Gasoline 100 ULE

Version 2.3 Revision Date 2022-11-16

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
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
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)
Belgium: 070 245 245 (24 hours/day, 7 days/week)
Bulgaria: +359 2 9154 233
Croatia: +3851 2348 342 (24 hours/day, 7 days/week)
Cyprus: 1401
Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402
Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212
Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Finland: 0800 147 111 09 471 977 (24 hours/day)
France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)
Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Greece: (0030) 2107793777 (24 hours/day, 7 days/week)
Hungary: +36-80-201-199 (24 hours/day, 7 days/week)
Iceland: 543 2222 (24 hours/day, 7 days/week)
Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Lithuania: +370 (85) 2362052
Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)
Malta: +356 2395 2000
The Netherlands: NVIC: +31 (0)88 755 8000
Norway: 22 59 13 00 (24 hours/day, 7 days/week)
Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Portugal: CIAV phone number: +351 800 250 250
Romania: +40213183606
Slovakia: +421 2 5477 4166
Slovenia: Phone number: 112
Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)
Sweden: 112 – ask for Poisons Information

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
Specific target organ toxicity - single exposure, Category 3, Central nervous system
Specific target organ 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.
H361: Suspected of damaging fertility or 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/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
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.
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
	Group 2B: Possibly carcinogenic to humans	
	Gasoline, Natural Stream	8006-61-9
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	60 - 75
Isopentane	78-78-4	10 - 20
Toluene	108-88-3	10 - 20
Ethanol	64-17-5	8 - 10
Isoalkanes C7-8	70024-92-9	1 - 10
Gasoline, Natural Stream	8006-61-9	0 - 0.5
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)
Method: closed cup

Autoignition temperature : No data available

Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO2). 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 a naked flame or any 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 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 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 a naked flame or any 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,	
Isopentane	ACGIH	TWA	1,000 ppm,	
Toluene	ACGIH	TWA	20 ppm,	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	
	OSHA Z-1-A	STEL	150 ppm, 560 mg/m3	
Ethanol	OSHA Z-1	TWA	1,000 ppm, 1,900 mg/m3	
	OSHA Z-1-A	TWA	1,000 ppm, 1,900 mg/m3	
	ACGIH	STEL	1,000 ppm,	A3,
Gasoline, Natural Stream	OSHA Z-1-A	TWA	300 ppm, 900 mg/m3	
	OSHA Z-1-A	STEL	500 ppm, 1,500 mg/m3	
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
Benzene	ACGIH	TWA	0.5 ppm,	A1, Skin,
	ACGIH	STEL	2.5 ppm,	A1, Skin,
	OSHA Z-1-A	TWA	1 ppm,	
	OSHA Z-1-A	CEIL	5 ppm,	
	OSHA Z-2	Peak	50 ppm,	
	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,	

A1 Confirmed human carcinogen
A3 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
Skin Danger of cutaneous absorption

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Toluene	108-88-3	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 Background (Urine) With hydrolyses ()	End of shift (As soon as possible after exposure ceases)	2010-03-01
Benzene	71-43-2	S-Phenylmercapturic acid: 25 µg/g creatinine Background (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01
		t,t-Muconic acid: 500 µg/g creatinine Background (Urine)	End of shift (As soon as possible after exposure ceases)	2010-03-01

Engineering measures

Adequate ventilation to control airborned 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 : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. Air-Purifying Respirator for Organic Vapors. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators 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) Method: closed cup
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 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.

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 oxides

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Gasoline 100 ULE
Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Gasoline 100 ULE
Acute inhalation toxicity : Acute toxicity estimate: > 20 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
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) Result: negative Test Type: Mouse lymphoma assay Method: OECD Guideline 476 Result: negative Test Type: Sister Chromatid Exchange Assay Result: negative Test Type: Unscheduled DNA synthesis assay Result: negative
Isopentane		Test Type: Ames test Concentration: 1, 2, 5, 8, 10% Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative

	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. 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. Test Type: In vitro mammalian cell gene mutation test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Remarks: Information given is based on data obtained from similar substances.
Toluene	Test Type: Ames test Result: negative Test Type: Sister Chromatid Exchange Assay Result: negative Test Type: Mouse lymphoma assay Result: negative Test Type: Cytogenetic assay Result: negative
Ethanol	Test Type: Ames test Result: negative Test Type: Forward mutation assay Result: positive Test Type: Sister Chromatid Exchange Assay Result: positive
Isoalkanes C7-8	Test Type: Ames test Result: negative
Benzene	Test Type: Ames test Result: negative 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) Exposure time: 13 wk Dose: 5000, 10,000, 20,000 mg/m3 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

Gasoline 100 ULE

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 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.

	Reduced fetal weight.
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. 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.
Isopentane		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.

	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. 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.
Toluene	Species: Rat Application Route: Inhalation Dose: 0, 100, 500, 2000 ppm Test period: 95 d NOAEL Teratogenicity: 400-750 ppm
Ethanol	Species: Mouse Application Route: oral gavage Dose: 17, 25, 30 % NOAEL Teratogenicity: 17%
Isoalkanes C7-8	Species: Rat Application Route: Inhalation Dose: 500, 2000, 7000 ppm Exposure time: 6 hr/d Test period: GD 6-15 Method: OECD Guideline 414 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.

Gasoline 100 ULE
Aspiration toxicity : May be fatal if swallowed and enters airways.

CMR effects

2,2,4-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.
Gasoline, Natural Stream	Carcinogenicity: Possible human carcinogen Mutagenicity: In vivo tests showed mutagenic effects Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/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

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: 3 - 10 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.
Gasoline, Natural Stream	LL50: 8.2 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow) semi-static test
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)
Isoalkanes C7-8		EL50: 4.6 - 10 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202 Information given is based on data obtained from similar substances.
Gasoline, Natural Stream		EL50: 4.5 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
Gasoline, Natural Stream		EL50: 3.1 mg/l Exposure time: 96 h Species: Pseudokirchneriella subcapitata (green algae) static test 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	:	EL10: 0.38 mg/l Exposure time: 60 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)

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.

Gasoline, Natural Stream : NOEL: 2.6 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
semi-static test
Method: OECD Test Guideline 211

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

Gasoline, Natural Stream : 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 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 c.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, GASOLINE, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), ISOPENTANE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
33,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)

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards	:	Flammable (gases, aerosols, liquids, or solids) Germ cell mutagenicity Carcinogenicity Specific target organ toxicity (single or repeated exposure) Aspiration hazard Serious eye damage or eye irritation Reproductive toxicity Skin corrosion or irritation
CERCLA Reportable Quantity	:	1333 lbs 2,2,4-Trimethylpentane (Isooctane) 5000 lbs Toluene 10000 lbs 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 112 (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

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
: Isopentane - 78-78-4
Toluene - 108-88-3
Ethanol - 64-17-5

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
Lead	7439-92-1

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.

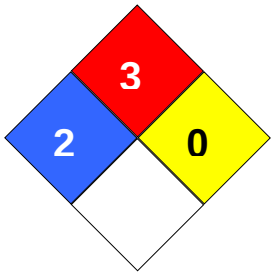
Toluene	108-88-3
Benzene	71-43-2
Lead	7439-92-1

Notification status

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	On the inventory, or in compliance with the inventory
Other AIIC	:	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	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).
Philippines PICCS	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or 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 Substances in China	TWA	Time Weighted Average
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%	ATE	Acute toxicity estimate