



1. MATERIAL AND COMPANY IDENTIFICATION

Material Name	Unleaded Gasoline
Uses	Motor Gasoline
Product Code	X2252, X2240, X2241, X2242, X2243, X2244, X2245, X2246, X2249, X2250, X3006, X3007, X3008
Company	PO Box 968 Hillcrest 3650
MSDS Request	+27-31 764 6126
Emergency Telephone Number	+27-83 262 6359

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration
Gasoline		85.00 - 100.00 %
Contains Alkanes, Cycloalkanes, Alkenes and Aromatic Hydrocarbons, Mixture. Contains Xylene (Mixed Isomers),	CAS# 1330-20-7	
Contains Toluene	CAS# 108-88-3	
Contains 1,2,4 Tri-methylbenzene	CAS# 95-63-6	
Contains Benzene	CAS# 71-43-2	
Contains n-Hexane	CAS# 110-54-3	
Contains Cyclo-hexane	CAS# 110-82-7	
Contains Ethylbenzene	CAS# 100-41-4	
Contains Naphthalene	CAS# 91-20-3	
Contains Styrene	CAS# 100-42-5	

3. HAZARDS IDENTIFICATION

Emergency Overview	
Appearance and Odour	Bronze. Clear, bright liquid. Hydrocarbon.



Health Hazards	Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Irritating to skin. May cause cancer. May cause leukaemia (AML - acute myelogenous leukaemia). May cause MDS (Myelodysplastic Syndrome).
Safety Hazards	Extremely flammable. The vapour is heavier than air, spreads along the ground and distant ignition is possible. May form flammable/explosive vapour-air mixture. Will float and can be reignited on surface water. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Environmental Hazards	Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. Ether oxygenates are significantly more water soluble and less biodegradable than benzene, toluene, ethyl benzene and xylenes (BTEX). Consequently, ether oxygenates have the potential to migrate relatively longer distances than BTEX in groundwater.

Health Hazards:	
Inhalation	Slightly irritating to respiratory system. Vapours may cause drowsiness and dizziness.
Skin Contact	Irritating to skin.
Ingestion	Harmful: may cause lung damage if swallowed
Signs and Symptoms	Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness and death.
Aggravated Medical Condition	Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

4. FIRST AID MEASURES



Inhalation	Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.
Skin Contact	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact	Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
Ingestion	If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
Advice to Physician	Potential for chemical pneumonitis. Call a doctor or poison control centre for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.	
Flash point	-40 °C / -40 °F (Tagliabue Closed Cup)
Explosion / Flammability limits in air	1.3- 7.6 %(V)
Specific Hazards	Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Extinguishing Media	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	Do not use water in a jet.
Protective Equipment for Firefighters:	Wear full protective clothing and self-contained breathing apparatus.
Additional Advice	Keep adjacent containers cool by spraying with water

6. ACCIDENTAL RELEASE MEASURES



Observe all relevant local and international regulations.	
Protective measures	Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. Be ready for fire or possible exposure. Stay upwind and keep out of low areas. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire-fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Clean Up Methods	For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Additional Advice	Risk of explosion. Inform the emergency services if liquid enters surface water drains. Vapour may form an explosive mixture with air. Notify authorities if any exposure to the general public or the environment occurs, or is likely to occur. Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Centre at (800) 424-8802. This material is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Petroleum Exclusion. Therefore, releases to the environment may not be reportable under CERCLA.



7. HANDLING AND STORAGE

General Precautions	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment, see Chapter 8 of this Material Safety Data Sheet.
Handling	Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes, and clothing. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Handling Temperature: Ambient.
Storage	Any person may keep flammable liquids on any premises where such substance is entirely contained in sealed containers and no container shall be opened on such premises except in the open air or in a storage area, provided that where 150 litres or more of such substances are kept in any room or building, such room or building shall be constructed of non-combustible material and the substances shall be situated in such a position that they shall not impede the escape of any person or animal from the premises in case of fire. (Relevant local by-laws may apply - Check with local authorities). No smoking. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Keep container tightly closed.
Storage Temperature	Ambient



Product Transfer	Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.
Container Advice	Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
Additional Information	Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits					
Material	Source	Type	Ppm	Mg/m3	Notation
Toluene	ACGIH	TWA	20 ppm		
	OSHA Z1A	TWA	100ppm	375 mg/m3	
	OSHA Z1A	STEL	150ppm	560 mg/m3	
	OSHA Z2	TWA	200 ppm		
	OSHA Z2	Ceiling	300 ppm		
1,2,4-Trimethyl benzene	OSHA Z2	MAX. CONC	500 ppm		
	ACGIH	TWA	25 ppm		
	OSHA Z1A	TWA	25 ppm	125 mg/m3	
Naphthalene	ACGIH	TWA	10 ppm		
	ACGIH	STEL	15 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin
	OSHA Z1	PEL	10 ppm	50 mg/m3	
	OSHA Z1A	TWA	10 ppm	50 pm/m3	
Xylene, Mixed Isomers	OSHA Z1A	STEL	15 ppm	75 mg/m3	
	ACGIH	TWA	100 ppm		



	ACGIH	STEL	150 ppm		
	OSHA Z1	PEL	100 ppm	435 mg/m ³	
	OSHA Z1A	STEL	150 ppm	655 mg/m ³	
n-Hexane	ACGIH	TWA	50 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin
	OSHA Z1	PEL	500 ppm	1800 mg/m ³	
	PSHA Z1A	TWA	50 ppm	180 mg/m ³	
Cyclohexane	ACGIH	TWA	100 ppm		
	OSHA Z1	PEL	300 ppm	1050 mg/m ³	
	OSHA Z1A	TWA	300 ppm	1050 mg/m ³	
Benzene	ACGIH	TWA	0.5 ppm		
	ACGIH	STEL	2.5 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin
	OSHA	TWA	1 ppm		
	OSHA	STEL	5 ppm		
	OSHA	ACTION	0.5 ppm		
	OSHA Z1A	TWA	1 ppm		
	OSHA Z1A	STEL	5 ppm		
	EU OELIII	TWA	1 ppm	3.25 mg/m ³	
	EU OELIII	SKIN_DES			Can be absorbed through the skin
	OSHA	REF			
Ethylbenzene	ACGIH	TWA	20 ppm		
	OSHA Z1	PEL	100 ppm	435 mg/m ³	
	OSHA Z1A	TWA	100 ppm	435 mg/m ³	
	OSHA Z1A	STEL	125 ppm	545 mg/m ³	
Gasoline	ACGIH	TWA	300ppm		
	ACGIH	STEL	500 ppm		



Isopropyl Ether	ACGIH	TWA	250 ppm		
	ACGIH	STEL	310 ppm		
	OSHA Z1	PEL	500 ppm	2100 mg/m3	
	OSHA Z1A	TWA	500 ppm	2100 mg/m3	
Styrene	ACGIH	TWA	20 ppm		
	ACGIH	STEL	40 ppm		
	OSHA Z1A	TWA	250 ppm	215 mg/m3	
	OSHA Z1A	STEL	100 ppm	425 mg/m3	
	OSHA Z2	TWA	100 ppm		
	OSHA Z2	Ceiling	200 ppm		
	OSHA Z2	MAX.CONC	600 ppm		
Ethyl tert-butyl Ether (ETBE)	ACGIH	TWA	5 ppm		
Tert-Amyl Methyl Ether (TAME)	ACGIH	TWA	20 ppm		

Additional Information	The ACGIH-values are adopted by the local authorities and have to be adhered to.
Exposure Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use.
Personal Protective Equipment	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.



Respiratory Protection	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for combined particulate/organic gases and vapours [boiling point <65 °C (149 °F)]
Hand Protection	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Longer term protection - Viton. Incidental contact/Splash protection - Nitrile rubber. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	Chemical splash goggles (chemical monogoggles).
Protective Clothing	Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).



<p>Monitoring Methods</p>	<p>Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods: http://www.cdc.gov/niosh/nmam/nmammenu.html. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods: http://www.osha-slc.gov/dts/sltc/methods/toc.html.</p>
<p>Environmental Exposure Controls</p>	<p>The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.</p>

9. PHYSICAL AND CHEMICAL PROPERTIES

<p>The physical and chemical property data are typical values and do not constitute a specification</p>	
<p>Appearance</p>	<p>Bronze. Clear, bright liquid.</p>
<p>Odour</p>	<p>Hydrocarbon</p>
<p>Boiling point</p>	<p>25 °C / 77 °F</p>
<p>Flash point</p>	<p>-40 °C / -40 °F (Tagliabue Closed Cup)</p>
<p>Explosion / Flammability limits in air:</p>	<p>1.3 - 7.6 %(V)</p>
<p>Vapour pressure</p>	<p>7.0 - 14.5 psi (Reid vapour pressure)</p>
<p>Specific gravity</p>	<p>0.72 - 0.76</p>
<p>Water solubility</p>	<p>0.05 g/l Negligible.</p>
<p>Vapour density (air=1)</p>	<p>3.5</p>
<p>Volatility</p>	<p>100.0 % vol at 212.8 °C / 415.0 °F</p>
<p>Stability</p>	<p>Stable</p>

10. STABILITY AND REACTIVITY

<p>Stability</p>	<p>Stable under normal conditions of use</p>
<p>Conditions to Avoid</p>	<p>Heat, flames, and sparks</p>



Materials to Avoid	Strong oxidising agents
Hazardous Decomposition Products:	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	Information given is based on product testing, and/or similar products, and/or components.
Acute Oral Toxicity	Low toxicity: LD50 >2000 mg/kg, Rat - Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Acute Dermal Toxicity	Low toxicity: LD50 >2000 mg/kg, Rabbit
Acute Inhalation Toxicity	Low toxicity: LC50 >20 mg/l / 1 hours, Rat - High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Skin Irritation	Irritating to skin
Eye Irritation	Essentially non-irritating to eyes
Respiratory Irritation	Inhalation of vapours or mists may cause irritation to the respiratory system
Repeated Dose Toxicity	Kidney: caused kidney effects in male rats which are not considered relevant to humans
Mutagenicity	Not mutagenic.
Carcinogenicity	Known human carcinogen. (Benzene) May cause leukaemia (AML - acute myelogenous leukaemia) (Benzene)

Material	Carcinogenicity Classification
Gasoline	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans
Gasoline	IARC* 2B: Possibly carcinogenic to humans *International Agency for Research on Cancer
Toluene	ACGIH Group A4: Not classifiable as a human carcinogen
Toluene	IARC 3: Not classifiable as to carcinogenicity to humans



Benzene	ACGIH Group A1: Confirmed human carcinogen.
Benzene	NTP*: Known carcinogen *NTP Radioisotopes - South African Nuclear Energy Corporation
Benzene	IARC 1: Carcinogenic to humans
Benzene	OSHASP: Cancer hazard
Ethylbenzene	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans
Ethylbenzene	IARC 2B: Possibly carcinogenic to humans
Naphthalene	ACGIH Group A4: Not classifiable as a human carcinogen
Naphthalene	NTP: Anticipated carcinogen
Naphthalene	IARC 2B: Possibly carcinogenic to humans.
Styrene	ACGIH Group A4: Not classifiable as a human carcinogen
Styrene	IARC 2B: Possibly carcinogenic to humans
Gasoline Engine Exhaust	IARC 2B: Possibly carcinogenic to humans
Reproductive and Developmental Toxicity:	Does not impair fertility. The relevance of these data to humans is unknown
Additional Information	May cause MDS (Myelodysplastic Syndrome). (Benzene)

12. ECOLOGICAL INFORMATION

Acute Toxicity	
Fish	Expected to be toxic: LL/EL/IL50 1-10 mg/l
Aquatic Invertebrates	Expected to be toxic: LL/EL/IL50 1-10 mg/l
Algae	Expected to be toxic: LL/EL/IL50 1-10 mg/l
Mobility	Floats on water. If product enters soil, one or more constituents will be mobile and may contaminate groundwater. Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. Ether oxygenates are significantly more water soluble and less biodegradable than benzene, toluene, ethyl benzene and xylenes (BTEX). Consequently, ether oxygenates have the potential to migrate relatively longer distances than BTEX in groundwater.
Persistence/degradability	Oxidises rapidly by photo-chemical reactions in air. Expected to be inherently biodegradable.



Bioaccumulation	Contains components with the potential to bioaccumulate.
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13. DISPOSAL CONSIDERATIONS

Material Disposal	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
Local Legislation	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

14. TRANSPORT INFORMATION

ACCELERATE Special Gasoline is classified as Dangerous Goods in terms of SANS 1029: Packaging of Dangerous Goods for Road and Rail Transportation in South Africa	
Identification Number	UN 1203
Proper shipping name	Gasoline
Class / Division	3 - Flammable Liquid

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.	
Federal Regulatory Status	
Notification Status	
TSCA	All components are listed on the TSCA Inventory
Comprehensive Environmental Release, Compensation & Liability Act (CERCLA)	
Unleaded Gasoline ()	Reportable quantity: 100 lbs
Gasoline (8006-61-9)	Reportable quantity: 100 lbs
Toluene (108-88-3)	Reportable quantity: 1,000 lbs
Xylene, Mixed Isomers (1330-20-7)	Reportable quantity: 100 lbs
Benzene (71-43-2)	Reportable quantity: 10 lbs



n-Hexane (110-54-3)	Reportable quantity: 5,000 lbs
Ethylbenzene (100-41-4)	Reportable quantity: 1,000 lbs
Naphthalene (91-20-3)	Reportable quantity: 100 lbs
Cyclohexane (110-82-7)	Reportable quantity: 1,000 lbs
Styrene (100-42-5)	Reportable quantity: 1,000 lbs

SA Oil classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA. The components with RQs are given for information.

Clean Water Act (CWA) Section 311	
Toluene (108-88-3)	Reportable quantity: 1,000 lbs
Xylene, Mixed Isomers (1330-20-7)	Reportable quantity: 100 lbs
Benzene (71-43-2)	Reportable quantity: 10 lbs
Ethylbenzene (100-41-4)	Reportable quantity: 1,000 lbs
Naphthalene (91-20-3)	Reportable quantity: 100 lbs
Cyclohexane (110-82-7)	Reportable quantity: 1,000 lbs
Styrene (100-42-5)	Reportable quantity: 1,000 lbs

Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported. The components with RQs are given for information.

SARA Hazard Categories (311/312)
Immediate (Acute) Health Hazard. Delayed (Chronic) Health Hazard. Fire Hazard.

SARA Toxic Release Inventory (TRI) (313)	
Toluene (108-88-3)	25.00%
Xylene, Mixed Isomers (1330-20-7) 2	5.00%
1,2,4-Trimethyl benzene (95-63-6)	5.00%
Benzene (71-43-2)	4.00%
n-Hexane (110-54-3)	3.00%
Ethylbenzene (100-41-4)	3.00%
Naphthalene (91-20-3)	1.00%
Cyclohexane (110-82-7)	1.00%
Styrene (100-42-5)	1.00%

16. OTHER INFORMATION



HMS Rating (Health, Fire, Reactivity)	1, 3, 0
NFPA Rating (Health, Fire, Reactivity)	1, 3, 0
MSDS Distribution	The information in this document should be made available to all who may handle the product
Disclaimer	Whilst the information contained in this document is based on data which, to the best of our knowledge, was accurate and reliable at the time of preparation, no responsibility can be accepted by us for errors and omissions. The provision of this information should not be construed as a recommendation to use our products in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage caused by any person acting or refraining from action as a result of this information.

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