

1. Identification of the substance/preparation and the company

Identification of the substance: **Unleaded Petrol 98 RON**

Company identification: DCC Energy Ltd T/A "Butler Fuels"
County House, Bayshill Road
Cheltenham
Gloucestershire
GL50 3BA
Tel: (01242) 222999
Email: hse-butler@butlerfuels.co.uk

Emergency telephone number: 0800 387671

2. Hazards identification

Classified for supply purposes as: extremely flammable (R12), carcinogenic (R45: May cause cancer), Harmful (R65: Harmful: may cause lung damage if swallowed) and Irritant (R38: Irritating to skin). Assigned the additional risk phrase - R67 vapours may cause drowsiness and dizziness.

Extremely flammable liquid with a flash point of less than -40°C.

Can readily explode in the presence of electrostatic charges generated, for example, during pumping or tank cleaning or by other sources of ignition or flame impingement on containers.

Exposure limits apply to the following constituents: benzene; ethanol; ethylbenzene; methanol; n-hexane, ethyl benzene; methanol; propan-2-ol (isopropanol); toluene; trim ethyl benzenes and xylene which are present at significant concentrations. Normal exposures in the open air do not, however, present significant health risks provided care is taken to avoid undue exposure to vapours.

Exposure to higher vapour concentrations can lead to nausea, headache, drowsiness and dizziness, loss of consciousness, and, in oxygen deficient environments, death. A person exposed to significant concentrations of vapour may display drunken behaviour and his judgement can be impaired.

Accidental ingestion can lead to chemical burning of the mouth. Ingestion can lead to vomiting and aspiration into the lungs, which can result in chemical pneumonitis, which can be fatal.

Prolonged and repeated skin contact can lead to defatting of the skin, drying, cracking and dermatitis.

Unleaded Petrol is classified for conveyance purposes as a flammable liquid.

Unleaded Petrol contains gasoline which is classified as dangerous for the environment - N R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

It will not biodegrade in anaerobic conditions and, hence, can be persistent. It contains components that have a high potential to bioaccumulate. It is expected to be slightly toxic to fish.

3. Composition/information on ingredients

Unleaded petrol is preparation manufactured from the substance Gasoline, which appears in EINECS and is covered by the entry given below, and additives. Ethers and alcohols may be present at low concentrations.

Gasoline, EINECS Number 289-220-8, CAS Number 86290-81-5

A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C3 and boiling in the range 30°C to 260° C

Unleaded Petrol can contain the following constituents, which have health effects and are present at significant concentrations:

Conc ⁿ	Component	EINECS	Symbol	Risk phrases
<98%	Gasoline (low boiling pt naphtha)	289-220-8	F+ T Xn Xi N	R12 Extremely flammable R45 May cause cancer R65 Harmful: may cause lung damage if swallowed R38 Irritating to skin R67 Vapours may cause drowsiness and dizziness R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
<5%	Ethanol	200-578-6	F	R11 Highly Flammable
<10%	Propan-2-ol	200-661-7	F Xi	R11 Highly Flammable R36 Irritating to eyes R67 Vapours may cause drowsiness and dizziness
<3%	Methanol	200-659-6	F T	R11 Highly Flammable R23/24/25 Toxic: danger of very

			serious irreversible effects through inhalation, in contact with skin and if swallowed
<p>Exposure limit values exist for the following constituents:</p>			
<p>Benzene Ethanol, Ethylbenzene n-Hexane Methanol Propan-2-01 (isopropanol) Toluene Trimethylbenzenes Xylene</p>			
<p>4. First-aid measures</p>			
<p>Inhalation Remove the affected person to fresh air. If breathing has stopped administer artificial respiration. Give cardiac massage if necessary. If the person is breathing, but unconscious, place in the recovery position. Obtain medical assistance immediately.</p> <p>Skin Flush the contaminated skin with water. Use soap if available. Contaminated clothing should be soaked with water, removed, and laundered before reuse.</p> <p>Eyes Flush the eye with copious quantities of water. If irritation persists refer for medical attention.</p> <p>Ingestion DO NOT INDUCE VOMITING. If ingestion is suspected, wash out the mouth with water and send to hospital immediately.</p>			
<p>5. Fire-fighting measures</p>			
<p>Specific hazards Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates (smoke) and gases, including carbon monoxide, oxides of sulphur and unidentified organic and inorganic compounds. Flammable vapours may be present even at temperatures below flashpoint.</p> <p>Extinguishing media: Foam, fine water spray and dry chemical powder. Carbon dioxide, sand or earth may be used on small fires only</p> <p>Unsuitable extinguishing media Do not use water in a jet.</p> <p>Protective Equipment Suitable protective equipment must be worn, this should include breathing apparatus when approaching a fire in a confined space.</p> <p>Other information Keep adjacent drums and tanks cool by spraying with water from a safe location. If possible remove them from danger zone. If adequate cooling cannot be achieved, the area needs to be evacuated, and further fire fighting and cooling attempts should be carried out from a safe location.</p>			
<p>6. Accidental release measures</p>			
<p>Personal precautions Remove all possible sources of ignition in the surrounding area. Evacuate all personnel. Do not breathe fumes or vapour. Do not operate electrical equipment. Avoid contact with skin, eyes, clothing. Ventilate contaminated area thoroughly. Wear chemical resistant knee length safety boots and PVC jacket and trousers. Wear safety glasses or full face shield if splashes are likely to occur.</p> <p>Environmental precautions Prevent from spreading or entering into drains and surface waters (e.g. lakes, ponds, ditches, rivers and streams) by using sand, earth or other appropriate non-combustible barriers. Inform local authorities if impacts cannot be prevented.</p> <p>Clean-up methods – Small spillages To minimise soil and groundwater contamination, absorb liquid with sand, earth or other recommended absorbent material as soon as possible. Sweep up and remove to suitable, clearly marked container for disposal in accordance with local regulations. Do not disperse using water or detergent.</p>			

Clean-up method – Large Spillages

Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in suitable absorbent. Disposal as for small spillages.

Maritime spillages

Any spillage must be dealt with using a Shipboard Oil Pollution Emergency Plan as required by MARPOL Annex 1, Regulation 26.

Other information

Local authorities should be advised if significant spillages cannot be contained. Observe all relevant local regulations. Advice may be obtained from Environment Agency: 0800 80 70 60 (24hr Emergency No.)

7. Handling and storage

Handling

Unleaded petrol is designed for use in closed systems and in vehicle fuel systems. During vehicle fuelling and all other operations extreme care must be taken to avoid any sources of ignition from igniting the vapour.

Special care must be exercised when working on vehicle fuel systems and in particular vehicle running tanks. These must always be removed from the vehicle in the open air after the battery has been disconnected and removed. Electrical continuity is required between the transport and storage vessels during product transfer.

Storage

The storage of petroleum spirit is subject to legislative controls. The primary pieces of legislation affecting the storage of petroleum spirit are the Dangerous Substances and Explosive Atmosphere Regulations and the Petroleum Consolidation Act 1928 (modified by DSEAR).

Where more than 10 litres of petroleum spirit is to be stored specific storage requirements must be met under above legislation..

If more than 275 litres is to be stored a Petroleum Licence must be obtained from the local Petroleum Officer who will lay down the storage conditions.

The Petroleum-Spirit (Motor Vehicles Etc.) Regulations 1929 and Petroleum-Spirit (Plastic Containers) Regulations 1982 permit the keeping of two 2-gallon (maximum capacity) approved metal and two 5-litre (maximum capacity) approved plastic containers in a motor vehicle, subject to the marking and labelling requirements of containers being met, and the petrol not being for sale.

The main considerations relating to the storage of gasoline is the suitability of the storage vessel and the avoidance of sources of ignition. Gasoline in bulk must be stored in properly designed tanks. Some Licensing Authorities require that underground storage tanks meets BS 2594. Where the only flammable substance to be stored is gasoline, up to three gallons may be stored in suitable containers in well ventilated areas or flameproof cabinets or stores. Gasolines should never be stored in buildings occupied by people.

8. Exposure controls and personal protection

Workplace Exposure Limits

The following limits are taken from The HSE Guidance Note EH40 Occupational Exposure Limits 2005:

Substance	8hr TWA value mg/m ³	15-min TWA value mg/m ³
Benzene	3	-
Ethanol	1920	-
Ethylbenzene	441	552
Methanol	266	233
n-Hexane	72	-
Propan-2-ol (Isopropanol)	999	1250
Toluene (skin)	191	574
Trimethylbenzenes, all isomers or mixtures	125	-
Xylene, all isomers (skin)	220	441

Recommended protective clothing

Impervious gloves and overalls where regular contact is likely, and goggles if there is a risk of splashing. Respiratory protective equipment to BS EN 137 1993 - Specification for Respiratory Protective Devices Self-contained Open Circuit Compressed Air Breathing Apparatus - should be used where exposures are likely to exceed the exposure limits.

9. Physical and chemical properties

Physical State:	Liquid	Vapour pressure	32 to 52kPA at 20°C
Appearance:	Clear water white/straw	Flammable Limits - Upper	6% vol.
Odour:	Characteristic	Flammable Limits - Lower	1% vol.
Initial Boiling pt:	~30°C	Autoflammability.	300°C
Flashpoint::	Less than minus 40°C	Kinematic Viscosity	0.55 to 0.75cSt at 40°C
Solubility in water	Very low	Vapour Density (Air =1)	> 5
Relative density	725 to 780 kg/m ³ at 15°C	Partition Coefficient, n-octanol water:	2 to >6 for constituents

The above are typical values

10. Stability and reactivity

Stability

Stable under normal conditions of use

Conditions to avoid

Sources of ignition. Heat, flames and sparks. Elevated temperatures

Materials to avoid

Strong oxidising agents, e.g. chlorates and ammonium nitrate which may be used in agriculture.

Hazardous decomposition products

Hazardous decomposition products are not expected to form during normal storage.

11. Toxicological information

Acute health hazard

Unleaded petrol is classified as harmful by aspiration and as a skin irritant.

Unleaded petrol is assigned the additional risk phrase - vapours may cause drowsiness and dizziness.

The main hazards are: in the case of inhalation of higher vapour concentrations, of effects on the central nervous system; in the case of skin contact of, defatting and irritation; in the unlikely event of ingestion, of aspiration into the lungs with possible resultant chemically induced pneumonia.

Exposure to higher vapour concentrations can lead to nausea, headache, drowsiness and dizziness, loss of consciousness, and, in oxygen deficient environments, death.

Chronic health hazard

Classified as a category 2 carcinogen, owing to the benzene content being greater than 0.1%

Contains benzene, ethylbenzene, n-hexane, trimethylbenzenes, toluene, xylene and other hydrocarbons that can be harmful to health in the event of prolonged and repeated exposure.

The effects include haematological and chromosomal changes and leukaemia. Adherence to the recommended hygiene precautions will minimise any risks, which under normal conditions of use will be negligible.

Other information

High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

12. Ecological information

The information below refers to the gasoline content which is classified as dangerous for the environment: R51/53 toxic to aquatic organisms / may cause long-term adverse effects in the aquatic environment.

Air

Gasoline is a mixture of volatile components which when released to air will react rapidly with hydroxyl radicals and ozone.

Water

If released to water, the majority of product will evaporate rapidly but a small proportion will dissolve. Dissolved components will be either absorbed in sediments or evaporate to air. In aerobic water and sediments they will biodegrade, but under anaerobic conditions they will persist. The product is slightly toxic to aquatic organisms and contains components that have the potential to bioaccumulate, but is unlikely to persist in the aquatic environment for sufficient time to pose a significant hazard.

Soil

Small volumes released on land will evaporate, with a proportion of the product being absorbed in the upper soil layers and being subject to biodegradation. Larger volumes may penetrate into anaerobic layers in which the product will persist. The product may reach the water table on which it will form a floating layer in which case the more soluble components will cause groundwater contamination. The product will move with the groundwater flow. The movement of the product and the solubility of constituents can lead to contamination of sources of drinking water.

13. Disposal considerations

Waste disposal

A recognised collector or contractor should dispose of waste arising from a spillage or tank cleaning in accordance with prevailing regulations. The competence of the collector or contractor to deal satisfactorily with this type of product should be established beforehand. Do not dispose of into the environment, in drains or in watercourses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

Product disposal

As for waste disposal

Container disposal

Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor. Do not pollute the soil, water or environment with the waste product.

Local legislation

Hazardous Waste (England and Wales) Regulations 2005.

14. Transport information

UN Number: 1203
Proper Shipping Name: PETROL or MOTOR SPIRIT or GASOLINE
Class 3
Symbol: Flammable Liquid
Packing Group: II
Hazchem Code: 3YE
Marine pollutant: No

MARPOL rules apply for bulk shipments by sea

15. Regulatory information

This product has been classified according to the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations.

Dangerous for Supply

Symbols: Flame (F+)
Skull and crossbones (T)
Dead tree and fish (N)

Classification: Extremely flammable, Carcinogenic, Harmful, Irritant
Dangerous for the environment

Risk Phrases

R12 Extremely flammable
R45 May cause cancer
R65 Harmful: may cause lung damage if swallowed
R38 Irritating to skin
R67 Vapours may cause drowsiness and dizziness
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety Phrases

S2 Keep out of the reach of children
S23 Do not breathe vapour
S24 Avoid contact with skin
S29 Do not empty into drains
S43 In case of fire use foam/dry powder/AFFF/carbon dioxide - NEVER USE WATER
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S53 Avoid exposure - Obtain special instructions before use
S61 Avoid release to the environment. Refer to special instructions / safety data sheets
S62 If swallowed. do not induce vomiting: seek medical advice immediately and show this container or label

Packaging and Labelling

Contains: Gasoline (Low Boiling Point Naphtha)

Owing to the requirement for child resistant fastenings and tactile danger warnings, petrol should not be supplied to members of the public in packages. A customer needing fuel in a package should be invited to purchase a container designed for the purpose, and to fill this from the pump.

16. Other information

Recommended use

Unleaded petrol 98 RON is used as a fuel for spark ignition internal combustion engines designed to run on unleaded fuels. The Research Octane Number (RON) is a measure of the fuels resistance to engine 'knocking'. Unleaded petrol 98 RON is the 'super' unleaded petrol supplied in the UK

This safety data sheet contains important information to ensure the safe storage, handling and use of this product, it does not however constitute an assessment of workplace risks.

Users are advised to refer to relevant legislation, approved codes of practice and guidance available from the Health & Safety Executive (*website: <http://www.hse.gov.uk>*) and to the IP Codes of Practice available from the Energy Institute (*website: <http://www.energyinst.org.uk>*)

Further information

The above information is based on our current knowledge of the product. The purpose of this data sheet is to describe the product in terms of its safety and environmental requirements. It is the user's responsibility to satisfy themselves as to the application of this information and/or recommendations for their own use.