Chevron Aviation Gasoline

MSDS: 2647 Revision #: 18 Revision Date: 03/24/01

Click here to search the product data sheet database

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

AVIATION GASOLINE (100 OCTANE)

PRODUCT NUMBER(S): CPS200205 CPS200239 CPS200285 CPS200456
SYNONYM: Avgas 100 Avgas 100 Low Lead (LL) Calco Avgas 100 LL

COMPANY IDENTIFICATION

Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583

EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800) 231-0623 or (510) 231-0623 (International)
TRANSPORTATION (24 hr): CHEMTREC (800) 424-9300 or (703) 527-3887

Emergency Information Centers are located in U.S.A. Int'l collect calls accepted

PRODUCT INFORMATION: MSDS Requests and Product Information
(800) 689-3998
(510) 242-5357 Technical Information

SPECIAL NOTES: This MSDS cover both Avgas 100 and Avgas 100 LL (Low Lead).

2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % AVIATION GASOLINE (100 OCTANE)

CONTAINING

COMPONENTS AMOUNT LIMIT/ QTY AGENCY/ TYPE

AVIATION GASOLINE

100.00% 200 ppm Chevron TWA
1000 ppm Chevron STEL

POTENTIALLY INCLUDING

ALKYLATION NAPHTHA, LIGHT

Chemical Name: NAPHTHA, LIGHT ALKYLATE
CAS64741668 > 90.00% NONE NA

2, 2, 4-TRIMETHYL PENTANE
CHEMICAL NAME: 2, 2, 4-TRIMETHYLPENTANE
CAS 540841 > 1.00% 1,000 LBS CERCLA 302.4 RQ

TETRAETHYL LEAD
Chemical Name: TETRAETHYL LEAD
CAS78002 < 4.00ML/GAL 0.1 mg/m³ as Pb ACGIH TWA
0.075 mg/m³ OSHA PEL
10 LBS CERCLA 302.4 RQ
100 LBS SARA 302 TPQ
10 LBS SARA 304 RQ

ETHYLENE DIBROMIDE
Chemical Name: ETHYLENE DIBROMIDE
CAS106934 < 4.00ML/GAL A3 ACGIH TWA
Table Z-2 OSHA PEL
Table Z-2 OSHA CEILING
1 LBS CERCLA 302.4 RQ

MAY CONTAIN

TOLUENE
Chemical Name: TOLUENE
CAS108883 < 10.00% 50 ppm ACGIH TWA
200 ppm OSHA PEL
300 ppm OSHA CEILING
1,000 LBS CERCLA 302.4 RQ

BENZENE
Chemical Name: BENZENE
CAS71432 < 1.00% 0.5 ppm ACGIH TWA
2.5 ppm ACGIH STEL
1 ppm OSHA PEL
5 ppm OSHA CEILING
10 LBS CERCLA 302.4 RQ

COMPOSITION COMMENT:
All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.
Refer to the OSHA Benzene Standard (29 CFR 1910.1028) and Table Z-2 for detailed training, exposure monitoring, respiratory protection and medical surveillance requirements before using this product.

3. HAZARDS IDENTIFICATION

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Blue or green liquid with a gasoline hydrocarbon odor.

- EXTREMELY FLAMMABLE
- HARMFUL OR FATAL IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE
- VAPOR HARMFUL
- MAY CAUSE EYE AND SKIN IRRITATION
- SUSPECT CANCER HAZARD - MAY CAUSE CANCER
- CONTAINS LEAD
- TOXIC TO AQUATIC ORGANISMS

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IMMEDIATE HEALTH EFFECTS

EYE:
Contact with the eyes causes irritation. Eye contact with the vapors, fumes, or spray mist from this substance could also cause similar signs and symptoms.

SKIN:
Contact with the skin causes irritation. Not expected to be harmful to internal organs if absorbed through the skin. Prolonged or frequently repeated contact may cause the skin to become cracked or dry from the defatting action of this material.

INGESTION:
Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death.

INHALATION:
May be harmful if inhaled. Excessive or prolonged breathing of this material may cause central nervous system effects. The vapor or fumes from this material may cause respiratory irritation.

SIGNS AND SYMPTOMS OF EXPOSURE:
Eye damage or irritation: may include pain, tearing, reddening, swelling, and impaired vision. Skin injury: may include pain, discoloration, swelling, and blistering. Central nervous system effects: may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

INHALATION:
Respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

CARCINOGENICITY:
Contains chemical(s) known to the State of California to cause cancer and reproductive effects. Contains benzene, which has been classified as a Group 1 carcino genic (carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Contains ethylene dibromide which has been classified as a Group 2A carcinogen by the International Agency for Research on Cancer (IARC).

Whole gasoline exhaust was reviewed by the International Agency for Research on Cancer (IARC) in their Monograph Volume 46 (1989). Evidence for causing cancer was considered inadequate in animals and inadequate in humans. IARC placed whole gasoline exhaust in Category 2B, considering it possibly carcinogenic to humans.

4. FIRST AID MEASURES

EYE:
Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists.

SKIN:
Wash skin immediately with soap and water and remove contaminated clothing and shoes. Get medical attention if irritation persists. Discard contaminated clothing and shoes or thoroughly clean before reuse.

INGESTION:
If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or
5. FIRE FIGHTING MEASURES

OSHA Classification (29 CFR 1910.1200): Flammable liquid. See section 7 for appropriate handling and storage conditions.

FLAMMABLE PROPERTIES:
FLASH POINT: (TCC) < -49F (-45C)
AUTOIGNITION: 824F (440C)
FLAMMABILITY LIMITS (% by volume in air): Lower: 1.3 Upper: 7.1
EXTINGUISHING MEDIA:
CO2, Dry Chemical, Fire Fighting Foam, AFFF.
NFPA RATINGS: Health 1; Flammability 3; Reactivity 0.

FIRE FIGHTING INSTRUCTIONS:
Use water spray to cool fire-exposed containers and to protect personnel. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

COMBUSTION PRODUCTS:
Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

CHEMTREC EMERGENCY NUMBER (24 hr): (800) 424-9300 or (703) 527-3887
International Collect Calls Accepted

ACIDENTAL RELEASE MEASURES:
Eliminate all sources of ignition in the vicinity of the spill or released vapor.

Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number for the U.S. Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE
This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches.

Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, "Flammable and Combustible Liquids", National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity", and/or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents".

Improper filling of portable gasoline containers creates danger of fire. Only dispense gasoline into approved and properly labeled gasoline containers. Always place portable containers on the ground. Be sure pump nozzle is in contact with the container while filling. Do not use a nozzle's lock-open device. Do not fill portable containers that are inside a vehicle or truck/trailer bed.

Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner, or properly disposed of.

Never siphon gasoline by mouth. Use only as a motor fuel. Do not use for cleaning, pressure appliance fuel, or any other such use. DO NOT USE OR STORE near heat, sparks or open flames. USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

AVIATION FUEL SHOULD BE FILTERED DURING TRANSFER INTO FUEL TANKS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Chevron Aviation Gasoline MSDS#2647 Rev#18 (03/24/01)
EYE/FACE PROTECTION:
No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

SKIN PROTECTION:
No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances. Suggested materials for protective gloves include: <Nitrile> <Polyurethane> <Viton> <Chlorinated Polyethylene (or Chlorosulfonated Polyethylene or CPE)>

RESPIRATORY PROTECTION:
Determine if airborne concentrations are below the recommended exposure limits. If not, wear a NIOSH approved respirator that provides adequate protection from measured concentrations of this material. Use the following respirators: Organic Vapor. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:
Blue or green liquid with a gasoline hydrocarbon odor.

pH: NA

VAPOR PRESSURE: 5.5 - 7.0 PSI @ 100F (REID)

VAPOR DENSITY (AIR=1): 3-4 (NFPA: gasoline)

BOILING POINT: 167 - 338F

FREEZING POINT: -72F

SOLUBILITY: Soluble in hydrocarbons; insoluble in water.

SPECIFIC GRAVITY: 0.7 - 0.8 @ 15.6/15.6C

10. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:
None known

CHEMICAL STABILITY:
Stable.

CONDITIONS TO AVOID:
See section 7.

INCOMPATIBILITY WITH OTHER MATERIALS:
May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS POLYMERIZATION:
Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:
The eye irritation hazard is based on an evaluation of the data for the components.

SKIN EFFECTS:
The skin irritation hazard is based on an evaluation of the data for the components.

ACUTE ORAL EFFECTS:
The acute oral toxicity is based on an evaluation of the data for the components.

ACUTE INHALATION EFFECTS:

The acute respiratory toxicity is based on an evaluation of the data for the components.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains Light Alkylation Naphtha (CAS 64741-66-8). A light-end fraction of this material was used to evaluate its reproductive and developmental effects on rats in a modified OECD Guideline No. 412 study. The highest inhalation exposure was 60% of the lower explosive limit for the light-end fraction. Exposure had no effect on food consumption, body weights, absolute and relative organ weights, histopathology, or reproductive indices. All groups had comparable delivery data and a fertility index of greater than 80%. Pups in all groups showed comparable birth weights, weight gain, and viability index (postnatal day 4). The NOAEL was greater than 24.7 g/m³. The inhalation subchronic and neurotoxic potential of the light-end fraction was evaluated in a 13-week study following TSCA Health Effects Test Guidelines and EPA Neurotoxicity Testing Guidelines (1989). The highest exposure was 75% of the lower explosive limit for the light-end fraction. No test-related mortality or effects on physical signs, body weight or food consumption were observed. Statistically significant increases in absolute and relative kidney weights in high dose males correlated with microscopically observed hyaline droplet formation. Increase liver weights in both sexes at the highest dose had no microscopic correlate and appeared reversible after the 4-week recovery period. Exposure at any dose did not produce neurotoxicity as measured by motor activity, functional observational battery, or neuropathology. The NOEL was 2220 ppm for subchronic toxicity and greater than 6646 ppm for neurotoxicity.

This product contains toluene. **GENERAL TOXICITY:** The primary effects of exposure to toluene in animals and humans are on the central nervous system. Solvent abusers, who typically inhale high concentrations (thousands of ppm) for brief periods of time, in addition to experiencing respiratory tract irritation, often suffer permanent central nervous system effects that include tremors, staggered gait, impaired speech, hearing and vision loss, and changes in brain tissue. Death in some solvent abusers has been attributed to cardiac arrhythmias, which appear to be triggered by epinephrine acting on solvent sensitized cardiac tissue. Although liver and kidney effects have been seen in some solvent abusers, results of animal testing with toluene do not support these as primary target organs. **HEARING:** Humans who were occupationally exposed to concentrations of toluene as low as 100 ppm for long periods of time have experienced hearing deficits. Hearing loss, as demonstrated using behavioral and electrophysiological testing as well as by observation of structural damage to cochlear hair cells, occurred in experimental animals exposed to toluene. It also appears that toluene exposure and noise may interact to produce hearing deficits. **COLORVISION:** In a single study of workers exposed to toluene at levels under 50 ppm, small decreases in the ability to discriminate colors in the blue-yellow range have been reported for female workers. This effect, which should be investigated further, is very subtle and would not likely have been noticed by the people tested. **REPRODUCTIVE/DEVELOPMENTAL TOXICITY:** Toluene may also cause mental and/or growth retardation in the children of female solvent abusers who directly inhale toluene (usually at thousands of ppm) when they are pregnant. Toluene caused growth retardation in rats and rabbits when administered at doses that were toxic to the mothers. In rats, concentrations of up to 5000 ppm did not cause birth defects. No effects were observed in the offspring at doses that did not intoxicate the pregnant animals. The exposure level at which no effects were seen (No Observed Effect Level, NOEL) is 750 ppm in the rat and 500 ppm in the rabbit.

This product contains benzene. **GENETIC TOXICITY/CANCER:** Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various...
blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. REPRODUCTIVE/DEVELOPMENTAL TOXICITY: No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother. However, some evidence of fetal toxicity such as delayed physical development has been seen at such levels. The available information on the effects of benzene on human pregnancies is inadequate but it has been established that benzene can cross the human placenta. OCCUPATIONAL: The OSHA Benzene Standard (29 CFR 1910.1028) contains detailed requirements for training, exposure monitoring, respiratory protection and medical surveillance triggered by the exposure level. Refer to the OSHA Standard before using this product.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:
This material is expected to be toxic to aquatic organisms. The ecotoxicity hazard is based on data for the components.

ENVIRONMENTAL FATE:
Following spillage, the more volatile components of gasoline will be rapidly lost, with concurrent dissolution of these and other constituents into the water. Factors such as local environmental conditions (temperature, wind, mixing or wave action, soil type, etc), photo-oxidation, biodegradation and adsorption onto suspended sediments, can contribute to the weathering of spilled gasoline.

13. DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by USEPA under RCRA (40CFR261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPI NG NAME: GASOLINE
DOT HAZARD CLASS: 3 (FLAMMABLE LIQUID)
DOT IDENTI FI CATI ON NUMBER: UN1203
DOT PACKI NG GROUP: II
ADDI TI ONAL INFO: MARINE POLLUTANT (GASOLINE LEADED)

15. REGULATORY INFORMATION

SARA 311 CATEGORI ES:
1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: YES

http://library.cbest.chevron.com/lubes/chevmsdv9.nsf/db12c751d5603b41882568... 8/28/01
3. Fire Hazard: YES
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

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<th>No.</th>
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<td>NJ RTK</td>
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The following components of this material are found on the regulatory lists indicated.

**ETHYLENE DI BROMIDE** is found on lists: 01, 02, 03, 04, 07, 10, 11, 12, 13, 14, 17, 18, 20, 28, 29,

**TOLUENE** is found on lists: 01, 02, 05, 10, 11, 12, 13, 14, 17, 26, 28, 29,

**2, 2, 4-TRIMETHYL-PENTANE** is found on lists: 02, 10, 11, 12, 26,

**BENZENE** is found on lists: 01, 02, 03, 04, 05, 06, 10, 11, 12, 13, 14, 15, 17, 20, 28, 29,

**TETRAETHYL LEAD** is found on lists: 02, 04, 05, 09, 10, 11, 12, 13, 14, 17, 18, 28,

**AVIATION GASOLINE** is found on lists: 19, 30,

16. OTHER INFORMATION

NFPA RATINGS: Health 1; Flammability 3; Reactivity 0;
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE: Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HIMS ratings).

REVISION STATEMENT:
This revision updates Sections 1(Company Address), 2(Component Information), 3(Emergency Overview), 9(Physical/Chemical Properties), and 12(EcoToxicity).

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

- TLV - Threshold Limit Value
- TWA - Time Weighted Average
- STEL - Short-term Exposure Limit
- TPQ - Threshold Planning Quantity
- RQ - Reportable Quantity
- PEL - Permissible Exposure Limit
- C - Ceiling Limit
- CAS - Chemical Abstract Service Number
- A1-5 - Appendix A Categories
- () - Change Has Been Proposed
- NDA - No Data Available
- NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTC, P.O. Box 1627, Richmond, CA 94804


8/28/01
The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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