



**Material Safety Data Sheet**

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**1. MATERIAL AND COMPANY IDENTIFICATION**

**Material Name** : **Naphtha**

**Other names** : Solvent naphtha

**Product Use** : Motor gasoline blend, chemical feedstock

**Company** : **Kenya Petroleum Refineries Ltd,**  
PO Box 90401 – 80100,  
Mombasa, KENYA.

**Emergency Telephone/Fax Numbers** : Tel: + 254 - 041- 3433511-19 / 2220967  
+254 - 0724 - 257103 ;+254 - 0733 -401640  
Fax: + 254 - 041- 2224251 / 3432603

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**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Chemical Name</b>	<b>CAS No.</b>	<b>Concentration</b>
Hydrocarbons mixture (C6 – C12) of paraffins, olefins, naphthenes and aromatics.	Mixture	99 -100 %
Benzene	71-43-2	< 1 %

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**3. HAZARDS IDENTIFICATION**

**Appearance and Odor** : Clear liquid, with motor spirit odor

**Acute** Swallowed – harmful; may cause lung damage if swallowed  
Eye- mildly irritating to eyes  
Skin – irritating to skin; will cause redness and inflammation  
Inhaled – inhalation may cause irritation to the respiratory system. Prolonged exposure to vapors may cause somnolence and narcosis

**Chronic** Prolonged and repeated skin contact may cause dermatitis due to defatting effect.

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**4. FIRST AID MEASURES**

**Inhalation** : Remove affected person from contaminated area to fresh air. If not breathing, apply artificial respiration and seek urgent medical advice.

**Skin Contact** : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes , followed with soap and water if available

**Eye Contact** : Flush eye with plenty of water for 20 minutes while holding



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- eyelids open. If irritation occurs, seek medical advice.
- Ingestion** : In the unlikely event of ingestion, obtain medical attention immediately. Do not induce vomiting. If vomiting occurs, keep head below hips to prevent aspiration
- First aid facilities** Eye wash and safety showers should be available for emergency use
- Advise to Doctor** Treat symptomatically
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**5. FIRE FIGHTING MEASURES**

- Fire hazards** : Product is highly flammable. Isolate from sources of heat, naked flames, sparks and oxidizing materials. Take precautions against discharges of static electricity. Earth and bond all process equipment including tanks and drums. Ensure ventilation is adequate to prevent build up of explosive atmosphere. Hazardous combustion products include combustion products such as oxides of carbon.
- Extinguishing Media** : Use foam, water spray or fog. CO<sub>2</sub>, dry chemical powder or sand may be used for small fires only. Do not use water in a jet.
- Protective Equipment for Firefighters** : Wear full protective clothing and self-contained breathing apparatus when approaching fire in a confined space.
- Additional Advice** : Keep adjacent storage tanks, pipelines and fire exposed surfaces cool by spraying with water. Shut off supply if safe to do so and remove sources of re-ignition. Vapor/air mixtures may ignite explosively and flashback along the vapor trail may occur. Contain residual material at affected sites to prevent material from entering sewers, ditches and waterways.
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**6. ACCIDENTAL RELEASE MEASURES**

- Protective measures** : Wear appropriate personal protective equipment. Extinguish or remove all sources of ignition and stop leak if safe to do so. Contain residual material at affected sites to prevent material from entering sewers, ditches and waterways. Keep away from heat, naked flames and sparks.
- Clean Up Methods** : For large liquid spills, transfer by mechanical means such as vacuum trucks to a salvage tank. Do not flush away residues with water; retain as contaminated waste. Allow residue to evaporate or soak up with appropriate absorbent material, sand or earth. Remove contaminated soil and dispose safely.
- Additional Advice** : Maritime spillages should be dealt with using Shipboard Oil
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Pollution Emergency Plan (SOPEP), as required by MARPOL Annex1 Regulation 26.

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### 7. HANDLING AND STORAGE

- General Precautions** : Avoid breathing vapors or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. Turn off all battery operated portable electronic devices (cellular phones and pagers).
- Handling** : For guidance on selection of personal protective equipment (PPE), see section 8 of the MSDS. When using, do not eat or drink. Remove ignition sources, oxidising agents and food stuffs. Avoid sparks. Never siphon by mouth. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
- Storage** : Keep containers closed when not in use. Drums should be packed to a maximum of 3 meters high. Tanks must be specifically designed for use with the product. Bulk storage tanks should be diked (bunded), away from ignition sources and other sources of heat.
- 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. Do not use compressed air for filling, discharging or handling. Wait 2 minutes after tank filling (for road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes.
- Recommended Materials** : For containers, or container linings use mild steel, stainless steel. Examples of suitable material are: high density polyethylene (HDPE), polypropylene (PP) which has been specifically tested for compatibility with this material.
- Container Advice** : Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.
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**Material Safety Data Sheet****8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Occupational Exposure Limits (OELs)**

Material	Source	Type	ppm	mg/m3	Notation
Benzene	ACGIH	TWA	0.5 ppm		
Benzene	ACGIH	STEL	2.5 ppm		
Benzene	ACGIH	Notation			Skin, A1, BEI

- Exposure Controls** : Use sealed systems as far as possible. Where vapors are generated, especially in enclosed area, and natural ventilation is inadequate, provide adequate explosion-proof ventilation to control airborne concentrations. Local exhaust ventilation recommended. Eye washes and showers for emergency use.
- Protective Clothing** : Chemical resistant gloves/gauntlets, boots, and apron. For spillage clean up use chemical resistant knee length boots. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood, of PVC.
- Respiratory Protection** : Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where respiratory protective equipment is required, use a full-face mask. If air-filtering respirators are suitable for conditions of use, select a filter suitable for combined particulate/organic gases and vapours.
- Hand Protection** : Where hand contact with the product may occur the use of gloves made from Neoprene rubber is recommended. Contaminated gloves should be replaced.
- Eye Protection** : Chemical splash goggles (chemical mono goggles).
- Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the OEL and adequacy of exposure controls.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : Bright clear liquid with motor spirit odour
- Flash point : Below 21 °C
- Boiling point : IBP : 65 °C; FBP : 185 °C
- Vapour pressure (Reid) : 35 - 90 (Reid) kPa @ 37.8 °C
- Specific gravity (Water =1) : 0.72 – 0.74 @ 20 °C
- Water solubility : Negligible.
- Flammability limits : LEL : 1.0 % v/v; UEL : 7.0 % v/v



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Volatile component : 100  
Auto ignition temperature : 260 – 380 °C  
Vapour density (air =1) : > 3 @ 15 °C

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**10. STABILITY AND REACTIVITY**

**Stability** : Stable under normal conditions of use.  
**Conditions to Avoid** : Heat, flames, and sparks.  
**Materials to Avoid** : Strong oxidizing agents.

**Hazardous Decomposition Products** : Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependant 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.

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**11. TOXICOLOGICAL INFORMATION**

**Acute Oral Toxicity** : Aspiration into lungs when swallowed or vomited may cause chemical pneumonitis, which can be fatal.

**Acute Inhalation Toxicity** : High toxicity may cause central nervous system depression resulting in headaches, dizziness and nausea.

**Skin Irritation** : Irritating to skin  
**Eye Irritation** : Moderately irritating to the eyes  
**Respiratory Irritation** : Based on human experience, may cause temporary burning sensation to nose , throat and lungs

**Sensitization** : Not a skin sensitiser

**Repeated Dose Toxicity** : Blood forming organs: repeated exposure affect the bone marrow (benzene)

**Mutagenicity** : May cause heritable genetic damage (benzene). Mutagenicity studies on gasoline and gasoline blending streams have shown predominantly negative results

**Carcinogenicity** : Known human carcinogen (benzene). May cause leukemia (AML – acute myelogenous leukemia) (benzene)



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**12. ECOLOGICAL INFORMATION**

- Mobility** : Floats in water, evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate ground water. Contains volatile constituents.
- Persistence/degradability** : Persists under anaerobic conditions. Major constituents are inherently biodegradable.

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**13. DISPOSAL CONSIDERATIONS**

- Material Disposal** : Recover or recycle if possible. Contain spill with sand or earth or absorb with absorbent material. Place used absorbent in suitable sealed containers for disposal.
- Local Legislation** : Disposal in Kenya should be in accordance with the *Environmental Management and Coordination (Waste Management) Regulations, 2006*.

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**14. TRANSPORT INFORMATION**

Identification number	UN 1268
Proper shipping name	Petroleum Distillates
DG Class / Division	3
Hazchem code	3 [Y] E
Packing Group	II

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**15. REGULATORY INFORMATION**

Reference is made to the Kenyan *Factories & Other Place of Work (Hazardous Substances) Regulations, 2007*. Other regulations may apply to this material.

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**16. OTHER INFORMATION**

**Risk Statement:**

R11 Highly flammable  
R38 Irritating to skin  
R45(2) May cause cancer  
R65 Harmful: may cause lung damage if swallowed

**Safety statement:**

S16 Keep away from sources of ignition – no smoking  
S2 Keep out of reach of children  
S23 Do not breathe gas/fumes/vapor/spray  
S24 Avoid contact with skin



Kenya Petroleum Refinery Ltd

## Naphtha

MSDS No: KPRL/MSDS/ NAPH/14;  
Date Issued: 10<sup>th</sup> February, 2009

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S29 Do not empty in drains  
S33 Take precautionary measures against static charges  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
S43 In case of fire, use foam, dry chemical or CO2  
S51 Use only in well ventilated area  
S53 Avoid exposure  
S62 If swallowed, do not induce vomiting, seek medical advice immediately and show this MSDS.

#### Hazard Category:

Toxic, Irritant, Highly Flammable

**MSDS Revisions** : Revision 1, 13/02/09. Product UN number, shipping name.  
**MSDS Regulation** : The contents in the MSDS are in fulfillment of the requirements of the *Factories & Other Place of Work (Hazardous Substances) Regulations, 2007*.

**Disclaimer:** : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.