

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

PRODUCT NAME

UNLEADED GASOLINE

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Revision No : 11

Last Revision Date : January 2006

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ADDITIONAL PRODUCT NAMES : PREMIUM UNLEADED/ SUPER UNLEADED
LEAD REPLACEMENT PETROL/ ULTRA LOW SULPHUR PETROL

NAME AND ADDRESS OF MANUFACTURER/SUPPLIER

ConocoPhillips Ltd, Humber Refinery, South Killingholme, North Lincolnshire, DN40 3DW.

Telephone No. 01469 571571

Facsimile No. 01469 555143

EMERGENCY CONTACT

ConocoPhillips Ltd. Humber Refinery, South Killingholme, Immingham, North Lincolnshire DN40 3DW.

Health and Safety Emergency Telephone No. 01469 555348 (24 hours)

APPLICATION

Fuel for spark ignition piston engines - NOT recommended for aviation piston engines.

2. COMPOSITION / INFORMATION ON INGREDIENTS

General : Complex mixture of hydrocarbons in the C₄-C₁₁ range. CAS No 86290-81-5. EINECS No 289-220-8. The main components are paraffinic, naphthenic and aromatic hydrocarbons but catalytically and thermal cracked constituents from refinery processes may be present.

Additives :

Multifunctional gasoline additives	xi, R36/37/38,43	<1%
Organic Potassium Salt (LRP only)	xi, R36/38	<400ppm
Oxygenates up to the maximum permitted by BSEN228		

Symbol/R & S Phrases

Concentration :

Benzene	T, R45	< 1%
n-Hexane	Xn, R11, 48/20	< 2%
Methyl- <i>tert</i> -butyl ether (MTBE)	-	< 10%

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3. HAZARDS IDENTIFICATION

Health Hazards:

Eyes : Likely to cause minor irritation if splashed into the eye with short-term redness and stinging.

Skin : May cause irritation on brief or occasional contact; prolonged, repeated and heavy direct contact with the skin over a long period of time can cause defatting of the skin, erythema, dermatitis, oil acne.

Inhalation : No hazards associated in normal operations. Inhalation of vapours or fumes may cause headaches, nausea, drowsiness and irritation to the breathing passages and lungs with possible effects to the central nervous system. As gasoline contains benzene which is a known carcinogen continuous exposure to high levels of vapours may be toxic and in extreme cases may lead to leukaemia.

Ingestion : Likely to cause nausea and diarrhoea if small amounts are swallowed; larger amounts may affect the central nervous system. Signs and symptoms of nervous system effects may include one or more of the following; headaches, dizziness, loss of appetite, weakness and loss of concentration. The product can be harmful due to aspiration of liquid into the lungs following ingestion which may cause chemical pneumonitis and can be fatal.

Safety Hazards: Highly flammable liquid. Highly volatile, may form flammable or explosive vapour-air mixtures from uncontrolled release.

Environmental Hazard: Classed as Dangerous for the Environment under EU criteria.

4. FIRST AID MEASURES

Eyes : Flush eyes immediately with water for 15 minutes. Get medical advice if adverse eye effects follow.

Skin : Wash skin immediately with soap and water. Do not use solvents or thinners. Remove heavily contaminated clothing immediately to a safe area due to the risk of fire; ensure contamination is removed. Seek medical attention if irritation persists.

Inhalation : If inhalation of fumes irritates the nose, throat or causes coughing remove to fresh air. Get medical advice. If necessary administer artificial respiration (mouth to mouth) or give oxygen. Get medical assistance immediately.

Ingestion : DO NOT INDUCE VOMITING BECAUSE OF DANGERS OF ASPIRATION. Wash out mouth with water. get medical advice IMMEDIATELY. Give water or milk (1/2 pint) to drink.

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5. FIRE-FIGHTING MEASURES

Extinguishing Media : Foam, dry chemical powder, carbon dioxide.

Fire and Explosion Hazards : Extremely flammable, high hazard. Liquid can release vapour at temperatures below ambient, which form flammable mixtures. Vapours settle to ground level and may reach ignition sources remote from the point of escape via drains and other underground passages. Static discharge; material can accumulate static charges which may cause an incendiary electrical discharge.

Special Fire-Fighting Procedures : Water fog or spray to cool fire-exposed surfaces (e.g. containers) and to protect personnel. Only personnel trained in fire-fighting should use water sprays. Respiratory and eye protection required for fire-fighting personnel exposed to fumes or smoke.

Hazardous Combustion Products : Smoke, sulphur oxides and carbon monoxide in the event of incomplete combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions : Prevent skin and eye contact. Remove ignition sources and ensure sufficient ventilation. The product may damage tarmacadam and make surfaces slippery. Evacuate all unnecessary personnel. Where ventilation is inadequate wear breathing apparatus. (See Section 8).

Environmental Precautions :

Land Spill : Eliminate sources of ignition; warn occupants downwind of fire/explosion hazard. Shut off source if possible. Prevent access to drains, sewers, waterways and soil. Gasoline vapours are heavier than air and will collect in drains, gulleys etc. Advise authority of soil/vegetation contamination if necessary. Take measures to minimise groundwater contamination.

Water Spill : Eliminate sources of ignition. Advise shipping of hazard; notify Port Authority. Do not confine in area of leakage. Remove from surface by skimming or suitable absorbents.

Decontamination Procedures :

Use absorbent material e.g. sand, sawdust and earth. Dispose of in accordance with current waste disposal regulations.

7. HANDLING AND STORAGE

The design and operation of bulk storage and fuel systems must comply with national legislation and recognised codes of good practice. In smaller quantities, containers such as drums should be stored in cool, well ventilated surroundings, away from all sources of ignition. Electrical equipment and fittings must comply with local fire prevention regulations for this class of flammable product.

Load/unload temperature : Ambient to 40°C **Storage temperature :** Ambient to 40°C

Special Precautions :

Use the correct grounding procedure. Store and handle in closed or properly vented containers. Ensure compliance with statutory requirements for storage and handling. Check for and prevent potential leaks from containers.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace Exposure Limits :	Substance	8-hour TWA	STEL	Source / Other Information
	Benzene	1 ppm	-	HSE Workplace Exposure Limits (EH 40)
	n-Hexane	20 ppm (72 mgm ⁻³)	-	HSE Workplace Exposure Limits (EH 40)
	Methyl- <i>tert</i> -butyl ether	25 ppm (90mgm ⁻³)	75 ppm (275mgm ⁻³)	HSE Workplace Exposure Limits (EH 40)

Engineering measures : Any electrically operated ventilation equipment must be approved for use in potentially explosive atmospheres by an EC Notified Body.

Personal Protection :

If frequent or continuous contact is likely protective clothing e.g. chemical resistant overalls or apron, safety goggles (EN 166) and chemical impervious gloves and protective boots **MUST** be worn. Any contaminated clothing should be laundered before reuse. If contact is likely protective gloves (nitrile rubber or neoprene) **MUST** be worn. Ensure gloves are approved to relevant standard e.g. EN 374 in Europe. If possibility of splashing occurs safety glasses or safety goggles should be worn.

Inhalation : ENSURE GOOD VENTILATION. Where ventilation is inadequate wear breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Clear pale yellow liquid (may be dyed various colours)	Odour :	Pungent petroleum odour
Specific Gravity at 15.6°C :	0.75 g/ml	pH :	Not applicable
Vapour Pressure at 20°C :	60.0 kpa	Vapour Density (air=1) :	> 1
Boiling point, °C :	25-215°C	Flash Point (TAGC), °C :	-40°C
Auto-ignition Temperature, °C :	450°C (approx)		
Flammability Limit, in Air, % by Volume :	LEL : 1.3	UEL :	7.6
Kinematic Viscosity at 20°C, mm²s⁻¹ :			0.5 – 1.5
Solubility :	Slightly soluble 0.01 g/litre at 20°C	Evaporation Rate (n-butyl acetate = 1) :	10 – 11

PLEASE NOTE THAT THESE PROPERTIES DO NOT CONSTITUTE A SPECIFICATION.

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10. STABILITY AND REACTIVITY

Stability :	The product is stable under normal operating conditions.
Conditions to avoid :	Sources of ignition, elevated temperatures, water.
Materials to avoid :	Avoid contact with strong oxidising agents such as chlorates, nitrates and peroxides.
Hazardous Decomposition Products :	No hazardous products will be evolved at ambient temperatures.

11. TOXICOLOGICAL INFORMATION

The following toxicological assessment is based on a knowledge of the toxicity of the product's component's

HEALTH EFFECTS

Acute :	Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be : ORAL (rat) LD50 > 5000 mg/kg (slightly toxic) INHALATION (rat) LC50 > 2500 mg/m ³ (moderately toxic) DERMAL (rabbit) LD50 > 2000 mg/kg (moderately toxic)
On eyes :	Slightly irritating but does not damage eye tissue.
On skin :	Prolonged or repeated contact may lead to defatting of the skin, erythema, dermatitis or oil acne. Irritation but low order of acute toxicity.
By inhalation :	Contains benzene and complex hydrocarbons and may in some cases contain toluene and xylene. Repeated or prolonged exposure to high levels of benzene can be toxic and in extreme cases may lead to leukaemia. Any risks will be negligible under normal operating conditions provided that all recommended hygiene precautions are followed. This product can be harmful due to aspiration of liquid into lungs following ingestion, which may cause chemical pneumonitis and can be fatal.
By ingestion :	Low order of acute/systemic toxicity.
Chronic :	The long-term toxicity evaluation for this product is based on testing results from similar atmospheric petroleum distillates.

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12. ECOLOGICAL INFORMATION

Product classed as Dangerous for the Environment. On release to water gasoline floats on the surface and hydrocarbons are lost through volatilization. Toxic to fish and invertebrates.

Ecotoxicity: Some components of gasoline are water soluble, and harmful to aquatic organisms. Acute aquatic toxicities of gasoline (as LL50) are in the range 1 – 10 mg/l.

Mobility: Where product enters soil it will be mobile and may contaminate groundwater.

Persistence and Degradability: Rapid removals of gasolines from the environment result from a combination of evaporation, physical partitioning with flowing water and degradation. Volatile components are photodegraded in air by reaction with hydroxyl radicals.

Biodegradability: From the known properties of the hydrocarbon components, gasolines are expected to be inherently biodegradable.

13. DISPOSAL CONSIDERATIONS

Place contaminated materials/packaging in suitable containers and dispose of as **SPECIAL WASTE** in accordance with Duty of Care Regulations [Environmental Protection Act 1990 - Section 34(7)] using a licensed waste disposal company.

14. TRANSPORT INFORMATION

Classification for Transport : Flammable liquid 3 Y E
Usual shipping containers - tankers, barges, rail-cars, tank trucks, drums.
Transport temperature ambient to 40°C.

Shipping Name : Motor Spirit or Gasoline or Petrol

UN Number : 1203 **Packaging Group :** II

ADR/RID : Class 3 **IMO :** 3

ICAO/IATA : Class 3 **Emergency Action Code:** 3YE

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15. REGULATORY INFORMATION

Hazard Label Data : PREMIUM UNLEADED
F+ - Extremely flammable. T – Toxic
N - Dangerous for the environment

R & S Phrases :

R12	Extremely flammable
R45	May cause cancer
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: May cause lung damage if swallowed
S45	In case of accident, or if you feel unwell, seek medical advice immediately (show the label if possible)
S53	Avoid exposure - obtain special instructions before use
S61	Avoid release to the environment. Refer to special instructions/Material Safety Data Sheet

UK Regulations: Chemicals (Hazard Information and Packaging for Supply) Regulations 2002
The Dangerous Substances and Explosive Atmospheres Regulations 2002

16. OTHER INFORMATION

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this Sheet. You should not use the product other than for the stated application or applications.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others or may be affected of any hazards described in this sheet and of any precautions which should be taken.

This data sheet has been revised in sections 1, 8, 14