRIT
<b>Transport hazard class(es)</b>	3 	3 	3 	3 
<b>Packing group</b>	II	II	II	II
<b>Environmental hazards</b>	Yes.	Yes.	Yes.	No.
<b>Additional information</b>	<p><input checked="" type="checkbox"/> This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.</p> <p><b>Reportable quantity</b> 1250 lbs / 567.5 kg [211.15 gal / 799.3 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p>	<p><input checked="" type="checkbox"/> Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark).</p> <p>The marine pollutant mark is not required when transported by road or rail.</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b>Emergency schedules (EmS)</b> F-E, S-E</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p>

**Special precautions for user**  Not available.

**Transport in bulk according to Annex II of MARPOL and the IBC Code**

**Proper shipping name**

MARPOL Annex 1 rules apply for bulk shipments by sea.  
Category: gasoline and spirits

**Product name**  Kgas 100LL (<0.1% Benzene)

**Product code**  SAV2103.

**Page:** 12/14

**Version** 1 **Date of issue** 11/17/2016.

**Format** US  
(US)

**Language** ENGLISH  
(ENGLISH)

## Section 15. Regulatory information

### U.S. Federal regulations

**United States inventory (TSCA 8b)** All components are listed or exempted.

#### [SARA 302/304](#)

##### [Composition/information on ingredients](#)

No products were found.

#### [SARA 311/312](#)

**Classification**  
Fire hazard  
Immediate (acute) health hazard  
Delayed (chronic) health hazard

#### [SARA 313](#)

	Product name	CAS number	Concentration
Form R - Reporting requirements	<input checked="" type="checkbox"/> Tetraethyl lead (Lead alkyls)	78-00-2	0 - 0.125
Supplier notification	<input checked="" type="checkbox"/> Tetraethyl lead (Lead alkyls)	78-00-2	0 - 0.125

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

### State regulations

#### Massachusetts

None of the components are listed.

#### New Jersey

The following components are listed: TETRAETHYL LEAD; LEAD, TETRAETHYL-

#### Pennsylvania

The following components are listed: GASOLINE; PLUMBANE, TETRAETHYL-

#### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

Tetraethyl lead (Lead alkyls); naphthalene; ethylbenzene; cumene

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

Toluene; methanol

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

1,2-dibromoethane

### Other regulations

#### Australia inventory (AICS)

Contact local supplier or distributor.

#### Canada inventory

Not determined.

#### China inventory (IECSC)

At least one component is not listed.

#### Japan inventory (ENCS)

Not determined.

#### Korea inventory (KECI)

Not determined.

#### Philippines inventory (PICCS)

Not determined.

#### Taiwan Chemical Substances Inventory (TCSI)

Not determined.

#### REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

**Product name**  Vgas 100LL (<0.1% Benzene)

**Product code**  AV2103.

**Page:** 13/14

**Version** 1 **Date of issue** 11/17/2016.

**Format** US  
(US)

**Language** ENGLISH  
(ENGLISH)

## Section 16. Other information

[National Fire Protection Association \(U.S.A.\)](#)



### History

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**Date of previous issue** 02/03/2015.

**Prepared by** Product Stewardship

### Key to abbreviations

ACGIH = American Conference of Industrial Hygienists  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
CAS Number = Chemical Abstracts Service Registry Number  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
OEL = Occupational Exposure Limit  
SDS = Safety Data Sheet  
STEL = Short term exposure limit  
TWA = Time weighted average  
UN = United Nations  
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.  
Varies = may contain one or more of the following 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2

✔ Indicates information that has changed from previously issued version.

### Notice to reader

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**Product name** Kvgas 100LL (<0.1% Benzene)

**Product code** SAV2103.

**Page:** 14/14

**Version** 1 **Date of issue** 11/17/2016.

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(ENGLISH)