SAFETY DATA SHEET

(SOLAS regulation VI/5-1 format)

GASOLINE WITH MTBE

ExxonMobil

Section 1. Identification

Product name : GASOLINE WITH MTBE

Product description : Hydrocarbons and Additives

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Petrol

Uses advised against : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

MARPOL Annex I Category : Gasoline and spirits

See Section 14 for transportation information related to the Bill of Lading, other shipping documents

Supplier : ExxonMobil Marine Fuels
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LEATHERHEAD KT22 8UX United Kingdom

Supplier General Contact : (UK) (+44) (0) 1372 222 000 (Switchboard Leatherhead)

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Italy: 0800 789767 (in country) or +(39)-0245557031 (CHEMTREC)
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Netherlands: +(31)-858880596 (CHEMTREC)
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Thailand: 1800014808
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United States: (800) 424-9300 or (703) 527-3887 (CHEMTREC)

This (M)SDS is a generic document with no country specific information included.

Section 2. Hazard identification

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 1
SKIN CORROSION/IRRITATION - Category 2
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 2
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

GHS label elements

Section 2. Hazard identification

Hazard pictograms :

Signal word : Danger

Hazard statements :
H224 - Extremely 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.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P261 - Avoid breathing vapour.
P264 - Wash thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response :
P301 + P331, P310 - IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P312, P340 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
P391 - Collect spillage.

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

Disposal :
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Contains : gasoline; isopentane; toluene and benzene

Other hazards which do not result in classification : None known.

Nota :
This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Ether oxygenates are significantly more soluble than other components of gasoline like benzene, toluene, ethyl benzene and xylenes (BTEX) if released into groundwater. Ether oxygenates may also biodegrade more slowly, have the potential to move farther and faster in groundwater and have the potential to contaminate larger areas of groundwater than BTEX if released into groundwater.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% by weight	Identifiers
gasoline	≥85	CAS: 86290-81-5
pentene	<30	CAS: 68527-11-7
isopentane	<30	CAS: 78-78-4
xylene	<30	CAS: 1330-20-7
toluene	<30	CAS: 108-88-3
cumene	≥0.1 - ≤15	CAS: 98-82-8
ethylbenzene	≥0.1 - ≤15	CAS: 100-41-4
tert-butyl methyl ether	<15	CAS: 1634-04-4
butane	≤14	CAS: 106-97-8
2,2,4-trimethylpentane	<10	CAS: 540-84-1
1,2,4-trimethylbenzene	<5	CAS: 95-63-6
naphthalene	≥0.1 - <5	CAS: 91-20-3
n-hexane	≥0.1 - <5	CAS: 110-54-3
benzene	<1	CAS: 71-43-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Nota :

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Wash

Section 4. First-aid measures

contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
Numbness, muscle cramps, weakness and paralysis that may be delayed.

Skin contact : Adverse symptoms may include the following:
irritation
redness
Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. This product contains ether oxygenates and it is important to respond quickly to any spills or leaks. Even a small release, if not quickly cleaned up, can contaminate large volumes of surface or groundwater. Personnel handling, transferring or dispensing this product should be trained to respond immediately to any spills or leaks to prevent contamination of groundwater.

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Do not confine in area of spill. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. It is dangerous and/or unlawful to put petrol into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapours may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. For use as a motor fuel only. Do not siphon by mouth.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Static Accumulator : This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

GASOLINE WITH MTBE	**ExxonMobil (COMPANY)** STEL: 200 ppm (Total Hydrocarbons). Form: Vapour and aerosol.. TWA 8 hours: 100 ppm (Total Hydrocarbons). Form: Vapour and aerosol..
gasoline	**ACGIH TLV (United States, 1/2024)** TWA 8 hours: 300 ppm. TWA 8 hours: 890 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 1480 mg/m³. **ExxonMobil (COMPANY)** STEL 15 minutes: 200 ppm. TWA 8 hours: 100 ppm.
isopentane	**ACGIH TLV (United States, 1/2024) [Pentane]** TWA 8 hours: 1000 ppm.
xylene	**ACGIH TLV (United States, 1/2024) [p-xylene and mixtures containing p-xylene]** Ototoxicant. TWA 8 hours: 20 ppm.
toluene	**ACGIH TLV (United States, 1/2024)** Ototoxicant. TWA 8 hours: 20 ppm.
cumene	**ACGIH TLV (United States, 1/2024)** TWA 8 hours: 5 ppm. **ExxonMobil (COMPANY)** Absorbed through skin. TWA 8 hours: 5 ppm.
ethylbenzene	**ACGIH TLV (United States, 1/2024)** Ototoxicant. TWA 8 hours: 20 ppm.
tert-butyl methyl ether	**ACGIH TLV (United States, 1/2024)** TWA 8 hours: 50 ppm.
butane	**ACGIH TLV (United States, 1/2024) [Butane]** Explosive potential. STEL 15 minutes: 1000 ppm.
2,2,4-trimethylpentane	**ACGIH TLV (United States, 1/2024) [Octane]** TWA 8 hours: 300 ppm.
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 1/2024)** TWA 8 hours: 10 ppm.
naphthalene	**ACGIH TLV (United States, 1/2024)** Absorbed through skin. TWA 8 hours: 10 ppm. TWA 8 hours: 52 mg/m³.
n-hexane	**ACGIH TLV (United States, 1/2024)** Absorbed through skin. TWA 8 hours: 50 ppm.

Section 8. Exposure controls/personal protection

benzene	**ACGIH TLV (United States, 1/2024)** Absorbed through skin. TWA 8 hours: 0.02 ppm. **ExxonMobil (COMPANY)** Absorbed through skin. STEL 15 minutes: 1 ppm. TWA 8 hours: 0.2 ppm.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological exposure indices

Ingredient name	Exposure indices
xylene	**ACGIH BEI (United States, 1/2024) [xylenes (technical or commercial grades)]** BEI: 0.3 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift.
toluene	**ACGIH BEI (United States, 1/2024)** BEI: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift. BEI: 0.3 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift. BEI: 0.02 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.
ethylbenzene	**ACGIH BEI (United States, 1/2024)** BEI: 150 mg/g creatinine, sum of mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift.
naphthalene	**ACGIH BEI (United States, 1/2024)** BEI: Nonquantitative: Biological monitoring should be considered for this compound based on the review; however, a specific BEI® could not be determined due to insufficient data., 1-naphthol + 2-naphthol [(sample not specified)]. Sampling time: end of shift.
n-hexane	**ACGIH BEI (United States, 1/2024)** BEI: 0.5 mg/l, 2,5-hexanedion [in urine]. Sampling time: end of shift.
benzene	**ACGIH BEI (United States, 1/2024)** BEI: 25 µg/g creatinine, S-phenylmercapturic acid [in urine]. Sampling time: end of shift. BEI: 500 µg/g creatinine, t,t-muconic acid [in urine]. Sampling time: end of shift.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Personnel handling, transferring or dispensing this product should be trained to respond immediately to any spills or leaks to prevent contamination of groundwater. Consistent with regulatory control requirements, storage and handling equipment and systems should be capable of preventing soil and groundwater contamination by liquid spills and vapor emissions. Leak detection systems and programs are recommended.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type AX)

Section 9. Physical and chemical properties and safety characteristics

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Colour : Clear (May Be Dyed)

Odour : Petroleum/Solvent

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : >20°C (>68°F)

Flash point : Closed cup: <-40°C (<-40°F) [ASTM D-56]

Evaporation rate : Not available.

Flammability : Flammable liquids - Category 1

Lower and upper explosion limit/flammability limit : Lower: 1.4%
Upper: 7.6%

Vapour pressure : >200 mm Hg [20 °C]

Relative vapour density : 3 [Air = 1]

Relative density : 0.74

Solubility in water : Negligible Negligible for the hydrocarbon components. Ether oxygenates are significantly more soluble.

Section 9. Physical and chemical properties and safety characteristics

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : >250°C (>482°F)

Decomposition temperature : Not available.

Viscosity : <1 cSt [40 °C]

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials:,oxidising materials,Halogens, strong acids, Alkalies, Strong oxidisers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
GASOLINE WITH MTBE	**Rat - Oral - LD50** >5000 mg/kg **Rabbit - Dermal - LD50** >2000 mg/kg **Rat - Inhalation - LC50 Vapour** >5000 mg/m³ [4 hours]
ethylbenzene	**Rat - Oral - LD50** 3.5 g/kg **Rat - Inhalation - LC50 Vapour** 17.8 mg/l [4 hours]
tert-butyl methyl ether	**Rat - Oral - LD50** 4000 mg/kg
naphthalene	**Mouse - Oral - LD50** 533 mg/kg **Rat - Inhalation - LC50 Vapour** >0.4 mg/l [4 hours]

Conclusion/Summary

Inhalation : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403

Dermal : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402

Section 11. Toxicological information

Oral : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401

Irritation/Corrosion

Conclusion/Summary

Skin : Irritating to the skin. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404

Eyes : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405

Respiratory : Negligible hazard at ambient/normal handling temperatures. No end point data for material. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

Respiratory or skin sensitization

Conclusion/Summary

Skin : Not expected to be a skin sensitizer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406

Respiratory : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

Conclusion/Summary : May cause genetic defects. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 475 476

Carcinogenicity

Conclusion/Summary : May cause cancer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451

Classification

Product/ingredient name	IARC
gasoline	2B
xylene	3
toluene	3
cumene	2B
ethylbenzene	2B
tert-butyl methyl ether	3
naphthalene	2B
benzene	1

Reproductive toxicity

Conclusion/Summary : Not expected to be a reproductive toxicant. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 416 421

Specific target organ toxicity (single exposure)

Conclusion/Summary : May cause drowsiness or dizziness. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
GASOLINE WITH MTBE	Not applicable.	-

Conclusion/Summary : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 412 453

Aspiration hazard

Product/ingredient name	Result
GASOLINE WITH MTBE	Category 1

Conclusion/Summary : May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material. Data available.

Other information

Section 11. Toxicological information

Contains : Gasoline unleaded: Carcinogenic in animal tests. Chronic inhalation studies resulted in liver tumours in female mice and kidney tumours in male rats. Neither result considered significant for human health risk assessment by the United States EPA and others. Did not cause mutations in-vitro or in-vivo. Negative in inhalation developmental studies and reproductive tox studies. Inhalation of high concentrations in animals resulted in reversible central nervous system depression, but no persistent toxic effect on the nervous system. Non-sensitizing in test animals. Caused nerve damage in humans from abusive use (sniffing). NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain. ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain. BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. CUMENE: Repeated inhalation exposure of cumene vapour produced damage in the kidney of male rats only. These effects are believed to be species specific and are not relevant to humans. Methyl tertiary butyl ether (MTBE): Carcinogenic in animal tests. Inhalation exposure to high concentrations resulted in higher than expected mortality in male mice due to urinary tract obstructions and female mice displayed benign liver tumors. Inhalation exposure to high concentrations resulted in higher than expected mortality in male rats due to progressive kidney damage as well as increased benign and malignant kidney tumors, and benign testicular tumors. Drinking water exposure to high concentrations resulted in progressive kidney damage in rats and a marginally increased statistical trend of brain tumors in male rats. Tumor incidence was within historical control levels and concluded to not be related to MTBE exposure. Did not cause mutations In Vitro or In vivo. Rabbits exposed to high vapor concentrations did not have any offspring with adverse developmental effects. Mice exposed to high vapor concentrations (maternally toxic) had offspring with embryo/fetal toxicity and birth defects. Rats exposed to high vapor concentrations did not display any treatment-related effects in a two generation reproduction study. The significance of the animal findings at high exposures are not believed to be directly related to potential human health hazards. N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown. TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects.

Product : Laboratory animal studies have shown that prolonged and repeated inhalation exposure to light hydrocarbon vapours in the same boiling range as this product can produce adverse kidney effects in male rats. However, these effects were not observed in similar studies with female rats, male and female mice, or in limited studies with other animal species. Additionally, in a number of human studies, there was no clinical evidence of such effects at normal occupational levels. In 1991, The U. S. EPA determined that the male rat kidney is not useful for assessing human risk. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Product/ingredient name	Result
GASOLINE WITH MTBE	**Acute - LL50** Fish - *Fish* 1 to 100 mg/l - data for similar materials [96 hours] **Acute - EL50** daphnia - *Daphnia magna* 1 to 100 mg/l - data for similar materials [48 hours] **Acute - EL50** Algae - *Pseudokirchneriella subcapitata* 1 to 1000 mg/l - data for similar materials [72 hours] **Chronic - NOEL** Algae - *Pseudokirchneriella subcapitata* 1 to 100 mg/l - data for similar materials [72 hours] **Chronic - NOEL** daphnia - *Daphnia magna* 1 to 10 mg/l - data for similar materials [21 days]

Conclusion/Summary

Acute toxicity : Toxic to aquatic life.

Chronic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability

Biodegradability : Components -- Ether oxygenates may biodegrade slowly. Material -- Expected to be inherently biodegradable

Atmospheric Oxidation : Majority of components -- Expected to degrade rapidly in air

Bioaccumulative potential

Conclusion/Summary : Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Mobility in soil

Mobility : High molecular wt. component -- Low potential to migrate through soil. Low molecular wt. component -- Moderate potential to migrate through soil. Majority of components -- Highly volatile, will partition rapidly to air. Moderate potential to migrate through soil. Not expected to partition to sediment and wastewater solids. Ether oxygenates are significantly more soluble than other components of gasoline like benzene, toluene, ethyl benzene and xylenes (BTEX) if released into groundwater. Ether oxygenates may also biodegrade more slowly, have the potential to move farther and faster in groundwater and have the potential to contaminate larger areas of groundwater than BTEX if released into groundwater.

Other ecological information

Other adverse effects : No known significant effects or critical hazards.

INTERNATIONAL OIL POLLUTION COMPENSATION (IOPC)

Material is considered a non-persistent oil.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

MARPOL : see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Section 14. Transport information

	IMDG
UN number	UN1203
UN proper shipping name	GASOLINE
Transport hazard class(es)	3
Label(s) / Mark(s)	
Packing group	II
Environmental hazards	Yes.

Additional information

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-E, S-E
Special provisions 243
Flash point <-40 °C C.C.

Note - this material is being carried under the scope of MARPOL Annex I

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Section 15. Regulatory information

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIC)	:	All components are listed or exempted.
Canada inventory (DSL-NDSL)	:	All components are listed or exempted.
China inventory (IECSC)	:	Not determined.
Japan inventory (CSCL)	:	Not determined.
Japan inventory (Industrial Safety and Health Act)	:	Not determined.
New Zealand Inventory of Chemicals (NZIoC)	:	Not determined.
Philippines inventory (PICCS)	:	All components are listed or exempted.
Korea inventory (KECI)	:	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	:	All components are listed or exempted.
United States inventory (TSCA 8b)	:	All components are active or exempted.

Section 16. Other information

History

Date of issue/Date of revision	:	7 July 2025
Date of previous issue	:	22 March 2024
Version	:	3
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 1	Expert judgment
SKIN CORROSION/IRRITATION - Category 2	Expert judgment
GERM CELL MUTAGENICITY - Category 1B	Expert judgment
CARCINOGENICITY - Category 1B	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3	Expert judgment
ASPIRATION HAZARD - Category 1	Expert judgment
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 2	Expert judgment
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2	Expert judgment

References : Not available.

Indicates information that has changed from previously issued version.

Section 16. Other information

Product code : 1163975

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