

SAFETY DATA SHEET



95 Octane Petrol (Premium)

Section 1. Identification

Product name	95 Octane Petrol (Premium)
Product code	0000003076
SDS no.	0000003076
Use of the substance/mixture	Use only as a motor fuel for spark ignition engines. NOT for aviation use. Should NOT be used as a solvent nor cleaning agent.
Product type	Liquid.
Supplier	BP Oil New Zealand Limited Ground floor and 1st floor Watercare House 73 Remuera Road Newmarket Auckland New Zealand General enquiries Helpdesk: 0800 800 027 Email: Customerenquiries@se1.bp.com
Emergency telephone number	Tel: 0800 805 111
New Zealand National Poisons Centre	0800 764 766

Section 2. Hazards identification

HSNO Classification	3.1 - FLAMMABLE LIQUIDS - Category A 6.3 - SKIN IRRITATION - Category B 6.7 - CARCINOGENICITY - Category B 6.1 - ACUTE TOXICITY (aspiration) (oral) - Category E 9.1 - AQUATIC ECOTOXICITY - Category B
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This material is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 and has been classified according to the Hazardous Substances (Classifications) Regulations 2001.

This material is classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

Routes of entry Dermal contact. Eye contact. Inhalation. Ingestion.

GHS label elements

Signal word Danger

Hazard statements Extremely flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes mild skin irritation.
Suspected of causing cancer.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from ignition sources such as heat/sparks/open flame. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Avoid release to the environment. Keep out of reach of children. If medical advice is needed: Have product container or label at hand.

Section 2. Hazards identification

Response	Collect spillage. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF exposed or concerned: Get medical advice/attention.
Storage	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Symbol	



Other hazards which do not result in classification

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

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Methyl tert-butyl ether: <0.2%

Ingredient name	%	CAS number
Gasoline	>90	86290-81-5
Benzene	<1	71-43-2
diisopropyl ether	<1	108-20-3
Ethanol	<1	64-17-5

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.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation	If inhaled, remove to fresh air. Get medical attention.
Ingestion	Do not induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Check for and remove any contact lenses. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if symptoms occur.

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

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 5. Firefighting measures

Extinguishing media

Suitable

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Not suitable

The use of a water jet may cause the fire to spread by splashing the burning product. Do not use water jet.

Specific hazards arising from the chemical

Extremely flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Liquid will float and may reignite on surface of water.

Hazardous combustion products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

Hazchem code

3YE

Special precautions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8).

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. 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. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recycle, recovery or safe disposal.

Methods and material for containment and cleaning up

Small spill

Eliminate all ignition sources. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not swallow. Never siphon by mouth. Avoid exposure - obtain special instructions before use. Avoid breathing vapour or mist. Use only with adequate ventilation. Avoid release to the environment. Do not enter storage areas and confined spaces unless adequately ventilated. Wear appropriate respirator when ventilation is inadequate. 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. Wash thoroughly after handling. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. 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. Empty containers retain product residue and can be hazardous. Do not reuse container. Aspiration hazard if swallowed. Can enter lungs and cause damage. See also Section 8 for additional information on hygiene measures.

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. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). 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. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Gasoline	<p>ACGIH TLV (United States). TWA: 300 ppm 8 hours. Issued/Revised: 5/1996 TWA: 890 mg/m³ 8 hours. Issued/Revised: 5/1996 STEL: 500 ppm 15 minutes. Issued/Revised: 5/1996 STEL: 1480 mg/m³ 15 minutes. Issued/Revised: 5/1996</p>
Benzene	<p>NZ HSWA 2015 (New Zealand). Absorbed through skin. WES-STEL: 2.5 ppm 15 minutes. Issued/Revised: 9/2010 WES-TWA: 1 ppm 8 hours. Issued/Revised: 9/2010</p>
diisopropyl ether	<p>NZ HSWA 2015 (New Zealand). WES-STEL: 1300 mg/m³ 15 minutes. Issued/Revised: 1/1994 WES-STEL: 310 ppm 15 minutes. Issued/Revised: 1/1994 WES-TWA: 1040 mg/m³ 8 hours. Issued/Revised: 1/1994 WES-TWA: 250 ppm 8 hours. Issued/Revised: 1/1994</p>
Ethanol	<p>NZ HSWA 2015 (New Zealand). WES-TWA: 1880 mg/m³ 8 hours. Issued/Revised: 1/1994 WES-TWA: 1000 ppm 8 hours. Issued/Revised: 1/1994</p>

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

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.

Eye protection

Chemical splash goggles.

Hand protection

Wear chemical resistant gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Recommended: Nitrile gloves. The presence of aromatic hydrocarbons in the product will significantly shorten the length of time that nitrile gloves will provide protection. Do not re-use nitrile gloves if exposed to aromatic hydrocarbons. Gloves made from fluoroelastomer resistant to hydrocarbons and a wide range of chemicals.

Wear a chemically resistant multi-layer laminate inner glove inside an outer nitrile glove. The purpose of the outer glove is to protect the inner glove from cuts and mechanical damage.

Skin protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Wear suitable protective clothing. Footwear highly resistant to chemicals. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static. When there is a risk of ignition wear inherently fire resistant protective clothes and gloves. Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required. 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.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Respiratory protection should conform to AS/NZS 1715 and AS/NZS 1716.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Pale colour. Light Yellow. to Orange.
Odour	Petrol [Strong]
Odour threshold	0.025 ppm (Based on Petrol)
pH	Not applicable. Based on: Solubility in Water (insoluble in water.).
Melting point	<-60°C (<-76°F) (Based on Petrol)
Boiling point	30 to 210°C (86 to 410°F)
Drop Point	Not available.
Flash point	Closed cup: <-40°C (<-40°F)
Auto-ignition temperature	>350°C (>662°F)
Flammability (solid, gas)	Not applicable. Based on physical state.
Lower and upper explosive (flammable) limits	Lower: 1.4% Upper: 7.6%
Vapour pressure	27 to 45 kPa (202.52 to 337.53 mm Hg) [20°C (68°F)] 45 to 95 kPa (337.5 to 712.6 mm Hg) [37.8°C (100°F)]
Vapour density	>1 [Air = 1]
Density	750 kg/m ³ (0.75 g/cm ³)
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	2 to 7 (Based on Gasoline)
Decomposition temperature	>210°C (>410°F)
Viscosity	Kinematic: 0.4 to 0.55 mm ² /s (0.4 to 0.55 cSt) at 40°C
Explosive properties	Based on Low boiling point naphtha - Not considered explosive based on structural and oxygen balance considerations. Vapours may form explosive mixtures with air.
Oxidising properties	Based on Low boiling point naphtha - Not considered oxidizing based on structural considerations.

Section 10. Stability and reactivity

Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatible materials	Reactive or incompatible with the following materials: oxidising materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.
Skin contact	Causes mild skin irritation.
Eye contact	No known significant effects or critical hazards.
<u>Symptoms related to the physical, chemical and toxicological characteristics</u>	
Inhalation	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo

Section 11. Toxicological information

Ingestion	Adverse symptoms may include the following: nausea or vomiting
Skin contact	Adverse symptoms may include the following: irritation redness
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Gasoline	LC50 Inhalation Vapour	Rat	>7630 mg/m ³ Nominal	4 hours	Based on Gasoline
	LC50 Inhalation Vapour	Rat	>5610 mg/m ³ analytical	4 hours	Based on Gasoline
	LD50 Dermal	Rabbit	>2000 mg/kg	-	Based on Gasoline
	LD50 Oral	Rat	>5000 mg/kg	-	Based on Gasoline
diisopropyl ether	LC50 Inhalation Vapour	Rat	40.5 mg/m ³	1 hours	-
	LD50 Dermal	Rabbit	2000 mg/kg	-	-
	LD50 Oral	Rat	8470 mg/kg	-	-
Ethanol	LC50 Inhalation Vapour	Rat	124.7 mg/l	4 hours	Based on Ethanol
	LC50 Inhalation Vapour	Rat	116.9 mg/l	4 hours	Based on Ethanol
	LC50 Inhalation Vapour	Rat	133.8 mg/l	4 hours	Based on Ethanol
	LD50 Oral	Rat	10470 mg/kg	-	Based on Ethanol

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met.

Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks
Gasoline	Rabbit	Skin - Irritant	-	-	-	-	Based on Gasoline
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on Gasoline
Ethanol	Rabbit	Skin - Non-irritant to skin.	-	-	-	-	Based on Ethanol
	Rabbit	Eyes - Cornea opacity	-	-	-	-	Based on Ethanol
	Rabbit	Eyes - Iris lesion	-	-	-	-	Based on Ethanol

Section 11. Toxicological information

Rabbit Eyes - Irritant - - - Based on Ethanol

Conclusion/Summary

Skin Causes skin irritation.
Eyes Not classified. Based on available data, the classification criteria are not met.
Respiratory Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result	Remarks
Gasoline	skin	Guinea pig	Not sensitising	Based on Gasoline

Conclusion/Summary

Skin Not classified. Based on available data, the classification criteria are not met.
Respiratory Not available.

Potential chronic health effects

General No known significant effects or critical hazards.
Inhalation May be harmful by inhalation after often repeated exposure. Vapour, mist or fume may irritate the nose, mouth and respiratory tract. Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possibly death.
Ingestion Not applicable.
Skin contact Not applicable.
Eye contact Not applicable.
Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. May cause cancer Exposure to benzene may result in effects to the hematopoietic 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. IARC assessment: benzene - carcinogenic to humans (Group 1)
Mutagenicity No known significant effects or critical hazards.
Teratogenicity No known significant effects or critical hazards.
Developmental effects No known significant effects or critical hazards.
Fertility effects No known significant effects or critical hazards.

Carcinogenicity

Product/ingredient name	Test	Species	Result	Exposure
Gasoline	Rat	Inhalation	113 weeks Negative - Inhalation - Unspecified	Based on Gasoline
	Mouse	Dermal	102 weeks Negative - Dermal - Unspecified	Based on Gasoline
Ethanol	Mouse	Oral	105 weeks Positive - Oral - Unspecified	Based on Ethanol
	Rat	Oral	104 weeks Negative - Oral - Unspecified	Based on Ethanol

Conclusion/Summary Benzene: May cause cancer

Mutagenicity

Section 11. Toxicological information

Product/ingredient name	Test	Experiment	Result	Remarks
Gasoline	Equivalent to OECD 476	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on Gasoline
	Equivalent to OECD 471	Experiment: In vitro Subject: Non-mammalian species	Negative	Based on Gasoline
	EPA OPPTS 870.5395	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Gasoline vapour condensate
	Equivalent to OECD 475	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Gasoline
Ethanol	Equivalent to OECD 476	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on Ethanol
	Equivalent to OECD 473	Experiment: In vitro Subject: Non-mammalian species	Negative	Based on Ethanol
	Equivalent to OECD 478	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Ethanol

Conclusion/Summary

Benzene: May cause genetic defects.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Result	Exposure
Gasoline	-	Negative	-	Rat	Inhalation	2 generation
	-	-	Negative	Rat	Inhalation	14 days
Ethanol	-	Positive	-	Rat	Oral	2 generation
	-	-	Negative	Rat	Inhalation	18 days

Conclusion/Summary

Development: Not classified. Based on available data, the classification criteria are not met.

Fertility: Not classified. Based on available data, the classification criteria are not met.

Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Aspiration hazard

Name
Gasoline

Section 11. Toxicological information

Other adverse symptoms

Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital). Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

Gasoline as a mixture is classified as a 2B (possible human) carcinogen by IARC.

Gasoline engine exhaust is classified as possibly carcinogenic to humans by IARC (2B). This classification is based primarily on animal and in vitro studies of gasoline engine exhaust condensates/extracts. Studies of the gaseous exhaust stream in animals did not provided sufficient evidence for classification as a carcinogen.

Section 12. Ecological information

Ecotoxicity

Water polluting material. May be harmful to the environment if released in large quantities. This material is toxic to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name	Species	Result/Test	Exposure	Effects	Remarks
Gasoline	Micro-organism	Acute EC50 15.41 mg/l Nominal Fresh water	40 hours	growth inhibition	-
	Algae	Acute EL50 3.1 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Gasoline
	Algae	Acute EL50 3.7 mg/l Nominal Fresh water	96 hours	(growth rate)	Based on Gasoline

Section 12. Ecological information

Daphnia	Acute EL50 4.5 mg/l Nominal Fresh water	48 hours	Mobility	Based on straight-run light gasoline
Fish	Acute LL50 10 mg/l Nominal Fresh water	96 hours	Mortality	Based on Naphtha (petroleum), isomerisation
Fish	Acute LL50 8.2 mg/l Nominal Fresh water	96 hours	Mortality	Based on Naphtha (petroleum), light alkylate
Algae	Acute NOELR 0.5 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Gasoline
Daphnia	Acute NOELR 0.5 mg/l Nominal Fresh water	48 hours	Mobility	Based on Straight run gas oil
Daphnia	Chronic EL50 10 mg/l Nominal Fresh water	21 days	Reproduction	Based on Naphtha (petroleum), light alkylate
Daphnia	Chronic EL50 >40 mg/l Nominal Fresh water	21 days	Mobility	Based on Naphtha (petroleum), light alkylate
Fish	Chronic EL50 10 mg/l Nominal Fresh water	21 days	Reproduction	Based on: Naphtha (petroleum), light alkylate; read across between species
Fish	Chronic LL50 5.2 mg/l Nominal Fresh water	14 days	Mortality	Based on Naphtha (petroleum), light catalytic reformed
Daphnia	Chronic NOELR 2.6 mg/l Nominal Fresh water	21 days	Reproduction	Based on Naphtha (petroleum), light alkylate
Daphnia	Chronic NOELR 16 mg/l Nominal Fresh water	21 days	Mobility	Based on Naphtha (petroleum), light alkylate
Fish	Chronic NOELR 2.6 mg/l Nominal Fresh water	14 days	Mortality	Based on Naphtha (petroleum), light catalytic reformed
Fish	Chronic NOELR 2.6 mg/l Nominal Fresh water	21 days	Reproduction	Based on: Naphtha (petroleum), light alkylate; read across between

Section 12. Ecological information

					species
	soil, plants	Chronic PNEC >0.4 mg/kg	-	-	-
Ethanol	Algae	EC50 675 mg/l	4 days	-	Based on Ethanol
	Aquatic plants	EC50 4432 mg/l	7 days	-	Based on Ethanol
	Daphnia	Acute LC50 5012 mg/l	48 hours	-	Based on Ethanol
	Fish	Acute LC50 153 g/l	96 hours	-	Based on Ethanol
	Fish	Acute LC50 14.2 g/l	96 hours	-	Based on Ethanol
	Daphnia	Chronic LC50 2 mg/l	10 days	-	Based on Ethanol
	Daphnia	Chronic LC50 9.6 mg/l	9 days	-	Based on Ethanol

Conclusion/Summary

Toxic to aquatic life with long lasting effects.

Persistence and degradability

Expected to be biodegradable.

Product/ingredient name	Test	Result	Remarks
Ethanol	EPA	95 % - Readily - 15 days	Based on Ethanol
	EPA	84 % - Readily - 20 days	Based on Ethanol
	EPA	74 % - Readily - 5 days	Based on Ethanol
	EPA	74 % - Readily - 10 days	Based on Ethanol

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Gasoline	-	-	Inherent
Ethanol	-	-	Readily

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Product/ingredient name	LogP _{ow}	BCF	Potential
Gasoline	2 to 7	-	high
diisopropyl ether	2.4	-	low
Ethanol	-0.35	-	low

Mobility in soil

Mobility

Spillages may penetrate the soil causing ground water contamination.

Soil/water partition coefficient (K_{oc})

Not available.

Other ecological information







Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

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. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
New Zealand Class	UN1203	MOTOR SPIRIT or GASOLINE or PETROL	3	II	 	The marine pollutant mark is not required when transported by road or rail. Hazchem code 3YE
ADG Class	UN1203	MOTOR SPIRIT or GASOLINE or PETROL	3	II		Hazchem code 3YE Initial emergency response guide 14
IATA Class	UN1203	MOTOR SPIRIT or GASOLINE or PETROL	3	II		The environmentally hazardous substance mark may appear if required by other transportation regulations.
IMDG Class	UN1203	MOTOR SPIRIT or GASOLINE or PETROL. Marine pollutant	3	II	 	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-E

PG* : Packing group

Section 15. Regulatory information

New Zealand Regulatory Information

HSNO Approval Number	HRC000003
HSNO Group Standard	Petrol (unleaded)
HSNO Classification	3.1 - FLAMMABLE LIQUIDS - Category A 6.3 - SKIN IRRITATION - Category B 6.7 - CARCINOGENICITY - Category B 6.1 - ACUTE TOXICITY (aspiration) (oral) - Category E 9.1 - AQUATIC ECOTOXICITY - Category B

Regulation according to other foreign laws

REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
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		Language ENGLISH (ENGLISH)

Section 15. Regulatory information

United States inventory (TSCA 8b)	Not determined.
Australia inventory (AICS)	Contact local supplier or distributor.
Canada inventory status	Not determined.
China inventory (IECSC)	Not determined.
Japan inventory (ENCS)	Not determined.
Korea inventory (KECI)	Not determined.
Philippines inventory (PICCS)	Not determined.
Taiwan Chemical Substances Inventory (TCSI)	Not determined.

Section 16. Other information

History

Date of issue/Date of revision	10 March 2021
Date of previous issue	No previous validation.
Version	1
Prepared by	Not available.
Key to abbreviations	Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

Notice to reader

✔ **Indicates information that has changed from previously issued version.**

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