

1- IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

IDENTIFICATION OF SUBSTANCE

UNLEADED GASOLINE

Alternative Name: Unleaded Motor Gasoline.

APPLICATION

Use only as a motor fuel for spark ignition engines. NOT for aviation use. Should NOT be used as a solvent nor cleaning agent.

COMPANY IDENTIFICATION

TÜPRAŞ

Turkish Petroleum Refineries Corporation

KÖRFEZ / KOCAELİ

TEL: 0-262 316 30 00 FAX: 0-262 316 30 10-11

2- COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL COMPOSITION AND HAZARDOUS COMPONENTS

| CAS NO: | EINECS NO: | Chemical Composition | Conct. | Risk Phrases |
|------------|------------|---|--------|----------------------------|
| 86290-81-5 | 289-220-8 | A complex mixture of volatile hydrocarbons containing paraffin, naphthenes, olefins and aromatics with carbon numbers predominantly between C4 and C12. | % 100 | Carc.Cat .2;R45 Xn;R65 |
| 71-43-2 | 200-753-7 | Benzene | % 0-1 | Carc.Cat .2;R45 Mut;R46 |
| 1634-04-4 | 216-653-1 | Metil Tertiary Butil Ether(MTBE) | %0-15 | Xi;R38 |

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3- HAZARDS IDENTIFICATION

Physical / Chemical hazards : Extremely flammable. Explosive air/vapour mixtures may form at ambient temperature

Human Health Hazards : Contains Benzene. Prolonged or repeated exposure to benzene can cause anaemia and other blood diseases, including leukaemia.

Environmental Hazards : Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

4- FIRST - AID MEASURES**EYES**

Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

SKIN

Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin.

Seek medical advice if skin becomes red, swollen or painful.

INGESTION

If contamination of the mouth occurs, wash out thoroughly with water.

The ingestion of large amounts of product is unlikely. If it should occur, do not induce vomiting; obtain medical advice.

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 persist 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.

MEDICAL ADVICE

There are no specific antidotes or other therapeutic measures, treat symptomatically.

Gastric lavage should only be done after endotracheal intubation. This material can cause serious chemical pneumonitis if aspiration occurs.

5- FIRE-FIGHTING MEASURES

For major fires call the Fire Service. Ensure an escape path is always available from any fire.

There is a danger of flashback if sparks or hot surfaces ignite vapour.

Use foam, dry powder or water fog. DO NOT use water jets.

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Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus any spillage should be regarded as a potential fire risk.

COMBUSTION PRODUCTS

Toxic fumes may be evolved on burning or exposure to heat.

6- ACCIDENTAL RELEASE MEASURES

As this product has a very low flash point any spillage or leak is a severe fire and/or explosion hazard.

Spilled material may make surfaces slippery.

Vapour is heavier than air and may travel to remote sources of ignition (eg. Along drainage systems, in basements etc.).

Isolate spillage from all ignition sources including road traffic.

If spillage has occurred in a confined space, ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry.

Ensure good ventilation.

Wear protective clothing.

Large and uncontained spillages should be smothered with foam to reduce the risk of ignition.

The foam blanket should be maintained until the area is declared safe.

Recovery of large spillages should be effected by specialist personnel.

Do not wash product into drainage system.

In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment. Recover product from the surface.

In the event of spillages contact the appropriate authorities.

7- HANDLING AND STORAGE**STORAGE CONDITIONS**

Store and use only in well ventilated areas away from heat and sources of ignition.

Store and use only equipment/containers designed for use with this product.

Containers must be properly labelled and kept closed when not in use.

Do not remove warning labels from containers

Empty packages may contain some remaining product. Retain hazard warning labels on empty packages as a guide to the safe handling, storage and disposal of empty packaging.

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.

HANDLING PRECAUTIONS

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If vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.

Avoid contact with skin and observe good personal hygiene

Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate.

Do not siphon product by mouth.

FIRE PREVENTION

Light hydrocarbon vapours can build up in the headspace of tanks. Tank headspaces should always be regarded as potentially 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 products is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge.

Ensure equipment used is properly grounded or bonded to the tank structure.

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 hazard.

Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Empty containers represent a fire hazard as they may contain some remaining flammable product and vapour. Never cut, weld, solder or braze empty containers.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS: The following limits are recommended.

Gasoline

ACGIH (USA) : TLV 300 ppm (8hr TWA); 500 ppm (15min STEL)

A3-Animal Carcinogen

Benzene

ACGIH (USA) : TLV 0.5 ppm (8hr TWA); 2.5 ppm (15min STEL)

A1-Confirmed human carcinogen

PROTECTIVE CLOTHING

Wear face visor or goggles in circumstances where eye contact can accidentally occur.

If skin contact is likely, wear impervious protective clothing and/or gloves.

Protective clothing should be regularly inspected and maintained; overalls should be dry-cleaned, laundered and preferably starched after use.

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RESPIRATORY PROTECTION

If operations are such that exposure to vapour, mist or fume may be anticipated, then suitable approved respiratory equipment should be worn.

The use of respiratory equipment must be strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use.

9- PHYSICAL AND CHEMICAL PROPERTIES

Typical Values: Unleaded Gasoline

| | | <u>Test Method</u> |
|--------------------------------|------------------|--------------------|
| Physical State | liquid | |
| Colour | clear and bright | |
| Odour | gasoline-like | |
| Density @15 °C, kg/l | 0.720-0.775 | TS1013 EN ISO 3675 |
| Vapour density rel. to air | 3-4 | ASTM D 2463/D2421 |
| Boiling point/range, °C | 25-220 | ASTM D 86 |
| Kinematic viscosity @20 °C,cst | <1 | ASTM D 445 |
| Reid Vapor Pressure (RVP) kPa | 45-90 | TS EN 13016-1 |

10- STABILITY AND REACTIVITY

Stable at ambient temperatures. Hazardous polymerisation reactions will not occur.

CONDITIONS TO AVOID

Sources of ignition. Avoid excessive heat.

MATERIALS TO AVOID

Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products will vary with conditions. Incomplete combustion will generate smoke, carbon dioxide hazardous gases, including carbon monoxide.

11- TOXICOLOGICAL INFORMATION

EYES

Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

SKIN

Likely to cause skin irritation.

Likely to result in chemical burns following prolonged wetting of the skin. (eg. After a road traffic accident).

INGESTION

Unlikely to cause harm if accidentally swallowed in small doses, though large quantities may cause nausea and diarrhoea.

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Will injure the lungs if aspiration occurs, eg. during vomiting.

INHALATION

Likely to be irritation 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.

CARCINOGENICITY/CHRONIC TOXICITY

Exposure to benzene may result in affects 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.

12- ECOLOGICAL INFORMATION

Spillages may penetrate the soil causing ground water contamination. This product is inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13- DISPOSAL CONSIDERATIONS

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 safe handling of empty packaging and should not be removed.

Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty container.

Materials contaminated with product should be treated as highly flammable. Disposal should be in accordance with local regulations.

14- TRANSPORT INFORMATION

ADR/RID : Motor spirit, Flammable liquid, Class 3, Item 3(b), Hazard Identification Number 23.

ADNR/ADN : Motor spirit, Class 3, Item 3(b).

UN : Motor Spirit, Flammable liquid, Class 3, Packing Group II, UN Number 1203.

IATA/ICAO : Motor Spirit, Flammable liquid, Class 3, Packing group II.

IMO : Motor Spirit, Flammable liquid, Class 3.1, Packing group II, Marine Pollutant

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15- REGULATORY INFORMATION

EU CATEGORY OF DANGER: Extremely flammable. Carcinogenic category 2

EU LABELLING: Symbol: Flame. Skull and crossbones.

Risk (r) Phrases:

R12 Extremely flammable.

R45 May cause cancer.

R65 Also Harmful: may cause lung damage if swallowed.

R38 Irritation to skin.

R67 Vapours may cause drowsiness and dizziness.

SAFETY (S) Phrases:

S2 Keep out of reach of children

S53 Avoid exposure – obtain special instructions before use.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

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/CO2. Never use water jets.

S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S61 Avoid release into the environment. Refer to special instructions/safety data sheets.

16- OTHER INFORMATION

The information presented about health, safety and environment issues in this safety data sheet was given by considering of best knowledge and reliable sources at the date of its preparation. Although maximum effort was shown, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practise any patented invention without a valid licence. The TÜPRAŞ shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

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