SAFETY DATA SHEET (MSDS)

1. Identification of the substance/preparation and company/undertaking

Product name: R E85

Product use: Use only as a motor fuel for spark ignition engines. Do NOT use for aviation. Should NOT be used as a solvent or a cleaning agent.
For specific application advice see appropriate Technical Data Sheet or talk to our Technical Department.

Supplier: Anglo American Oil Company Ltd
Membury Airfield Industrial Estate
Lambourn
Berkshire, RG17 7TJ

Emergency Telephone Number **+44 (0)7802 968016**

2. Composition and Information of ingredients

Ethanol Ethyl Alcohol C_2H_5OH

Other substances

Chemical name	CAS no.	%	EINECS / ELINCS.	Classification
Gasoline	86290-81-5	15	289-220-8	F+, R12 Carc. Cat. 2; R45 Muta. Cat. 2; R46 Repr. Cat. 3; R63 Xn; R65 Xi; R38 R67 N; R51/53
Benzene	71-43-2	0.01-0.15	200-753-7	F; R11 Carc. Cat. 1; R45 Muta. Cat. 2; R46 T; R48/23/24/25 Xn; R65 Xi; R36/38
Toluene	108-88-3	<5	203-625-9	R; R11 Repr. Cat. 3; R63 Xn; R48/20, R65 Xi; R38 R67
Methyl-tert-butyl ether	1634-04-4	<2	216-653-1	F; R11 Xi; R38

See section 16 for the full text of the R-phrases declared above
Occupational exposure limits, if available, are listed in section B

3. Hazards identification

This preparation is classified as dangerous according to Directive 1999/45/ED as amended and adapted.

Physical/chemical hazards:	Extremely flammable
Human health hazards:	Irritating to skin. May cause cancer Contains Benzene. Prolonged or repeated exposure to benzene can cause anaemia and other blood diseases, including leukaemia. May cause heritable genetic damage. Harmful; may cause lung damage if swallowed Vapours may cause drowsiness and dizziness.
Environmental hazards:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Effects and symptoms

Eyes:	No significant health hazards identified
Skin:	Causes skin irritation. Contains material which can cause cancer. Contains material which can cause heritable genetic effects.
Inhalation:	Contains material which can cause cancer. Contains material which can cause heritable genetic effects.
Ingestion:	Aspiration hazard if swallowed – harmful or fatal if liquid is aspirated into lungs.

4. First-aid measures

Eye contact:	In case of contact with eyes, rinse immediately with a copious amount of water. Get medical attention if irritation occurs.
Skin contact:	Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin. In extreme situation of saturation with this product, drench with water, remove clothing as soon as possible and wash skin with soap and water. Seek medical advice if skin becomes red, swollen or painful.
Inhalation:	If exposure to vapour, 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 persists obtain medical advice. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth to mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.
Ingestion:	If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed – can enter lungs and cause damage. Obtain medical attention.
Notes to physician:	Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following requrgitation 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 undertakend only after endotracheal intubation. Monitor for cardiac dysrhythmias

5. Fire-fighting measures

Extinguishing media:

Suitable;	In case of fire, use foam, dry chemical or carbon dioxide extinguishres or spray. (Alcohol resistant foam).
Not suitable:	Do NOT use water jet other than to COOL containers.
Hazardous decomposition Product:	These products are carbon oxides (CO, CO_2)
Unusual fire/explosion hazards:	Extremely flammable liquid and vapour. Vapour may cause flash fire. Vapours may accumulate in low or confined areas, travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Special fire-fighting procedures:	DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity fo the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows.
Protection for fire-fighters:	Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions:	Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (See Section: “Exposure controls/personal protection”). Follow all fire fighting procedures (See Section: “Fire-fighting measures”). Do not touch or walk through spilled material.
Environmental precautioins and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimise contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill.	Splash goggles. Full suit. Boots. Gloves 9see safety data sheet section 8)

7. Handling and storage

Handling: Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or Explosion. Dissipate static electricity during transfer by earthing and bonding containers and equipment before transfer material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact of spilled material and runoff with soild and surface waterways. Wash thoroughly after handling. Never siphon by mouth.

Storage: Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store and use only in equipment/containers designed for use with this product. Do not remove warning labels from containers.
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 vapour concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume. Always have sufficient people standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.
Light hydrocarbon vapours 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 flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks.
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 tank structure.
Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks).
Explosive equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks).
Explosive air/vapour mixtures may form at ambient temperature.
If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour or mists generated will create a flammability or explosion haxard.
Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose or safely immediately after use.
Empty containers represent a fire hazard as they may contain flammable product residues and vapour.
Never weld, solder or braze empty containers.

8. Exposure controls/personal protection

Ingredient name	Occupational exposure limits
Benzene:	**EH40-WEL** (United Kingdom (UK), 1/2005). Skin
	TWA; 1ppm 8 hours.
Gasoline:	**ACGIH TLV** (United States, 5/2004).
	STEL: 1480 mg/m^3 15 minutes
	STEL: 550 ppm 15 minutes
	TWA: 890 mg/m^3 8 hoiurs
	TWA: 300 ppm 8 hours
Ethanol:	**EH40-WEL** (United Kingdom (UK), 1/2005).
	TWA: 1920 mg/m^3 8 hours
	TWA: 1000 ppm 8 hours
Toluene:	**EH40-WEL** (United Kingdom (UK), 1/2005). Skin
	STEL: 574 mg/m^3 15 minutes
	STEL: 150 ppm 15 minutes
	TWA: 191 mg/m^3 8 hours
	TWA: 50 ppm 8 hours
Methyl tert-butyl ether	**EH40-WEL** (United Kingdom (UK), 1/2005).
	STEL: 275 mg/m^3 15 minutes
	STEL: 75 ppm 15 minutes
	TWA: 92 mg/m^3 8 hours
	TWA: 25 ppm 8 hours

8. Exposure controls continued

Where there are no regulatory exposure limits, for information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Control Measures: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
Ensure that eyewash stations and safety showers are close to the workstation location.
All chemicals should be assessed to their risks to health and appropriate control measures put in place to prevent or adequately control exposure. A hierarchy of control measures exists (e.g. elimination, substitution, general ventilation, containment, systems of work, changing the process or activity) that must be considered before use of personal protective equipment. 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. Relevant information can be obtained from the European Committee for Standardisation www.cenorm.be/cenorm/index.htm.
The final choice of protective equipment will depend upon the risk assessment. It is important to ensure that all items of personal protective equipment are compatible.
The above information is provided to assist the customer in conducting its own assessment of risk to the health and safety of workers for the substance of preparation, and protection of the environment.

Hygiene measures: Wash hands after handling compounds and before eating, using lavatory, and at the end of day.

Personal protective equipment

Respiratory system: Ensure good ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.
Approved air-supplied breathing apparatus must be worn where there is a risk of exceeding the exposure limit of benzene.
Approved air-supplied breathing apparatus must be worn where there is a risk of oxygen deficiency (i.e. low oxygen concentration).
Provided an air-filtrating//air-purifying respirators, will not be adequate under conditions of oxygen deficiency (i.e. low oxygen concentration), and would not be considered suitable where airborne concentrations of chemicals with a significant hazard are present. In these cases air-supplied breathing apparatus will be required.

Skin and body: Avoid contact with skin.
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.

Hands: Wear chemical resistant gloves.
Recommended; gloves made from Viton or comparable material resistant to hydrocarbons.
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.

Eyes: Safety glasses with side shields.

9. Physical and chemical properties

Flash point	< -20ºC
Explosion limits	Lower: 1% Upper: 19%
Colour:	Colourless
Odour:	Characteristic, petrol
Physical state:	Liquid
Boiling point / range:	25 to 190ºC
Density:	0.785-0.795 kg/m^3 at 15ºC
Vapour density (air = 1):	>1.6
Solubility:	Soluble in water

10. Stability and reactivity

Conditions to avoid:	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatibility with various substances:	Reactive or incompatible with the following materials: oxidising materials, acids and alkalis.
Hazardous polymerisation:	Will not occur.

11. Toxicological information

Acute toxicity:	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs. Likely to cause skin irritation. Aspiration hazard if swallowed – can enter lungs and cause damage Likely to be irretationg to the respiratory tract if high concentrations of mists or vapour are inhaled. May cause nausea, dizziness, headaches and drowsiness if high concentrations of vapour are inhaled.
Chronic toxicity:	Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possible death.
Carcinogenic effects:	Exposure to benzene may result in effects to the haematopoietic system causing blood disorders including anaemia and leukaemia. Benzene is classified by EEC as a category 1 carcinogen- substances known to be carcinogenic to man. IARC assessment: benzene – carcinogenic to humans (Group 1)
Mutagenic effects:	Contains material which may cause heritable genetic effects. Benzene

12. Ecological information

Persistence/degradability:	Inherently biodegradable.
Mobility:	Spillages may penetrate the soil causing ground water contamination.
Bio accumulative potential:	This product is not expected to bio accumulate through food chains in the environment.
Other ecological information:	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Disposal consideration / Waste information:	Dispose of via an authorised person / licensed waste disposal contractor in accordance with local regulations. Empty packages may contain some remaining product. Hazard warning labels are a guide to the sale handling of empty packaging and should not be removed. Empty containers represent a fire hazard as they may contain flammable residues and vapour. Never, solder or braze empty containers.

14. Transport information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional Information
ADR/RID	1987	ALCOHOLS, NOS (Ethanol mixed with gasoline, Motor spirit or Petrol)	3	II		Hazard Indentification number: 33 Remarks: Classification code F1 UK Emergency Action Code: 3YE
ADNR Classification	1987	ALCOHOLS, NOS (Ethanol mixed with gasoline, Motor spirit or Petrol)	3	II		Not determined
IMDG Classification	1987	ALCOHOLS, NOS (Ethanol mixed with gasoline, Motor spirit or Petrol)	3	II		Not determined
IATA Classification	1987	ALCOHOLS, NOS (Ethanol mixed with gasoline, Motor spirit or Petrol)	3	II		Not determined

15. Regulatory information

Label requirements:

Hazerd Symbol(s)

Indication of danger — Extremely flammable

Risk phrases:	R12	Extremely flammable
	R45	May cause cancer
	R46	May cause heritable genetic damage
	R65	Harmful: may cause lung damage if swallowed
	R38	Irritating to skin
	R67	Vapours may cause drowsiness and dizziness
	R52/53	Harmful 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 fumes/vapour/spray
	S24	Avoid contact with skin
	S29	Do not empty into drains
	S43	In case of fire, use foam, dry powder, carbon dioxide. Never use water.
	S53	Avoid exposure – obtain special instructions before use
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S62	If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.
	S61	Avoid release to the environment. Refer to special instruction/Safety data sheet.
Contains:	Gasoline	289-220-8
EU regulations:	Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.	

Other regulations

Inventories	Australian Inventory (AICS):	Not determined
	Canada Inventory (DSL):	Not determined
	China Inventory (IECS):	Not determined
	EC Inventory (EINECS/ELINCS):	In compliance
	Japan Inventory (ENCS):	Not determined
	Korea Inventory (ECL):	In compliance
	Philippine Inventory (PICCS):	In compliance
	US Inventory (TSCA):	Not determined

Child protection	Yes, applicable
Tactile warning of danger	Yes, applicable
Restrictions on the Marketing and Use Directive	For non-fuel uses – “Restricted to Professional Users, Attention – avoid exposure – obtain special instructions before use”. Must be marked on packaging

16. Other information

Full text of R-phrases referred to in sections 2 and 3:

R12	Extremely flammable
R11	Highly flammable
R45	May cause cancer
R46	May cause heritable genetic damage
R63	Possible risk of harm to the unborn child
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65	Harmful: may cause lung damage if swallowed
R36/38	Irritating to eyes and skin.
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.

History

Date of issue	11 July 2006
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Notice to reader:
All reasonable practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified above. No warranty or representation, express or implied is made to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The issuer shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure adhere to recommendations, or from any hazards inherent in the nature of the material. Purchases of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.