

**JP-4 Fuel (MIL-T-5624)**

Version 1.6

Revision Date 2026-07-27

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

Product Name : JP-4 Fuel (MIL-T-5624)
Material : 1024269, 1028366, 1024270
Use : Fuel
Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
9500 Lakeside Blvd.
The Woodlands, TX 77381

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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02

66101029; POISON CENTER ROME – Policlinico "Agostino Gemelli", Servizio di tossicologia

clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù

Tel. +39 06 68593726; POISON CENTER ROME – Policlinico "Umberto I" Tel. +39 06 4997 8000;

POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326;

POISON CENTER NAPLES – Azienda Ospedaliera "Antonio Cardarelli" Tel. +39 081 7472870;

POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055

7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382

24444; POISON CENTER BERGAMO – Azienda Ospedaliera "Papa Giovanni XXIII" Tel. 800 883

300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;

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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

Organization that prepared the SDS : 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 1B
 Reproductive toxicity, Category 2
 Specific target organ toxicity - single exposure, Category 3, Central nervous system
 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.

Precautionary Statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been

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read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P261 Avoid breathing mist or vapors.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P280 Wear protective gloves, protective clothing, eye protection and 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.

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.

P362 + P364 Take off contaminated clothing and wash it 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.

P405 Store locked up.

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), light catalytic reformed 64741-63-5

Naphthalene 91-20-3

Ethylbenzene 100-41-4

NTP

Known to be human carcinogen

Benzene 71-43-2

Reasonably anticipated to be a human carcinogen

Naphthalene 91-20-3

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SECTION 3: Composition/information on ingredients

Synonyms : JP-4 AVIATION TURBINE FUEL
Petroleum Naphtha
JP-4 (MIL-T-5624)

Molecular formula : Mixture

Component	CAS-No.	Weight %
Distillates (petroleum), Hydrotreated light	64742-47-8	0 - 70
Kerosene C9-C16	8008-20-6	0 - 70
Kerosine, petroleum, hydrodesulfurized	64742-81-0	0 - 70
Naphtha (petroleum), light catalytic reformed	64741-63-5	0 - 15
Isopentane	78-78-4	5 - 15
Isoalkanes C7-8	70024-92-9	5 - 15
Toluene	108-88-3	0 - 5
Xylenes	1330-20-7	0 - 5
Naphthalene	91-20-3	0 - 5
Ethylbenzene	100-41-4	0 - 5
Benzene	71-43-2	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.

Notes to physician

Risks : May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child.
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Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

- Flash point : -23°C (-9°F) estimated
- 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).

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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

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
Distillates (petroleum), Hydrotreated light	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	(b),
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
	ACGIH	TWA	200 mg/m3	A3, Skin,
	OSHA Z-1	TWA	5 mg/m3	Mist
	OSHA Z-1-A	TWA	5 mg/m3	Mist
	OSHA Z-1	TWA	5 mg/m3	Mist
	OSHA Z-1-A	TWA	5 mg/m3	Mist
	NIOSH REL	TWA	5 mg/m3	Mist
	NIOSH REL	ST	10 mg/m3	Mist
	CAL PEL	PEL	5 mg/m3	particulate
Kerosene C9-C16	ACGIH	TWA	200 mg/m3	A3, Skin,
	OSHA Z-1	TWA	500 ppm, 2,000 mg/m3	
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m3	
Kerosine, petroleum, hydrodesulfurized	ACGIH	TWA	200 mg/m3	A3, Skin,
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	
Isopentane	ACGIH	TWA	1,000 ppm,	
2,2,4-Trimethylpentane (Isooctane)	ACGIH	TWA	300 ppm,	
Toluene	ACGIH	TWA	20 ppm,	OTO, A4,
	OSHA Z-2	TWA	200 ppm,	
	OSHA Z-2	CEIL	300 ppm,	
	OSHA Z-2	Peak	500 ppm,	

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	OSHA Z-1-A	TWA	100 ppm, 375 mg/m3	
	OSHA Z-1-A	STEL	150 ppm, 560 mg/m3	
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	20 ppm,	OTO, A4,
	ACGIH	STEL	150 ppm,	A4,
Naphthalene	ACGIH	TWA	10 ppm,	A3, Skin,
	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	
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,	OTO, A3,
Benzene	ACGIH	TWA	0.02 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,	

- () Adopted values or notations enclosed are those for which changes are proposed in the NIC
 (b) The value in mg/m3 is approximate.
 A1 Confirmed human carcinogen
 A3 Confirmed animal carcinogen with unknown relevance to humans
 A4 Not classifiable as a human carcinogen
 eye dam Eye damage
 eye irr Eye irritation
 hematologic eff Hematologic effects
 OTO Ototoxicant
 Skin Danger of cutaneous absorption
 URT irr Upper Respiratory Tract irritation

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Distillates (petroleum), Hydrotreated light	64742-47-8	Immediately Dangerous to Life or Health Concentration Value 2500 mg/m ³ Immediately Dangerous to Life or Health Concentration Value 2500 mg/m ³	2017-09-01 2020-07-01
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
Naphthalene	91-20-3	Immediately Dangerous to Life or Health Concentration Value 250 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
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

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		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: 0.3 g/g creatinine 2024 Adoption (Urine) Commercial or technical grade xylenes consist of mixtures of isomers and significant amounts of ethyl benzene as indicated under 'Properties.' Because ethyl benzene is known to reduce the metabolism of xylenes to methylhippuric acids, the BEI applies to technical or commercial grades of xylenes only. () The determinants refer to the total of all isomers of methylhippuric acids. () Adopted values or notations enclosed are those for which changes are proposed in the NIC ()	End of shift (As soon as possible after exposure ceases)	2024-01-01
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid: 150 mg/g creatinine 2024 Adoption (Urine) Nonspecific ()	End of shift (As soon as possible after exposure ceases)	2024-01-01
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 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

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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.
- Protective measures : Wear full protective clothing and self-contained breathing apparatus.

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

- Flash point : -23°C (-9°F)
estimated
- Lower explosion limit : 1.3 %(V)
- Upper explosion limit : 8 %(V)
- Oxidizing properties : No
- Autoignition temperature : No data available
- Thermal decomposition : No data available
- Molecular formula : Mixture
- Molecular weight : No data available
- pH : No data available
- Pour point : No data available
- Boiling point/boiling range : 22°C (72°F)
- Vapor pressure : 2.00 - 3.00 PSI
at 37.8°C (100.0°F)

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Relative density	: 0.751 at 15.6 °C (60.1 °F)
Water solubility	: negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: No data available
Evaporation rate	: No data available
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.
Thermal decomposition	: No data available
Hazardous decomposition products	: Carbon oxides
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

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

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JP-4 Fuel (MIL-T-5624)**Acute inhalation toxicity**

: Acute toxicity estimate: > 40 mg/l
 Exposure time: 4 h
 Test atmosphere: vapor
 Method: Calculation method

Acute toxicity estimate: 8.08 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

JP-4 Fuel (MIL-T-5624)**Acute dermal toxicity**

: Acute toxicity estimate: > 5,000 mg/kg
 Method: Calculation method

Acute toxicity estimate: > 5,000 mg/kg
 Method: Calculation method

JP-4 Fuel (MIL-T-5624)**Skin irritation**

: Skin irritation
 largely based on animal evidence.
 May cause skin irritation in susceptible persons.

JP-4 Fuel (MIL-T-5624)**Eye irritation**

: No eye irritation
 largely based on animal evidence.
 Vapors may cause irritation to the eyes, respiratory system
 and the skin.

JP-4 Fuel (MIL-T-5624)**Sensitization**

: Not a skin sensitizer.
 largely based on animal evidence.

Repeated dose toxicity

Distillates (petroleum),
 Hydrotreated light

: Species: Rat, male
 Sex: male
 Application Route: inhalation (vapor)
 Dose: 0 , 500, 1000 mg/m3
 Exposure time: 13 wks
 Number of exposures: 24 h/d
 Lowest observable effect level: 500 mg/m3
 Method: OECD Guideline 413
 Target Organs: Kidney

Species: Rat, female
 Sex: female
 Application Route: inhalation (vapor)
 Dose: 0 , 500, 1000 mg/m3
 Exposure time: 13 wks
 Number of exposures: 24 h/d
 NOEL: > 1000 mg/m3
 Method: OECD Guideline 413
 No adverse effect has been observed in chronic toxicity tests.

Kerosene C9-C16

Species: Rabbit

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Naphtha (petroleum), light catalytic reformed

Application Route: Dermal
Dose: 0, 200, 1000, 2000 mg/kg
Exposure time: 28 day
Number of exposures: 3 times/wk
Lowest observable effect level: 1,000 mg/kg

Species: Rat
Application Route: Inhalation
Dose: 0, 2.00, 5.85, 20.3 mg/l
Exposure time: 21 day
Number of exposures: 6 h/d, 5 d/wk
NOEL: 20.3 mg/l

Species: Rabbit
Application Route: Dermal
Dose: 0, 200, 1000, 2000 mg/l
Exposure time: 28 day
Number of exposures: 3 times/wk
Lowest observable effect level: 1000 mg/l

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.

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.

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

Xylenes

Species: Rat

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	Application Route: oral gavage Dose: 0, 62.5, 125, 250, 500, 1000... Exposure time: 13 wk Number of exposures: daily, 5 d/wk NOEL: 1,000 mg/kg
	Species: Rat Application Route: Inhalation Dose: 0, 180, 460, 810 ppm Exposure time: 13 wk Number of exposures: 6 h/d, 5 d/wk NOEL: > 810 ppm
	Species: Rat Application Route: Inhalation Dose: 0, 450, 900, 1800 ppm Exposure time: 13 wk Number of exposures: 6 h/d, 6 d/wk Lowest observable effect level: 900 ppm
Ethylbenzene	Species: Rat, male Sex: male Application Route: Inhalation Dose: 200, 400, 600, 800 ppm Exposure time: 13 weeks Number of exposures: 6 hours/day, 6 days/week NOEL: 200 ppm Test substance: yes Target Organs: Ototoxicity
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

Kerosene C9-C16 : Test Type: Ames test
Result: negative

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	Test Type: Mouse lymphoma assay Result: positive
Naphtha (petroleum), light catalytic reformed	Test Type: Ames test Result: negative
	Test Type: Cytogenetic 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.
Isoalkanes C7-8	Test Type: Ames test Result: negative
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
Xylenes	Test Type: Ames test Result: negative
	Test Type: Mouse lymphoma assay Result: negative
Naphthalene	Test Type: Ames test Result: negative

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Ethylbenzene

Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Unscheduled DNA synthesis assay
Result: negative

Test Type: Ames test
Result: negative

Benzene

Test Type: Unscheduled DNA synthesis assay
Result: negative

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

Kerosene C9-C16 : Test Type: Cytogenetic assay
Result: negative

Naphtha (petroleum), light catalytic reformed : Test Type: Cytogenetic assay
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

Xylenes

Test Type: Mouse micronucleus assay
Result: negative

Naphthalene

Test Type: Mouse micronucleus assay
Result: negative

Ethylbenzene

Test Type: Mouse micronucleus assay
Species: Mouse
Result: negative

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Benzene

Test Type: Mouse micronucleus assay
Result: positive

Carcinogenicity

Kerosene C9-C16

: Species: Mouse
Dose: 0, 28.5, 50, 100%
Exposure time: 104 wks
Number of exposures: 2, 4, or 7 times/wk

Toluene

Species: Rat
Dose: 0, 600, 1200 ppm
Exposure time: 2 yrs
Number of exposures: 6.5 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Species: Mouse
Dose: 0, 600, 1200 ppm
Exposure time: 2 yrs
Number of exposures: 6.5 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Xylenes

Species: Rat
Dose: 0, 250, 500 mg/kg
Exposure time: 103 wks
Number of exposures: 5 d/wk
Remarks: No evidence of carcinogenicity

Species: Mouse
Dose: 0, 500, 1000 mg/kg
Exposure time: 103 wks
Number of exposures: 5 d/wk
Remarks: No evidence of carcinogenicity

Naphthalene

Species: Mouse
Sex: male
Dose: 10, 30 ppm
Exposure time: 105 weeks
Number of exposures: 6 hours/day, 5 days/week
Test substance: yes
Print Date: No information available.
Remarks: No evidence of carcinogenicity

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Benzene

Species: Mouse
Sex: female
Dose: 10, 30 ppm
Exposure time: 105 weeks
Number of exposures: 6 hours/day, 5 days/week
Test substance: yes
Print Date: No information available.
Remarks: increased incidence of alveolar/bronchiolar adenomas

Species: Rat
Sex: male and female
Dose: 10, 30, 60 ppm
Exposure time: 105 weeks
Number of exposures: 6 hours/day, 5 days/week
Test substance: yes
Print Date: No information available.
Remarks: nose respiratory epithelial adenoma, increased incidence of olfactory neuroblastomas

Species: Rat
Sex: female
Dose: 0, 25, 50, 250 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Rat
Sex: male
Dose: 0, 50, 100, 200 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Mouse
Sex: male and female
Dose: 25, 50, 100 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: Clear evidence of multiple organ carcinogenicity.

Reproductive toxicity**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
NOEL Parent: 7000 ppm
NOEL F1: 2000 ppm
NOEL F2: 2000 ppm
Information given is based on data obtained from similar substances.

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Isoalkanes C7-8

Reduced fetal weight.

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.

Toluene

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

Developmental Toxicity

Distillates (petroleum),
 Hydrotreated light

: Species: Rat
 Application Route: Inhalation
 Dose: 0, 106, 364 mg/l
 Exposure time: 6h/d
 Test period: GD 6 - 20
 NOAEL Teratogenicity: >= 364 mg/l
 NOAEL Maternal: >= 364 mg/l

Species: Rat
 Application Route: oral gavage
 Dose: 500, 1000, 1500, 2000 mg/kg/d
 Exposure time: 10 d
 Test period: GD 6 - 15
 Method: OECD Guideline 414
 NOAEL Teratogenicity: 1,000 mg/kg
 NOAEL Maternal: 500 mg/kg

Kerosene C9-C16

Species: Rat
 Application Route: Inhalation
 Dose: 0, 106, 364 ppm
 Exposure time: 6 hrs/d
 Test period: GD 6-15
 NOAEL Teratogenicity: 364 ppm
 NOAEL Maternal: 364 ppm

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.

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	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.
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.
Toluene	Species: Rat Application Route: Inhalation Dose: 0, 100, 500, 2000 ppm Test period: 95 d NOAEL Teratogenicity: 400-750 ppm
Xylenes	Species: Rat Application Route: Inhalation Dose: 0, 805, 1610 ppm Number of exposures: 6 h/d Test period: GD 7-16 NOAEL Maternal: 1610 ppm Species: Mouse Application Route: oral gavage Dose: 0, 780, 1960, 2619 mg/kg Number of exposures: 3 times/d Test period: GD 6-15 NOAEL Teratogenicity: 780 mg/kg NOAEL Maternal: 780 mg/kg
Naphthalene	Species: Rabbit Application Route: oral gavage Dose: 40, 200, 400 mg/kg Test period: 29 d, GD 6-18 NOAEL Teratogenicity: 400 mg/kg

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JP-4 Fuel (MIL-T-5624)**Aspiration toxicity** : May be fatal if swallowed and enters airways.**CMR effects**

Naphtha (petroleum), light catalytic reformed : 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.

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.

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.

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.

Xylenes Carcinogenicity: Not classifiable as a human carcinogen.
 Mutagenicity: Did not show mutagenic effects in animal experiments.
 Teratogenicity: Damage to fetus not classifiable

Naphthalene Carcinogenicity: Limited evidence of carcinogenicity in animal studies

Ethylbenzene Carcinogenicity: Weight of evidence does not support classification as a carcinogen
 Mutagenicity: In vivo tests did not show mutagenic effects
 Teratogenicity: Did not show teratogenic effects in animal experiments.
 Reproductive toxicity: No toxicity to reproduction

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.

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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**Toxicity to fish**

Distillates (petroleum),
Hydrotreated light

: NOEC: 2 mg/l
Exposure time: 96 h
Species: *Salmo gairdneri* (Rainbow trout)
Method: OECD Test Guideline 203

Kerosene C9-C16

LL50: 2 - 5 mg/l
Exposure time: 96 h
Species: *Oncorhynchus mykiss* (rainbow trout)
Method: OECD Test Guideline 203

Naphtha (petroleum), light
catalytic reformed

LL50: 8.2 mg/l
Exposure time: 96 h
Species: *Pimephales promelas* (fathead minnow)
semi-static test

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.

LL50: 34.3 mg/l
Exposure time: 96 h
Species: *Oncorhynchus mykiss* (rainbow trout)
Method: QSAR modeled data
The value is given based on a SAR/AAR approach using
OECD Toolbox, DEREK, VEGA QSAR models (CAESAR
models), etc.

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.

Toluene

LC50: 18 - 36 mg/l
Exposure time: 96 h
Species: *Pimephales promelas* (fathead minnow)

Xylenes

LC50: 8.2 mg/l
Exposure time: 96 h
Species: *Salmo gairdneri* (Rainbow trout)

Naphthalene

LC50: 3.2 mg/l
Exposure time: 96 h
Species: *Pimephales promelas* (fathead minnow)

Ethylbenzene

LC50: 4.3 mg/l
Exposure time: 96 h
Species: *Marone saxatilis* (striped bass)

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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

Distillates (petroleum),
 Hydrotreated light : EL50: 1.4 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

Kerosene C9-C16
 EL50: 1.4 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Method: OECD Test Guideline 202

Isopentane
 EC50: 2.3 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

EL50: 59.9 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Method: QSAR modeled data
 The value is given based on a SAR/AAR approach using
 OECD Toolbox, DEREK, VEGA QSAR models (CAESAR
 models), etc.

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.

Toluene
 EC50: 3.78 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)

Naphthalene
 LC50: 2.16 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)

Ethylbenzene
 LC50: 2.6 mg/l
 Exposure time: 96 h
 Species: Mysidopsis bahia (mysid shrimp)
 EC50: 2.2 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Method: OECD Test Guideline 202

Benzene
 EC50: 10 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)

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static test Test substance: yes
Method: OECD Test Guideline 202

Toxicity to algae

Distillates (petroleum),
Hydrotreated light : EL50: 1 - 3 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

Kerosene C9-C16 EL50: 1 - 3 mg/l
Exposure time: 72 h
Species: Raphidocellus subcapitata (algae)
Method: OECD Test Guideline 201

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.

EL50: 25.3 mg/l
Exposure time: 72 h
Species: Raphidocellus subcapitata (algae)
Method: QSAR modeled data
The value is given based on a SAR/AAR approach using
OECD Toolbox, DEREK, VEGA QSAR models (CAESAR
models), etc.

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

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

Naphthalene EC50: 2.96 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (algae)

Ethylbenzene ErC50: 5.0 mg/l
Exposure time: 96 h
Species: Selenastrum capricornutum (algae)

ErC50: 7.7 mg/l
Exposure time: 72 h
Species: Skeletonema costatum (Marine Algae)

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

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Toxicity to fish (Chronic toxicity)

Isopentane : EL10: 6.57 mg/l
 Exposure time: 60 d
 Species: Oncorhynchus mykiss (rainbow trout)
 Method: QSAR modeled data
 The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

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)

Distillates (petroleum),
 Hydrotreated light : NOEC: 0.48 mg/l
 Exposure time: 21 Days
 Species: Daphnia magna (Water flea)
 Method: OECD Test Guideline 211

Isopentane : EL10: 11.5 mg/l
 Exposure time: 21 d
 Species: Daphnia magna (Water flea)
 The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

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.

Ethylbenzene : NOEC: 1 mg/l
 Exposure time: 7 d
 Species: Daphnia pulex (Water flea)
 semi-static test
 Analytical monitoring: yes

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

Elimination information (persistence and degradability)**Bioaccumulation**

Distillates (petroleum), : The product may be accumulated in organisms.

Hydrotreated light

Kerosene C9-C16 : The product may be accumulated in organisms.

Kerosine, petroleum, : The product may be accumulated in organisms.

hydrodesulfurized

Naphtha (petroleum), light : The product may be accumulated in organisms.

catalytic reformed

Isopentane : Accumulation in aquatic organisms is unlikely.

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Isoalkanes C7-8	: This material is not expected to bioaccumulate.
Toluene	: This material is not expected to bioaccumulate.
Xylenes	: This material is not expected to bioaccumulate.
Ethylbenzene	: Bioconcentration factor (BCF): 110
Benzene	: Bioconcentration factor (BCF): 13
Mobility	
Distillates (petroleum), Hydrotreated light Kerosene C9-C16	: No data available
Kerosine, petroleum, hydrodesulfurized Naphtha (petroleum), light catalytic reformed Isopentane	: No data available
Isoalkanes C7-8	: Medium: Air Method: Calculation, Mackay Level III Fugacity Model Content: 100 %
Toluene	: Not expected to adsorb on soil.
Ethylbenzene	: Method: Calculation, Mackay Level I Fugacity Model Disperses rapidly in air.
Benzene	: No data available
Results of PBT assessment	
Isopentane	: Non-classified PBT substance, Non-classified vPvB substance
Isoalkanes C7-8	: Non-classified PBT substance, Non-classified vPvB substance
Toluene	: Non-classified vPvB substance, Non-classified PBT substance
Ethylbenzene	: Non-classified vPvB substance, Non-classified PBT substance
Benzene	: Not persistent, bioaccumulative, and toxic (PBT)., Not very persistent and very bioaccumulative (vPvB).
Additional ecological information	: Toxic to aquatic life with long lasting effects.
Ecotoxicology Assessment	
Short-term (acute) aquatic hazard	: Toxic to aquatic life.
Long-term (chronic) aquatic hazard	: Toxic to aquatic life with long lasting effects.

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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)

UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I, (-23 °C c.c.), MARINE POLLUTANT, (KEROSENE C9-C16)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I

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

UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I, (D/E), ENVIRONMENTALLY HAZARDOUS, (KEROSENE C9-C16)

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

33, UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I, ENVIRONMENTALLY HAZARDOUS, (KEROSENE C9-C16)

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

UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, I, ENVIRONMENTALLY HAZARDOUS,

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(KEROSENE C9-C16)

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
Reproductive toxicity
Aspiration hazard
Skin corrosion or irritation
Specific target organ toxicity (single or repeated exposure)

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

CERCLA Reportable
Quantity : 2222 lbs
Benzene

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
Xylenes - 1330-20-7
Naphthalene - 91-20-3
Ethylbenzene - 100-41-4
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
Xylenes - 1330-20-7
Naphthalene - 91-20-3

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Ethylbenzene - 100-41-4

Benzene - 71-43-2

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
- Xylenes - 1330-20-7
- Naphthalene - 91-20-3
- Ethylbenzene - 100-41-4

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 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

- : Isopentane - 78-78-4
- Toluene - 108-88-3
- Xylenes - 1330-20-7
- Ethylbenzene - 100-41-4

US State Regulations**Pennsylvania Right To Know**

- : Distillates (petroleum), Hydrotreated light - 64742-47-8
- Kerosene C9-C16 - 8008-20-6
- Kerosine, petroleum, hydrodesulfurized - 64742-81-0
- Naphtha (petroleum), light catalytic reformed - 64741-63-5
- Isopentane - 78-78-4
- Isoalkanes C7-8 - 70024-92-9
- 2,2,4-Trimethylpentane (Isooctane) - 540-84-1
- Toluene - 108-88-3
- Xylenes - 1330-20-7
- Naphthalene - 91-20-3
- Ethylbenzene - 100-41-4
- 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.

Naphthalene
Ethylbenzene
Benzene

91-20-3
100-41-4
71-43-2

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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
Benzene

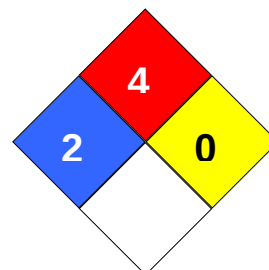
108-88-3
71-43-2

Notification status

Europe EU 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	:	Not in compliance with the inventory
Australia AU AIC	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory
Japan ISHL	:	Not in compliance with the inventory
Korea KECI	:	Not in compliance with the inventory
Philippines PICCS	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory
Taiwan TW TCSI	:	On the inventory, or in compliance with the inventory
Other TECI	:	Not in compliance with the inventory

SECTION 16: Other information

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



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Further information

Legacy SDS Number : 001927

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

JP-4 Fuel (MIL-T-5624)

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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%
AIIC	Australian Inventory of Industrial Chemicals	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