



## Octane Test Fuel

Version 4.2

Revision Date 2022-10-24

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product information

Product Name : Octane Test Fuel  
 Material : 1090805, 1090414, 1090415, 1090416, 1090417, 1090418,  
 1090413, 1090804, 1090409, 1090803, 1090802, 1090410,  
 1090408, 1092845, 1090806, 1090412, 1090411, 1094320,  
 1020481, 1020482, 1020483, 1020484, 1029180, 1020480

Use : Fuel

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)

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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 1  
 Skin irritation, Category 2  
 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 : H224: Extremely flammable liquid and vapor.  
 H304: May be fatal if swallowed and enters airways.  
 H315: Causes skin irritation.  
 H336: May cause drowsiness or dizziness.  
 H340: May cause genetic defects.  
 H350: May cause cancer.  
 H361: Suspected of damaging fertility or the unborn child.  
 H373: May cause damage to organs (Auditory organs, color

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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.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P331 Do NOT induce vomiting.  
 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

Naphtha, Petroleum, Heavy 64741-54-4

Catalytic Cracked

Naphtha (petroleum), light 64741-63-5

catalytic reformed

Hydrocarbons, C3-11, 68476-46-0

catalytic cracker distillates

Naphtha (petroleum), light 64741-66-8

alkylate

Ethylbenzene 100-41-4

Naphthalene 91-20-3

Isoprene 78-79-5

Cumene 98-82-8

**NTP**

Known to be human carcinogen

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Benzene	71-43-2
Reasonably anticipated to be a human carcinogen	
Naphthalene	91-20-3
Isoprene	78-79-5
Cumene	98-82-8

**SECTION 3: Composition/information on ingredients**

Synonyms : Octane Test Fuel UP-14S  
 Octane Test Fuel UR-13S  
 Octane Test Fuel Euro 2000  
 Reference Fuel  
 Delphi 87-A  
 Euro III Test Gasoline  
 Euro IV Test Gasoline  
 Euro V Test Fuel  
 Japan Gas- Premium  
 Octane Test Fuel (Ron 85)  
 Octane Test Fuel UP-14W  
 Octane Test Fuel UR-13W  
 Delphi 53B  
 China Knock Fuel  
 GMPT-2-008-B  
 GMPT-2005-B  
 GMPT-6-010-A  
 Gasoline Euro IV

Molecular formula : Mixture

Component	CAS-No.	Weight %
Hydrocarbons, C3-11, catalytic cracker distillates	68476-46-0	0 - 100
Naphtha (petroleum), light catalytic reformed	64741-63-5	0 - 100
2,2,4-Trimethylpentane (Isooctane)	540-84-1	0 - 70
Naphtha (petroleum), light alkylate	64741-66-8	0 - 50
Isopentane	78-78-4	0 - 30
C9-C11 Isoalkanes	68551-16-6	0 - 20
Isoalkanes C7-8	70024-92-9	0 - 20
Heptane, branched, cyclic and linear	426260-76-6	0 - 20
Toluene	108-88-3	0 - 50
n-Heptane	142-82-5	0 - 20
n-Butane	106-97-8	0 - 10
1-Hexene	592-41-6	0 - 10
Cyclopentane	287-92-3	0 - 10
2,2-Dimethylbutane	75-83-2	0 - 5
Cyclohexane	110-82-7	0 - 5
3,3-Dimethylpentane	562-49-2	0 - 35
2,3-Dimethylpentane	565-59-3	0 - 5
n-hexane	110-54-3	0 - 10
Xylenes	1330-20-7	0 - 21
Ethylbenzene	100-41-4	0 - 7
2,4-Dimethylpentane	108-08-7	0 - 5
1,2,4-Trimethylbenzene	95-63-6	0 - 10
2,3,4-Trimethylpentane	565-75-3	0 - 5
Isoprene	78-79-5	0 - 5

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Hydrogen Sulfide	7783-06-4	0 - 1
Benzene	71-43-2	0 - 5
Naphthalene	91-20-3	0 - 5
n-Pentane	109-66-0	0 - 5
Methylcyclohexane	108-87-2	0 - 5
Cumene	98-82-8	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 : Flush eyes with water as a precaution. 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: Tag closed cup
- Autoignition temperature : No data available
- Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). 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 : Do not spray on a naked flame or any incandescent material.

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protection : 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 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.

Use : Fuel

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

Components	Basis	Value	Control parameters	Note
C9-C11 Isoalkanes	Manufacturer	TWA	1,200 mg/m3	RCP,
Isoalkanes C7-8	Manufacturer	TWA	300 ppm,	

RCP Reciprocal Calculation Procedure

**US**

Components	Basis	Value	Control parameters	Note
Naphtha, Petroleum, Heavy Catalytic Cracked	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
Naphtha (petroleum), light catalytic reformed	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
Hydrocarbons, C3-11, catalytic cracker distillates	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
2,2,4-Trimethylpentane (Isooctane)	ACGIH	TWA	300 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	
Naphtha (petroleum), light alkylate	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
3,3-Dimethylpentane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
Xylenes	OSHA Z-1	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	STEL	150 ppm, 655 mg/m3	
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	ACGIH	TWA	100 ppm,	A4,
	ACGIH	STEL	150 ppm,	A4,
Isopentane	ACGIH	TWA	1,000 ppm,	
Heptane, branched, cyclic and linear	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
n-hexane	ACGIH	TWA	50 ppm,	Skin,
	OSHA Z-1	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	TWA	50 ppm, 180 mg/m3	
1,2,4-Trimethylbenzene	ACGIH	TWA	25 ppm,	
	OSHA Z-1-A	TWA	25 ppm, 125 mg/m3	
n-Heptane	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	OSHA Z-1-A	STEL	500 ppm, 2,000 mg/m3	
	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
Ethylbenzene	OSHA Z-1	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	STEL	125 ppm, 545 mg/m3	
	ACGIH	TWA	20 ppm,	A3,
n-Butane	OSHA Z-1-A	TWA	800 ppm, 1,900 mg/m3	
	ACGIH	STEL	1,000 ppm,	CNS impair, EX,
1-Hexene	ACGIH	TWA	50 ppm,	
Cyclopentane	ACGIH	TWA	600 ppm,	
	OSHA Z-1-A	TWA	600 ppm, 1,720 mg/m3	
2-Methylpentane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 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,	
Naphthalene	ACGIH	TWA	10 ppm,	A3, Skin,

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	ACGIH	STEL	15 ppm,	hematologic eff, URT irr, eye irr, eye dam, (), A4, Skin,
	OSHA Z-1	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 75 mg/m3	
3-Methylpentane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
2-Methylhexane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
2,2-Dimethylbutane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
Methylcyclopentane	ACGIH	TWA	500 ppm,	CNS impair, URT irr, eye irr,
	ACGIH	STEL	1,000 ppm,	CNS impair, URT irr, eye irr,
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
3-Methylhexane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
Cyclohexane	ACGIH	TWA	100 ppm,	
	OSHA Z-1	TWA	300 ppm, 1,050 mg/m3	
	OSHA Z-1-A	TWA	300 ppm, 1,050 mg/m3	
2,3-Dimethylbutane	ACGIH	TWA	500 ppm,	
	ACGIH	STEL	1,000 ppm,	
	OSHA Z-1-A	TWA	500 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	1,000 ppm, 3,600 mg/m3	
2,3-Dimethylpentane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
2,4-Dimethylpentane	ACGIH	TWA	400 ppm,	
	ACGIH	STEL	500 ppm,	
n-Pentane	OSHA Z-1	TWA	1,000 ppm, 2,950 mg/m3	
	OSHA Z-1-A	TWA	600 ppm, 1,800 mg/m3	
	OSHA Z-1-A	STEL	750 ppm, 2,250 mg/m3	
	ACGIH	TWA	1,000 ppm,	
Methylcyclohexane	ACGIH	TWA	400 ppm,	
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
2,3,4-Trimethylpentane	ACGIH	TWA	300 ppm,	
Isoprene	US WEEL	TWA	2 ppm,	
Hydrogen Sulfide	ACGIH	TWA	1 ppm,	
	ACGIH	STEL	5 ppm,	
	OSHA Z-2	CEIL	20 ppm,	
	OSHA Z-2	Peak	50 ppm,	
	OSHA Z-1-A	TWA	10 ppm, 14 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 21 mg/m3	
Cumene	ACGIH	TWA	50 ppm,	
	OSHA Z-1	TWA	50 ppm, 245 mg/m3	X,
	OSHA Z-1-A	TWA	50 ppm, 245 mg/m3	X,

( ) Adopted values or notations enclosed are those for which changes are proposed in the NIC

A1 Confirmed human carcinogen

A3 Confirmed animal carcinogen with unknown relevance to humans

A4 Not classifiable as a human carcinogen

CNS impair Central Nervous System impairment

EX Explosion hazard: the substance is a flammable asphyxiant or excursions above the TLV © could approach 10% of the lower explosive limit.

eye dam Eye damage

eye irr Eye irritation

hematologic eff Hematologic effects

Skin Danger of cutaneous absorption

URT irr Upper Respiratory Tract irritation

X Skin notation

Hazardous components without workplace control parameters

**Immediately Dangerous to Life or Health Concentrations (IDLH)**

Substance name	CAS-No.	Control parameters	Update
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Toluene	108-88-3	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
Xylenes	1330-20-7	Immediately Dangerous to Life or Health Concentration Value 900 parts per million	2017-09-01
n-hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 parts per million	1995-03-01
n-Heptane	142-82-5	Immediately Dangerous to Life or Health Concentration Value 750 parts per million	1995-03-01
Ethylbenzene	100-41-4	Immediately Dangerous to Life or Health Concentration Value 800 parts per million	1995-03-01
n-Butane	106-97-8	Immediately Dangerous to Life or Health Concentration Value 1600 parts per million	2017-02-03
Benzene	71-43-2	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
Naphthalene	91-20-3	Immediately Dangerous to Life or Health Concentration Value 250 parts per million	1995-03-01
Cyclohexane	110-82-7	Immediately Dangerous to Life or Health Concentration Value 1300 parts per million	1995-03-01
n-Pentane	109-66-0	Immediately Dangerous to Life or Health Concentration Value 1500 parts per million	1995-03-01
Methylcyclohexane	108-87-2	Immediately Dangerous to Life or Health Concentration Value 1200 parts per million	1995-03-01
Hydrogen Sulfide	7783-06-4	Immediately Dangerous to Life or Health Concentration Value 100 parts per million	1995-03-01
Cumene	98-82-8	Immediately Dangerous to Life or Health Concentration Value 900 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
Naphtha	8030-30-6	Immediately Dangerous to Life or Health Concentration Value 1000 parts per million	1995-03-01
n-Heptane	142-82-5	Immediately Dangerous to Life or Health Concentration Value 750 parts per million	1995-03-01
Naphthalene	91-20-3	Immediately Dangerous to Life or Health Concentration Value 250 parts per million	1995-03-01
n-Butane	106-97-8	Immediately Dangerous to Life or Health Concentration Value 1600 parts per million	2017-02-03
n-Pentane	109-66-0	Immediately Dangerous to Life or Health Concentration Value 1500 parts per million	1995-03-01
m-xylene	108-38-3	Immediately Dangerous to Life or Health Concentration Value 900 parts per million	2017-09-01
p-xylene	106-42-3	Immediately Dangerous to Life or Health Concentration Value 900 parts per million	2017-09-01
Xylenes	1330-20-7	Immediately Dangerous to Life or Health Concentration Value 900 parts per million	2017-09-01
Benzene	71-43-2	Immediately Dangerous to Life or Health Concentration Value 500 parts per million	1995-03-01
n-hexane	110-54-3	Immediately Dangerous to Life or Health Concentration Value 1100 parts per million	1995-03-01

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Ethylbenzene	100-41-4	Immediately Dangerous to Life or Health Concentration Value 800 parts per million	1995-03-01
Hydrogen Sulfide	7783-06-4	Immediately Dangerous to Life or Health Concentration Value 100 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
Xylenes	1330-20-7	Methylhippuric acids: 1.5 g/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2013-03-01
n-hexane	110-54-3	2,5-Hexanedione: 0.5 mg/l Without hydrolysis (Urine)	End of shift	2020-02-01
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid: 0.15 g/g creatinine Nonspecific (Urine)	End of shift (As soon as possible after exposure ceases)	2016-03-01
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
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
m-xylene	108-38-3	Methylhippuric acids: 1.5 g/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2013-03-01
p-xylene	106-42-3	Methylhippuric acids: 1.5 g/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2013-03-01
Xylenes	1330-20-7	Methylhippuric acids: 1.5 g/g creatinine (Urine)	End of shift (As soon as possible after exposure ceases)	2013-03-01
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
n-hexane	110-54-3	2,5-Hexanedione: 0.5 mg/l Without hydrolysis (Urine)	End of shift	2020-02-01

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Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid: 0.15 g/g creatinine Nonspecific (Urine)	End of shift (As soon as possible after exposure ceases)	2016-03-01
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**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 : 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 : Clear to amber  
Odor : Mild

**Safety data**

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Flash point	: -37°C (-35°F) Method: Tag closed cup
Lower explosion limit	: 1.5 %(V)
Upper explosion limit	: 7.6 %(V)
Oxidizing properties	: No
Autoignition temperature	: No data available
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 24-225°C (75-437°F)
Vapor pressure	: 6.00 - 15.00 PSI at 38°C (100°F)
Relative density	: 0.8 at 15.6 °C (60.1 °F)
Density	: 0.7 g/cm3
Water solubility	: Insoluble in water; miscible with most organic solvents.
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: < 1.138 cSt at 38°C (100°F)
Relative vapor density	: No data available
Evaporation rate	: 2.8
Percent volatile	: > 99 %

**SECTION 10: Stability and reactivity**

<b>Reactivity</b>	: Stable under recommended storage conditions.
<b>Chemical stability</b>	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions</b>	

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<b>Hazardous reactions</b>	: Hazardous reactions: Hazardous polymerization does not occur.  Hazardous reactions: Vapors may form explosive mixture with air.
<b>Conditions to avoid</b>	: Heat, flames and sparks.
<b>Materials to avoid</b>	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
<b>Hazardous decomposition products</b>	: Carbon Dioxide Carbon oxides
<b>Other data</b>	: No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

<b>Octane Test Fuel Acute oral toxicity</b>	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
<b>Octane Test Fuel Acute inhalation toxicity</b>	: Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
<b>Octane Test Fuel Acute dermal toxicity</b>	: Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
<b>Octane Test Fuel Skin irritation</b>	: Skin irritation largely based on animal evidence.
<b>Octane Test Fuel Eye irritation</b>	: Vapors may cause irritation to the eyes, respiratory system and the skin.
<b>Octane Test Fuel Sensitization</b>	: Did not cause sensitization on laboratory animals. Estimated based on individual component values.
<b>Octane Test Fuel Repeated dose toxicity</b>	: Target Organs: Auditory organs, Nervous system, Eyes, Blood Estimated based on individual component values.
<b>Genotoxicity in vitro</b>	
Hydrocarbons, C3-11, catalytic cracker distillates	: Result: May cause genetic defects. Remarks: In vitro tests showed mutagenic effects

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Naphtha (petroleum), light catalytic reformed

Test Type: Ames test  
Result: negative

Test Type: Cytogenetic assay  
Result: negative

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

Naphtha (petroleum), light alkylate

Test Type: Mouse lymphoma assay  
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.

Test Type: Sister chromatid exchange  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 479  
Result: negative  
Remarks: Information given is based on data obtained from similar substances.

Test Type: Ames test  
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.

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

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	<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> <p>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.</p>
C9-C11 Isoalkanes	<p>Test Type: E. Coli bacterial reverse mutation assay  Result: negative  Remarks: Information given is based on data obtained from similar substances.</p> <p>Test Type: Ames test  Metabolic activation: with and without metabolic activation  Result: negative  Remarks: Information given is based on data obtained from similar substances.</p> <p>Test Type: Bacterial DNA repair test  Result: negative  Remarks: Information given is based on data obtained from similar substances.</p>
Isoalkanes C7-8	<p>Test Type: Ames test  Result: negative</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>
n-Heptane	<p>Test Type: Ames test  Method: Mutagenicity (Escherichia coli - reverse mutation assay)  Result: negative</p>

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	<p>Test Type: Mammalian cell gene mutation assay Method: OECD Guideline 476 Result: negative</p> <p>Test Type: Chromosome aberration test in vitro Method: OECD Guideline 473 Result: negative</p> <p>Test Type: Mitotic recombination Result: negative</p>
n-Butane	<p>Test Type: Ames test Result: negative</p>
1-Hexene	<p>Test Type: Ames test Metabolic activation: with and without metabolic activation Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative</p> <p>Test Type: Unscheduled DNA synthesis assay Result: negative</p> <p>Test Type: Mouse lymphoma assay Result: negative</p> <p>Test Type: Chromosome aberration test in vitro Method: OECD Guideline 473 Result: negative</p>
Cyclopentane	<p>Test Type: Modified Ames test Concentration: 1250 microgram/plate Metabolic activation: with and without metabolic activation Result: negative</p> <p>Test Type: Mouse lymphoma assay Concentration: 200 microgram/mililiter Metabolic activation: with and without metabolic activation Result: negative</p>
2,2-Dimethylbutane	<p>Test Type: Ames test Result: negative</p>
Cyclohexane	<p>Test Type: Ames test Metabolic activation: with and without metabolic activation Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative</p> <p>Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative</p> <p>Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Method: OECD Guideline 476 Result: negative</p>
n-hexane	<p>Test Type: Ames test Metabolic activation: with and without metabolic activation</p>



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	Method: OECD Test Guideline 471 Result: negative
	Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative
	Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: Positive results were obtained in some in vitro tests.
Xylenes	Test Type: Ames test Result: negative
	Test Type: Mouse lymphoma assay Result: negative
Ethylbenzene	Test Type: Ames test Result: negative
	Test Type: Unscheduled DNA synthesis assay Result: negative
Isoprene	Test Type: Ames test Result: negative
	Test Type: Sister Chromatid Exchange Assay Result: positive
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
Naphthalene	Test Type: Ames test Result: negative
	Test Type: Sister Chromatid Exchange Assay Result: negative
	Test Type: Unscheduled DNA synthesis assay Result: negative
n-Pentane	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative

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	<p>Test Type: Chromosome aberration test in vitro          Metabolic activation: with and without metabolic activation          Result: Ambiguous</p>
Cumene	<p>Test Type: Ames test          Result: negative</p> <p>Test Type: Cytogenetic assay          Result: negative</p> <p>Test Type: HGPRT assay          Result: negative</p> <p>Test Type: Unscheduled DNA synthesis assay          Result: negative</p>
<b>Genotoxicity in vivo</b>	
Hydrocarbons, C3-11, catalytic cracker distillates Naphtha (petroleum), light catalytic reformed	<p>: Result: May cause genetic defects.</p> <p>Test Type: Cytogenetic assay          Result: negative</p>
2,2,4-Trimethylpentane (Isooctane)	<p>Test Type: Unscheduled DNA synthesis assay          Species: Mouse          Dose: 500 mg/kg          Result: negative</p> <p>Test Type: Unscheduled DNA synthesis assay          Species: Rat          Dose: 500 mg/kg          Result: negative</p>
Naphtha (petroleum), light alkylate	<p>Test Type: In vivo micronucleus test          Species: Rat          Cell type: Bone marrow          Dose: 2000, 10,000, 20,000 mg/m<sup>3</sup>          Method: OECD Test Guideline 475          Result: negative          Remarks: Information given is based on data obtained from similar substances.</p>
Isopentane	<p>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/m<sup>3</sup>          Method: Directive 67/548/EEC, Annex V, B.12.          Remarks: Information given is based on data obtained from similar substances.</p>
C9-C11 Isoalkanes	<p>Test Type: Dominant lethal assay          Result: negative          Remarks: Information given is based on data obtained from similar substances.</p>

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	<p>Test Type: Mouse micronucleus assay  Result: negative  Remarks: Information given is based on data obtained from similar substances.</p>
Toluene	<p>Test Type: Cytogenetic assay  Result: negative</p> <p>Test Type: Mouse micronucleus assay  Result: negative</p>
1-Hexene	<p>Test Type: Mouse micronucleus assay  Species: Mouse  Method: Mutagenicity (micronucleus test)  Result: negative</p>
Cyclopentane	<p>Test Type: Micronucleus test  Species: Mouse  Route of Application: inhalation (vapor)  Dose: 10,000 ppm  Result: negative</p>
Cyclohexane	<p>Test Type: Cytogenetic assay  Species: Rat  Cell type: Bone marrow  Dose: 96.6, 307.2, 10141.6 ppm  Result: negative</p>
n-hexane	<p>Test Type: Dominant lethal assay  Species: Mouse  Dose: 100 and 400 ppm  Result: negative</p> <p>Test Type: Cytogenetic assay  Species: Rat  Dose: 900, 3000, 9000 ppm  Result: negative</p>
Xylenes	<p>Test Type: Mouse micronucleus assay  Result: negative</p>
Ethylbenzene	<p>Test Type: Mouse micronucleus assay  Species: Mouse  Result: negative</p>
Isoprene	<p>Result: negative</p> <p>Test Type: Micronucleus test  Result: positive</p>
Benzene	<p>Test Type: Mouse micronucleus assay  Result: positive</p>
Naphthalene	<p>Test Type: Mouse micronucleus assay  Result: negative</p>
n-Pentane	<p>Test Type: Micronucleus test  Species: Rat  Cell type: Bone marrow  Result: negative</p>

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Cumene	Test Type: Mouse micronucleus assay Result: negative
<b>Octane Test Fuel Carcinogenicity</b>	: Method: Estimated based on individual component values. Remarks: May cause cancer.
<b>Octane Test Fuel Reproductive toxicity</b>	: May damage fertility. May damage the unborn child.
<b>Octane Test Fuel Developmental Toxicity</b>	: Suspected of damaging fertility or the unborn child.
<b>Octane Test Fuel Aspiration toxicity Toxicology Assessment</b>	: May be fatal if swallowed and enters airways.
<b>Octane Test Fuel CMR effects</b>	: Carcinogenicity: 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.
<b>Octane Test Fuel Further information</b>	: 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**

<b>Toxicity to fish</b>	: Species: Fish Very toxic to fish.
<b>Toxicity to daphnia and other aquatic invertebrates</b>	: Species: Daphnia Very toxic to aquatic organisms.
<b>Toxicity to algae</b>	: Species: Selenastrum capricornutum (algae) Very toxic to aquatic organisms.
<b>M-Factor cyclohexane</b>	: M-Factor (Acute Aquat. Tox.)      1

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**M-Factor**

methylcyclohexane	M-Factor (Acute Aquat. Tox.)	1
	M-Factor (Chron. Aquat. Tox.)	1

**Toxicity to bacteria**

Methylcyclohexane : IC50: 29 mg/l  
Exposure time: 15 h  
Growth inhibition

**Toxicity to fish (Chronic toxicity)**

Hydrocarbons, C3-11, catalytic cracker distillates : NOEL: 2.6 mg/l  
Toxic effects on fish and plankton

C9-C11 Isoalkanes : NOELR: 0.132 mg/l  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: QSAR modeled data

Isoalkanes C7-8 : EL10: 0.38 mg/l  
Exposure time: 60 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: QSAR modeled data

n-Heptane : NOELR: 1.284 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: QSAR modeled data

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)** : Species: Daphnia  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Biodegradability : This material is not expected to be readily biodegradable.  
Expected to be inherently biodegradable.

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

**Mobility**

Naphtha (petroleum), light catalytic reformed : No data available  
2,2,4-Trimethylpentane (Isooctane) : Medium: Air  
Method: Calculation, Mackay Level I Fugacity Model  
After release, disperses into the air.

Naphtha (petroleum), light alkylate : This product may float or sink in water.  
After release, disperses into the air.

Isopentane : No data available

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C9-C11 Isoalkanes	: The product will be dispersed amongst the various environmental compartments (soil/ water/ air).
Isoalkanes C7-8	: Medium: Air Method: Calculation, Mackay Level III Fugacity Model Content: 100 %
Toluene	: Not expected to adsorb on soil.
n-Heptane	: Medium: Air Method: Calculation, Mackay Level I Fugacity Model Content: 100 % After release, disperses into the air.
n-Butane	: The product evaporates readily.
1-Hexene	: No data available
Cyclopentane	: No data available
Cyclohexane	: Not expected to adsorb on soil.
n-hexane	: Method: Calculation, Mackay Level III Fugacity Model The product will be dispersed amongst the various environmental compartments (soil/ water/ air).
Ethylbenzene	: Method: Calculation, Mackay Level I Fugacity Model Disperses rapidly in air.
Hydrogen Sulfide	: No data available
Benzene	: No data available
n-Pentane	: After release, disperses into the air.
Results of PBT assessment	: Non-classified PBT substance
Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Very toxic to aquatic life with long lasting effects.
<b>Ecotoxicology Assessment</b>	
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.

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- 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)**

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I, MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I, (-37 °C c.c.), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I

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

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I, (D/E), ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

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

33, UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

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

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, I, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

**Maritime transport in bulk according to IMO instruments**

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**SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
 Germ cell mutagenicity  
 Carcinogenicity  
 Reproductive toxicity  
 Specific target organ toxicity (single or repeated exposure)  
 Aspiration hazard  
 Skin corrosion or irritation

CERCLA Reportable Quantity : 200 lbs  
 Benzene

SARA 302 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.  
 Hydrogen Sulfide

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

SARA 304 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.  
 Hydrogen Sulfide 7783-06-4 100 lbs

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

: Toluene - 108-88-3  
 Xylenes - 1330-20-7  
 n-hexane - 110-54-3  
 1,2,4-Trimethylbenzene - 95-63-6  
 Ethylbenzene - 100-41-4  
 Benzene - 71-43-2  
 Naphthalene - 91-20-3  
 Cyclohexane - 110-82-7  
 Isoprene - 78-79-5  
 Cumene - 98-82-8

**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



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Xylenes - 1330-20-7  
 n-hexane - 110-54-3  
 Ethylbenzene - 100-41-4  
 Benzene - 71-43-2  
 Naphthalene - 91-20-3

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  
 n-Butane - 106-97-8  
 n-Pentane - 109-66-0  
 2-methyl-1-butene - 563-46-2  
 Isoprene - 78-79-5

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):

: Toluene - 108-88-3  
 Xylenes - 1330-20-7  
 Isopentane - 78-78-4  
 Ethylbenzene - 100-41-4  
 Benzene - 71-43-2  
 Cyclohexane - 110-82-7  
 n-Pentane - 109-66-0  
 Methylcyclohexane - 108-87-2  
 Isoprene - 78-79-5

**US State Regulations****Pennsylvania Right To Know**

: Naphtha, Petroleum, Heavy Catalytic Cracked - 64741-54-4  
 Naphtha (petroleum), light catalytic reformed - 64741-63-5  
 Hydrocarbons, C3-11, catalytic cracker distillates - 68476-46-0  
 2,2,4-Trimethylpentane (Isooctane) - 540-84-1  
 Toluene - 108-88-3  
 Naphtha (petroleum), light alkylate - 64741-66-8  
 3,3-Dimethylpentane - 562-49-2  
 Isoalkanes C7-8 - 70024-92-9  
 Xylenes - 1330-20-7  
 Isopentane - 78-78-4  
 C9-C11 Isoalkanes - 68551-16-6  
 Heptane, branched, cyclic and linear - 426260-76-6  
 n-hexane - 110-54-3  
 1,2,4-Trimethylbenzene - 95-63-6  
 n-Heptane - 142-82-5  
 Ethylbenzene - 100-41-4  
 n-Butane - 106-97-8  
 1-Hexene - 592-41-6  
 Cyclopentane - 287-92-3

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2-Methylpentane - 107-83-5  
 Benzene - 71-43-2  
 Naphthalene - 91-20-3  
 3-Methylpentane - 96-14-0  
 2-Methylhexane - 591-76-4  
 2,2-Dimethylbutane - 75-83-2  
 Methylcyclopentane - 96-37-7  
 3-Methylhexane - 589-34-4  
 2-methyl-2-butene - 513-35-9  
 Cyclohexane - 110-82-7  
 2,3-Dimethylbutane - 79-29-8  
 2,3-Dimethylpentane - 565-59-3  
 2,4-Dimethylpentane - 108-08-7  
 n-Pentane - 109-66-0  
 Methylcyclohexane - 108-87-2  
 2-methyl-1-butene - 563-46-2  
 2-Methyl-2-Pentene - 625-27-4  
 Isoprene - 78-79-5  
 Hydrogen Sulfide - 7783-06-4  
 Cumene - 98-82-8

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](http://www.P65Warnings.ca.gov/food).

Ethylbenzene	100-41-4
Benzene	71-43-2
Naphthalene	91-20-3
Isoprene	78-79-5
Cumene	98-82-8

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](http://www.P65Warnings.ca.gov).

Toluene	108-88-3
n-hexane	110-54-3
Benzene	71-43-2

**Notification status**

Europe REACH	: Not in compliance with the inventory
Switzerland CH INV	: Not 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	: This product contains one or several components listed in the Canadian NDSL.
Other AIIIC	: Not in compliance with the inventory
New Zealand NZIoC	: Not in compliance with the inventory
Japan ENCS	: Not in compliance with the inventory
Korea KECI	: Not in compliance with the inventory
Philippines PICCS	: Not in compliance with the inventory
Taiwan TCSI	: Not in compliance with the inventory
China IECSC	: Not in compliance with the inventory

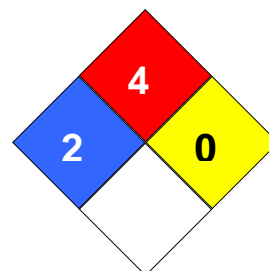
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**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 2  
Fire Hazard: 4  
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 659960

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

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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%		