

**Gasoline 100 ULE**

Version 2.2

Revision Date 2018-11-26

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : Gasoline 100 ULE
Material : 1115453, 1113406, 1108537, 1108536, 1108535, 1062622,
1062256, 1062507, 1062508, 1062509

Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:**Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

Responsible Department : Product Safety and Toxicology Group
E-mail address : SDS@CPChem.com
Website : www.CPChem.com

SECTION 2: Hazards identification**Classification of the substance or mixture**

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification

: Flammable liquids, Category 2
Skin irritation, Category 2
Eye irritation, Category 2A
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1A
Reproductive toxicity, Category 2

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Specific target organ systemic toxicity - single exposure,
 Category 3, Central nervous system
 Specific target organ systemic toxicity - repeated exposure,
 Category 2, Inhalation, Auditory organs, color vision
 Aspiration hazard, Category 1

Labeling

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H225: Highly flammable liquid and vapor.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.
 H319: Causes serious eye irritation.
 H336: May cause drowsiness or dizziness.
 H340: May cause genetic defects.
 H350: May cause cancer.
 H361d: Suspected of damaging the unborn child.
 H373: May cause damage to organs (Auditory organs, color vision) through prolonged or repeated exposure if inhaled.

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/sparks/open flames/hot surfaces. No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/fume/gas/mist/vapor/spray.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P331 Do NOT induce vomiting.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:**IARC**

Group 1: Carcinogenic to humans

Benzene 71-43-2

NTP

Known to be human carcinogen

Benzene 71-43-2

SECTION 3: Composition/information on ingredients

Synonyms : Motor Fuel

Molecular formula : Mixture

Component	CAS-No.	Weight %
2,2,4-Trimethylpentane (Isooctane)	540-84-1	30 - 80
Isopentane	78-78-4	5 - 30
Toluene	108-88-3	10 - 30
Ethanol	64-17-5	5 - 10
Isoalkanes C7-8	70024-92-9	1 - 10
Benzene	71-43-2	0 - 0.1

SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled : Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point : < -37 °C (< -35 °F)

Autoignition temperature : No data available

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Suitable extinguishing media	: Alcohol-resistant foam. Carbon dioxide (CO ₂). Dry chemical.
Unsuitable extinguishing media	: High volume water jet.
Specific hazards during fire fighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Fire and explosion protection	: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products	: Carbon Dioxide. Carbon oxides.

SECTION 6: Accidental release measures

Personal precautions	: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: Handling and storage**Handling**

Advice on safe handling	: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or
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exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters****Chevron Phillips Chemical Company LP**

Components	Basis	Value	Control parameters	Note
Isoalkanes C7-8	Manufacturer	TWA	300 ppm,	

US

Components	Basis	Value	Control parameters	Note
2,2,4-Trimethylpentane (Isooctane)	ACGIH	TWA	300 ppm,	URT irr,
Isopentane	ACGIH	TWA	1,000 ppm,	
Toluene	ACGIH	TWA	20 ppm,	visual impair, female repro, pregnancy loss, BEI, A4,
	OSHA Z-2	TWA	200 ppm,	
	OSHA Z-2	CEIL	300 ppm,	
	OSHA Z-2	Peak	500 ppm,	
	OSHA Z-1-A	TWA	100 ppm, 375 mg/m3	
Ethanol	OSHA Z-1-A	STEL	150 ppm, 560 mg/m3	
	OSHA Z-1	TWA	1,000 ppm, 1,900 mg/m3	(b),
	OSHA Z-1-A	TWA	1,000 ppm, 1,900 mg/m3	
Benzene	ACGIH	STEL	1,000 ppm,	URT irr, A3,
	ACGIH	TWA	0.5 ppm,	leukemia, BEI, A1, Skin,
	ACGIH	STEL	2.5 ppm,	leukemia, BEI, A1, Skin,
	OSHA Z-1-A	TWA	1 ppm,	
	OSHA Z-1-A	CEIL	5 ppm,	
	OSHA Z-2	Peak	50 ppm,	(a),
	OSHA 29 CFR 1910.1028(c)	TWA	1 ppm,	
	OSHA 29 CFR 1910.1028(c)	STEL	5 ppm,	
	OSHA CARC	PEL	1 ppm,	
	OSHA CARC	STEL	5 ppm,	

(a) This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.

(b) The value in mg/m3 is approximate.

A1 Confirmed human carcinogen

A3 Confirmed animal carcinogen with unknown relevance to humans

A4 Not classifiable as a human carcinogen

BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

female repro Female reproductive

leukemia Leukemia

pregnancy loss Pregnancy loss

Skin Danger of cutaneous absorption

URT irr Upper Respiratory Tract irritation

visual impair Visual impairment

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Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Ethanol	64-17-5	Immediately Dangerous to Life or Health Concentration Value 3300 parts per million	1995-03-01
Toluene	108-88-3	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
		Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
Ethanol	64-17-5	Immediately Dangerous to Life or Health Concentration Value 3300 parts per million	1995-03-01
Benzene	71-43-2	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01

Biological exposure indices**US**

Substance name	CAS-No.	Control parameters	Sampling time	Update
Toluene	108-88-3	Toluene: 0.02 mg/l (In blood)	Prior to last shift of workweek	2010-03-01
		Toluene: 0.03 mg/l (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01
		o-Cresol: 0.3 mg/g Creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01
Benzene	71-43-2	S-Phenylmercapturic acid: 25 µg/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01
		t,t-Muconic acid: 500 µg/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators

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	may not provide adequate protection.
Hand protection	: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	: Eye wash bottle with pure water. Tightly fitting safety goggles.
Skin and body protection	: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Form	: Liquid
Physical state	: Liquid
Color	: Various
Odor	: Strong gasoline

Safety data

Flash point	: < -37 °C (< -35 °F)
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: No
Autoignition temperature	: No data available
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Freezing point	: -94.44 °C (-137.99 °F)
Pour point	No data available
Boiling point/boiling range	: 46 - 116 °C (115 - 241 °F)
Vapor pressure	: 6.70 PSI

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	at 38 °C (100 °F)
Relative density	: 7.45 at 16 °C (61 °F)
Density	: 5.97 L/G
Water solubility	: The ethanol component of this fuel is soluble in water.
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: 3.2 (Air = 1.0)
Evaporation rate	: > 1
Percent volatile	: > 99 %

SECTION 10: Stability and reactivity

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions	
Hazardous reactions	: Hazardous reactions: Hazardous polymerization does not occur. Further information: No decomposition if stored and applied as directed. Hazardous reactions: Vapors may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products	: Carbon Dioxide Carbon oxides
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

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- Gasoline 100 ULE**
Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
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Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method
- Gasoline 100 ULE**
Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method
- Gasoline 100 ULE**
Skin irritation : Skin irritation
largely based on animal evidence.
- Gasoline 100 ULE**
Eye irritation : Eye irritation
largely based on animal evidence.
- Gasoline 100 ULE**
Sensitization : Did not cause sensitization on laboratory animals.
Estimated based on individual component values.
- Repeated dose toxicity**
- 2,2,4-Trimethylpentane
(Isooctane) : Species: Rat, Male and female
Sex: Male and female
Application Route: Inhalation
Dose: 0, 668, 2220, 6646 ppm
Exposure time: 13 weeks
Number of exposures: 6 hr/day 5 d/wk
NOEL: 8.117 mg/l 2220 ppm
Method: OECD Guideline 413
Information given is based on data obtained from similar substances.
- Isopentane : Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Dose: 668, 2220, 6646 ppm
Exposure time: 13 wk
Number of exposures: 6 h/d, 5 d/wk
NOEL: > 2220 ppm
Lowest observable effect level: > = 6646 ppm
Method: OECD Guideline 413
Target Organs: Kidney
Information given is based on data obtained from similar substances.
- Toluene : Species: Rat
Application Route: Inhalation
Dose: 0, 100, 625, 1250, 3000 ppm
Exposure time: 15 wk
Number of exposures: 6.5 h/d, 5 d/wk

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NOEL: 625 ppm

Species: Mouse
 Application Route: Inhalation
 Dose: 0, 100, 625, 1250, 3000 ppm
 Exposure time: 14 wk
 Number of exposures: 6.5 h/d, 5 d/wk
 NOEL: 100 ppm

Ethanol

Species: Rat
 Application Route: Oral diet
 Dose: 5%
 Exposure time: 13 wk
 Number of exposures: in drinking water
 NOEL: < 5%
 Lowest observable effect level: 5%
 Target Organs: Liver

Isoalkanes C7-8

Species: Rat, male and female
 Sex: male and female
 Application Route: Inhalation
 Dose: 0, 400, 1200 ppm
 Exposure time: 12 wk
 Number of exposures: 6 hr/d, 5 d/wk
 NOEL: 1200 ppm
 Method: OECD Test Guideline 413
 Target Organs: Kidney
 Information given is based on data obtained from similar substances.

Benzene

Species: Rat, female
 Sex: female
 Application Route: oral gavage
 Dose: 0, 25, 50, 100 mg/kg
 Exposure time: 103 wk
 Number of exposures: 5 d/wk
 NOEL: < 25 mg/kg
 Lowest observable effect level: 25 mg/kg

Species: Rat, male
 Sex: male
 Application Route: oral gavage
 Dose: 0, 50, 100, 200 mg/kg
 Exposure time: 103 wk
 Number of exposures: 5 d/wk
 NOEL: < 50 mg/kg
 Lowest observable effect level: 50 mg/kg

Species: Mouse
 Application Route: oral gavage
 Dose: 0, 25, 50, 100 mg/kg
 Exposure time: 103 wk
 NOEL: < 25 mg/kg

Genotoxicity in vitro

2,2,4-Trimethylpentane
 (Isooctane)

: Test Type: Ames test
 Method: Mutagenicity (Escherichia coli - reverse mutation assay)

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	<p>Result: negative</p> <p>Test Type: Mouse lymphoma assay Method: OECD Guideline 476 Result: negative</p> <p>Test Type: Sister Chromatid Exchange Assay Result: negative</p> <p>Test Type: Unscheduled DNA synthesis assay Result: negative</p>
Isopentane	<p>Test Type: Ames test Concentration: 1, 2, 5, 8, 10% Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative</p> <p>Test Type: Ames test Concentration: 1, 2, 5, 8, 10, 25, 50% Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Remarks: Information given is based on data obtained from similar substances.</p> <p>Test Type: Chromosome aberration test in vitro Metabolic activation: with and without metabolic activation Method: Mutagenicity (in vitro mammalian cytogenetic test) Result: negative Remarks: Information given is based on data obtained from similar substances.</p>
Toluene	<p>Test Type: Ames test Result: negative</p> <p>Test Type: Sister Chromatid Exchange Assay Result: negative</p> <p>Test Type: Mouse lymphoma assay Result: negative</p> <p>Test Type: Cytogenetic assay Result: negative</p>
Ethanol	<p>Test Type: Ames test Result: negative</p> <p>Test Type: Forward mutation assay Result: positive</p> <p>Test Type: Sister Chromatid Exchange Assay Result: positive</p>
Isoalkanes C7-8	<p>Test Type: Ames test Result: negative</p>
Benzene	<p>Test Type: Ames test Result: negative</p>

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Test Type: Cytogenetic assay
Result: positive

Test Type: Mouse lymphoma assay
Result: positive

Test Type: Sister Chromatid Exchange Assay
Result: negative

Genotoxicity in vivo

2,2,4-Trimethylpentane
(Isooctane)

: Test Type: Unscheduled DNA synthesis assay
Species: Mouse
Dose: 500 mg/kg
Result: negative

Test Type: Unscheduled DNA synthesis assay
Species: Rat
Dose: 500 mg/kg
Result: negative

Isopentane

Test Type: In vivo micronucleus test
Species: Rat
Cell type: Bone marrow
Route of Application: inhalation (vapor)
Method: Directive 67/548/EEC, Annex V, B.12.
Remarks: Information given is based on data obtained from similar substances.

Toluene

Test Type: Cytogenetic assay
Result: negative

Test Type: Mouse micronucleus assay
Result: negative

Benzene

Test Type: Mouse micronucleus assay
Result: positive

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Carcinogenicity**

: Method: Expected to be carcinogenic based on individual component data.

Reproductive toxicity

2,2,4-Trimethylpentane
(Isooctane)

: Species: Rat
Sex: male and female
Application Route: Inhalation
Dose: 0, 900, 3000, 9000 ppm
Number of exposures: 6 h/d 5 d/wk
Method: OECD Test Guideline 416
NOAEL Parent: 3000 ppm
NOAEL F1: 3000 ppm
NOAEL F2: 3000 ppm
Information given is based on data obtained from similar substances.

Isopentane

Species: Rat
Sex: male and female

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Application Route: inhalation (vapor)
 Dose: 0, 500, 2000, 7000 ppm
 Number of exposures: 6 h/d 5 d/wk
 Method: OECD Test Guideline 416
 NOAEL Parent: 7000 ppm
 NOAEL F1: 2000 ppm
 NOAEL F2: 2000 ppm
 Information given is based on data obtained from similar substances.

Species: Rat
 Sex: female
 Application Route: oral gavage
 Dose: 0, 100, 300, 1000 mg/kg/d
 Method: OECD Test Guideline 415
 NOAEL Parent: >= 1,000 mg/kg
 NOAEL F1: >= 1,000 mg/kg

Species: Rat
 Sex: male
 Application Route: oral gavage
 Dose: 0, 100, 300, 1000 mg/kg/d
 Method: OECD Test Guideline 415
 NOAEL Parent: >= 300 mg/kg

Toluene

Species: Rat
 Application Route: Inhalation
 Dose: 0, 100, 500, 2000 ppm
 Test period: 95 d
 NOAEL Parent: 2000 ppm

Isoalkanes C7-8

Species: Rat
 Sex: male and female
 Application Route: inhalation (vapor)
 Number of exposures: 6 hr/d; 5 d/wk
 Method: OECD Test Guideline 416
 NOAEL Parent: 10,560 mg/m³
 NOAEL F1: 31,680 mg/m³
 NOAEL F2: 31,680 mg/m³
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.
 Information given is based on data obtained from similar substances.

Developmental Toxicity

2,2,4-Trimethylpentane
 (Isooctane)

: Species: Rat
 Application Route: Inhalation
 Dose: 0, 400, 1200 ppm
 Number of exposures: 6h/d
 Test period: GD6-15
 NOAEL Teratogenicity: 1200 ppm
 NOAEL Maternal: 1200 ppm
 Information given is based on data obtained from similar substances.

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	<p>Species: Rat Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Number of exposures: 6h/d Test period: GD6-15 Method: OECD Guideline 414 NOAEL Teratogenicity: 9000 ppm NOAEL Maternal: 3000 ppm Information given is based on data obtained from similar substances.</p>
Isopentane	<p>Species: Rat Application Route: oral gavage Dose: 0, 100, 500, 1000 mg/kg/d Exposure time: GD 6-15 Number of exposures: daily Method: OECD Guideline 414 NOAEL Teratogenicity: 1,000 mg/kg NOAEL Maternal: 1,000 mg/kg Information given is based on data obtained from similar substances.</p> <p>Species: Rat Application Route: Inhalation Dose: 0, 500, 2000, 7000 ppm Exposure time: GD 6-15 Number of exposures: 5 d/wk Method: OECD Guideline 414 NOAEL Teratogenicity: 7000 ppm NOAEL Maternal: 500 - 2000 ppm Information given is based on data obtained from similar substances.</p> <p>Species: Rabbit Application Route: Inhalation Dose: 0, 500, 2000, 7000 ppm Exposure time: GD 6-18 Method: OECD Guideline 414 NOAEL Teratogenicity: 7000 ppm NOAEL Maternal: 7000 ppm Information given is based on data obtained from similar substances.</p>
Toluene	<p>Species: Rat Application Route: Inhalation Dose: 0, 100, 500, 2000 ppm Test period: 95 d NOAEL Teratogenicity: 400-750 ppm</p>
Ethanol	<p>Species: Mouse Application Route: oral gavage Dose: 17, 25, 30 % NOAEL Teratogenicity: 17%</p>
Isoalkanes C7-8	<p>Species: Rat Application Route: Inhalation Dose: 500, 2000, 7000 ppm Exposure time: 6 hr/d Test period: GD 6-15 Method: OECD Guideline 414</p>

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NOAEL Teratogenicity: > 21,000 mg/m³
 NOAEL Maternal: > 21,000 mg/m³
 Animal testing did not show any effects on fetal development.
 Information given is based on data obtained from similar substances.

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Aspiration toxicity**

: May be fatal if swallowed and enters airways.

CMR effects2,2,4-Trimethylpentane
(Isooctane): Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Teratogenicity: Animal testing did not show any effects on fetal development.
 Reproductive toxicity: Animal testing did not show any effects on fertility.

Isopentane

Carcinogenicity: Not available
 Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects., In vivo tests did not show mutagenic effects
 Teratogenicity: Animal testing did not show any effects on fetal development.
 Reproductive toxicity: Animal testing did not show any effects on fertility.

Toluene

Carcinogenicity: Not classifiable as a human carcinogen.
 Mutagenicity: Animal testing did not show any mutagenic effects.
 Teratogenicity: Some evidence of adverse effects on development, based on animal experiments.
 Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Isoalkanes C7-8

Carcinogenicity: Not available
 Mutagenicity: In vitro tests did not show mutagenic effects
 Reproductive toxicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Benzene

Carcinogenicity: Human carcinogen.
 Mutagenicity: In vivo tests showed mutagenic effects
 Teratogenicity: Did not show teratogenic effects in animal experiments.
 Reproductive toxicity: Animal testing did not show any effects on fertility.**Gasoline 100 ULE
Further information**

: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

SECTION 12: Ecological information

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Ecotoxicity effects**Toxicity to fish**

2,2,4-Trimethylpentane (Isooctane)	: LC50: 0.11 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Isopentane	LC50: 4.26 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Toluene	LC50: 18 - 36 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Ethanol	LC50: 13,480 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Isoalkanes C7-8	LL50: 5.4 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Benzene	LC50: 5.3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) flow-through test Test substance: yes Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

2,2,4-Trimethylpentane (Isooctane)	: EC50: 0.4 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Information given is based on data obtained from similar substances.
Isopentane	EC50: 2.3 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202
Toluene	EC50: 3.78 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
Ethanol	LC50: 12,340 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

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Isoalkanes C7-8
 EL50: 143 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

Benzene
 EC50: 10 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Test substance: yes
 Method: OECD Test Guideline 202

Toxicity to algae

2,2,4-Trimethylpentane
 (Isooctane) : EL50: 2.943 mg/l
 Exposure time: 72 h
 Method: QSAR modeled data

Isopentane
 EC50: 7.51 mg/l
 Exposure time: 72 h
 Species: Scenedesmus capricornutum (fresh water algae)
 Growth inhibition Method: OECD Test Guideline 201
 Information given is based on data obtained from similar substances.

Toluene
 EC50: 134 mg/l
 Exposure time: 72 h
 Species: Chlamydomonas angulosa (Green algae)

Ethanol
 EC50: 1,000 mg/l
 Exposure time: 72 h
 Species: Chlorella vulgaris (Fresh water algae)

Isoalkanes C7-8
 EL50: 29.0 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Growth inhibition Method: OECD Test Guideline 201

Benzene
 ErC50: 100 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Test substance: yes
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity)

Isoalkanes C7-8 : NOELR: 0.778 mg/l
 Exposure time: 28 d
 Species: Oncorhynchus mykiss (rainbow trout)
 Method: QSAR modeled data

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

2,2,4-Trimethylpentane
 (Isooctane) : NOEL: 0.17 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)

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	Method: OECD Test Guideline 211 Information given is based on data obtained from similar substances.
Isoalkanes C7-8	: NOELR: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Information given is based on data obtained from similar substances.
Biodegradability	: Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification. Expected to be inherently biodegradable.
Elimination information (persistence and degradability)	
Bioaccumulation	: This material is not expected to bioaccumulate.
Mobility	: No data available
Results of PBT assessment	
2,2,4-Trimethylpentane (Isooctane)	: Non-classified PBT substance, Non-classified vPvB substance
Isopentane	: Non-classified PBT substance, Non-classified vPvB substance
Toluene	: Non-classified vPvB substance, Non-classified PBT substance
Isoalkanes C7-8	: Non-classified PBT substance, Non-classified vPvB substance
Benzene	: This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Additional ecological information	: Very toxic to aquatic life with long lasting effects.
Ecotoxicology Assessment	
Short-term (acute) aquatic hazard	: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard	: Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water

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courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

UN1203, GASOLINE, 3, II, MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1203, GASOLINE, 3, II, (< -37 °C), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), ISOPENTANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1203, GASOLINE, 3, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN1203, MOTOR SPIRIT, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), ISOPENTANE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), ISOPENTANE)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), ISOPENTANE)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)
 Aspiration hazard

CERCLA Reportable Quantity : 1250 lbs
 2,2,4-Trimethylpentane (Isooctane)
 Toluene
 Benzene
 Benzene

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Toluene - 108-88-3
 Benzene - 71-43-2

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

: 2,2,4-Trimethylpentane (Isooctane) - 540-84-1
 Toluene - 108-88-3

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

: Isopentane - 78-78-4

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The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

- : Isopentane - 78-78-4
- Ethanol - 64-17-5
- Toluene - 108-88-3

US State Regulations

Pennsylvania Right To Know

- : 2,2,4-Trimethylpentane (Isooctane) - 540-84-1
- Isopentane - 78-78-4
- Toluene - 108-88-3
- Ethanol - 64-17-5
- Isoalkanes C7-8 - 70024-92-9
- Benzene - 71-43-2

California Prop. 65
Components

- : WARNING This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov/food.

Benzene

71-43-2

WARNING This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Toluene

108-88-3

Notification status

Europe REACH

- : A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.

United States of America (USA)
TSCA

- : On TSCA Inventory

Canada NDSL

- : On the inventory, or in compliance with the inventory

Australia AICS

- : On the inventory, or in compliance with the inventory

New Zealand NZIoC

- : Not in compliance with the inventory

Japan ENCS

- : On the inventory, or in compliance with the inventory

Korea KECI

- : On the inventory, or in compliance with the inventory

Philippines PICCS

- : Not in compliance with the inventory

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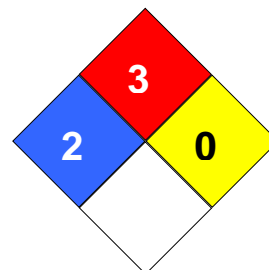
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China IECSC : Not in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : CPC00143

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical	TWA	Time Weighted Average

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	Substances in China		
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		