

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name HI OCTANE 98
Synonym(s) HI-OCTANE BLEND

1.2 Uses and uses advised against

Use(s) UNLEADED PETROL

1.3 Details of the supplier of the product

Supplier name FREEDOM FUELS AUSTRALIA PTY LTD
Address Unit 5, Theodore St, Eagle Farm, QLD, 4009, AUSTRALIA
Telephone 07 3268 5077
Fax 07 3268 6477
Email info@freedomfuels.com.au
Website <http://www.freedomfuels.com.au>

1.4 Emergency telephone number(s)

Transport 0407 671 043
Terminalling 0407 671 043
EHS 0438 014 925
Retail 0438 781 736

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

GHS classification(s) Flammable Liquids: Category 2
Aspiration Hazard: Category 1
Skin Corrosion/Irritation: Category 2
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3
Germ Cell Mutagenicity: Category 1B
Carcinogenicity: Category 1B

2.2 Label elements

Signal word DANGER

Pictogram(s)



Hazard statement(s)

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.

PRODUCT NAME HI OCTANE 98**Prevention statement(s)**

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response statement(s)

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P321	Specific treatment is advised - see first aid instructions.
P331	Do NOT induce vomiting.
P362	Take off contaminated clothing and wash before re-use.
P370 + P378	In case of fire: Use appropriate media for extinction.

Storage statement(s)

P403 + P233 + P235	Store in a well-ventilated place. Keep cool. Keep container tightly closed.
P405	Store locked up.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.
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2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
GASOLINE	86290-81-5	289-220-8	>90%
BENZENE	71-43-2	200-753-7	<1%
DIISOPROPYL ETHER	108-20-3	203-560-6	<1%
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)	-	-	<1%
TERT BUTYL ALCOHOL	75-65-0	200-889-7	<1%
TERT-BUTYL METHYL ETHER	1634-04-4	216-653-1	<1%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
First aid facilities	No information provided.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

5.2 Special hazards arising from the substance or mixture

Highly flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Vapour may form explosive mixtures with air. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones, etc when handling. Earth containers if dispensing fluids.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

3YE
 3 Normal Foam (protein based foam that is not alcohol resistant).
 Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.
 E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, preferably flammables store, removed from direct sunlight, incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation and fire protection systems.

7.3 Specific end use(s)

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Benzene	SWA (AUS)	1	3.2	--	--
Diisopropyl ether	SWA (AUS)	250	1040	310	1300
Methyl-tert butyl ether	SWA (AUS)	25	92	75	275
Petrol (gasoline)	SWA (AUS)	--	900	--	--
tert-Butyl alcohol	SWA (AUS)	100	303	150	455

Biological limits

Ingredient	Determinant	Sampling Time	BEI
BENZENE	S-Phenylmercapturic acid in urine	End of shift	25 ug/g creatinine
	t,t-Muconic acid in urine	End of shift	500 ug/g creatine
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)	1-Hydroxypyrene (1-HP) in urine (with hydrolysis)	End of shift at end of workweek	

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

PPE

Personal Protective Equipment (PPE) is not normally required when occasionally handling in small quantities (ie. when handling dispensed).

- Eye / Face** When using large quantities or where heavy contamination is likely, wear splash-proof goggles.
- Hands** When using large quantities or where heavy contamination is likely, wear PVA or viton (R) gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Not required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	YELLOW LIQUID
Odour	CHARACTERISTIC ODOUR
Flammability	HIGHLY FLAMMABLE
Flash point	-40°C (cc)
Boiling point	30°C to 210°C @ 100 kPa
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	3.5 (Air = 1)
Specific gravity	0.74 to 0.76
Solubility (water)	INSOLUBLE
Vapour pressure	67 kPa @ 37.8°C
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	1.4 %
Partition coefficient	NOT AVAILABLE
Autoignition temperature	370°C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Health hazard summary	Harmful - irritant. This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. This product contains low levels of benzene, which is classified as carcinogenic to humans (IARC Group 1). May cause heritable genetic damage. Due to the use of engineering controls when dispensing fuel (i.e. bowsers), the potential for adverse health effects is reduced.	
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.	
Inhalation	Harmful - irritant. Over exposure may result in irritation of the nose and throat, coughing, nausea and headache. High level exposure may result in dizziness, drowsiness, breathing difficulties and unconsciousness. Chronic exposure to some solvents may result in liver, kidney and central nervous system (CNS) damage.	
Skin	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects.	
Ingestion	Harmful. Ingestion may result in nausea, vomiting, abdominal pain, dizziness, fatigue and diarrhoea. Ingestion of large quantities may result in liver and kidney damage, and unconsciousness. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema.	
Toxicity data	GASOLINE (86290-81-5) LD50 (oral) 60 mL/kg (mouse)	
	BENZENE (71-43-2) LD50 (oral) 930 mg/kg (rat) LD50 (dermal) 48 mg/kg (mouse) LC50 (inhalation) 9980 ppm (mouse)	
	DIISOPROPYL ETHER (108-20-3) LD50 (oral) 8.47 g/kg (rat) LC50 (inhalation) 121 g/m ³ (rabbit)	
	TERT BUTYL ALCOHOL (75-65-0) LD50 (oral) 3500 mg/kg (rat)	
	TERT-BUTYL METHYL ETHER (1634-04-4) LD50 (oral) 4000 mg/kg (rat) LC50 (inhalation) 23576 ppm/4 hour (rat)	

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Expected to be toxic to aquatic organisms. Films formed on water may affect oxygen transfer and damage organisms.

12.2 Persistence and degradability

Major components are expected to be inherently biodegradable. Persists under anaerobic conditions. The volatile components oxidise rapidly by photochemical reactions in air. May contain components with the potential to bioaccumulate.

12.3 Bioaccumulative potential

May have the potential to bioaccumulate.

12.4 Mobility in soil

Floats on water. Contains volatile components. Evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate groundwater.

12.5 Other adverse effects

Ensure appropriate measures are taken to prevent this product from entering the environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Dispose of by controlled incineration, by licensed or competent personnel. Contact the manufacturer/supplier for additional information (if required). Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1203	1203	1203
14.2 Proper Shipping Name	MOTOR SPIRIT or GASOLINE or PETROL	MOTOR SPIRIT or GASOLINE or PETROL	MOTOR SPIRIT or GASOLINE or PETROL
14.3 Transport hazard class	3	3	3
14.4 Packing Group	II	II	II

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code 3YE
 GTEPG 3A1
 EMS F-E, S-E

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes

Carc.	Carcinogen
F	Flammable
Muta.	Mutagen
Xi	Irritant
Xn	Harmful

Risk phrases

R11	Highly flammable.
R38	Irritating to skin.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R65	Harmful: May cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

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Safety phrases	S2	Keep out of reach of children.
	S16	Keep away from sources of ignition - No smoking.
	S23	Do not breathe gas/fumes/vapour/spray (where applicable).
	S24/25	Avoid contact with skin and eyes.
	S29	Do not empty into drains.
	S33	Take precautionary measures against static discharges.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.	

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information **MOBILE PHONES - FLAMMABILITY RISK:** Mobile phones have the potential to ignite flammable vapours when refuelling at a service station. Although the risk is low, ignition of flammable vapours could occur from sparking when a switch or keypad is operated or during accidental or deliberate removal of batteries. **SOLUTION:** Switch off your phone before entering the service station. If you are expecting a call and the phone rings, stop dispensing petrol and move away (at least 4 metres) to answer the call.

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGE (TWA) or WES (WORKPLACE EXPOSURE STANDARD) (NZ): Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m ³	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

Report status This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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Prepared by Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmt.com.au.

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