

TrusTec[™] PRF Octane Blend No.80

Version 1.1

Revision Date 2023-09-20

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

	: 1024376, 1024372, 1024375, 1024374, 1093788, 1024377
Jse	: Reference Fuel
Company	 Chevron Phillips Chemical Company LP Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380
local	: See Company Address
Emergency telephone	»:
Asia: CHEMWATCH Mexico CHEMTREC South America SOS Argentina: +(54)-115 EUROPE: BIG +32.7 Austria: VIZ +43 1 44 Belgium: 070 245 24 Bulgaria: +359 2 915 Croatia: +3851 2348 Cyprus: 1401 Czech Republic: Tox Denmark: Danish Po Estonia: BIG +32.14 Finland: 0800 147 1	14.584545 (phone) or +32.14583516 (telefax) 06 43 43 (24 hours/day, 7 days/week) 45 (24 hours/day, 7 days/week)

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Poisoning and Drug Info 67042473. (24 hours.) Liechtenstein: BIG +32.14 Lithuania: +370 (85) 2362 Luxembourg: (+352) 8002 Malta: +356 2395 2000 The Netherlands: NVIC: - Norway: 22 59 13 00 (24 Poland: BIG +32.14.5845 Portugal: CIAV phone nu Romania: +40213183606 Slovakia: +421 2 5477 41 Slovenia: Phone number:	2 5500 (24 hours/day, 7 days/week) +31 (0)88 755 8000 hours/day, 7 days/week) 545 (phone) or +32.14583516 (telefax) mber: +351 800 250 250 5 166 : 112 cy Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (2-
Responsible Department E-mail address Website	 Product Safety and Toxicology Group SDS@CPChem.com www.CPChem.com
CTION 2: Hazards identificat	tion
Classification	: Flammable liquids, Category 2 Skin corrosion/irritation, Category 2 Specific target organ toxicity - single exposure, Category 3, Respiratory tract irritation, Narcotic effects Specific target organ toxicity - repeated exposure, Category 1, Nervous system
	Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1
Labeling	Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 1
Labeling Symbol(s)	Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 1
-	Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 1
Symbol(s)	Aspiration hazard, Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1

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Precautionary Statements	 Prevention: 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. P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. P270: Do not eat, drink or smoke when using this product. P273: Avoid release to the environment. P260: Wear protective gloves/ 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. P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P314: Get medical advice/ attention if you feel unwell. P313: Do NOT induce vomiting. P332 + 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. P391: Collect spillage. Storage: P403 + P233: Store in a well-ventilated place. Keep cool. Disposal P403 + P235: Store in a well-ventilated place. Keep cool. Disposal plant.
SECTION 3: Composition/inforr	nation on ingredients
Synonyms	: Primary Reference Fuel PRF (ASTM) Octane Blend No.80 Octane Reference Fuel
Molecular formula	: Mixture

Molecular formula	: Mixture		
Chemical name	CAS-No.	Concentration	ENCS/ISHL
			number
2,2,4-Trimethylpentane (Isooctane)	540-84-1	79.9 % - 80.1%	2-8
n-Heptane	142-82-5	19.7 % - 20.3%	2-7 2-7

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TION 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			
Symptoms	:	No data available.	
Risks	:	No data available.	
Treatment	:	No data available.	
TION 5: Firefighting measu	res		
Flash point	:	-8°C (18°F) Method: Tag closed cup	
Autoignition temperature	:	No data available	
Suitable extinguishing media	:	Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.	
Unsuitable extinguishing media	:	High volume water jet.	
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.	
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.	
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed	
		containments. Use a water spray to cool fully closed containers.	
Fire and explosion	:		

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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 oxides.
CTION 6: Accidental release	me	asures
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).
TION 7: Handling and stora	ge	
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	:	Reference Fuel
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SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

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Components	Basis	Value	Control parameters	Note
n-Heptane	JP OEL JSOH	OEL-M	200 ppm, 820 mg/m3	

Engineering measures

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

Personal protective equipment

Respiratory prot	ection :	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. Full-Face Air-Purifying Respirator for Organic Vapors, Dusts and Mists. 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 p	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 measu	res :	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
SECTION 9: Physic	al and chemica	I properties
Information on	basic physical	and chemical properties
Appearance		
Physical state		: liquid

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Color Odor	: Colorless : gasoline-like	
Safety data		
Flash point	: -8°C (18°F) Method: Tag closed cup	
Lower explosion limit	: 1 %(V)	
Upper explosion limit	: 7 %(V)	
Oxidizing properties	: No	
Autoignition temperature	: No data available	
Molecular formula	: Mixture	
Molecular weight	: Not applicable	
рН	: Not applicable	
Freezing point	: No data available	
Pour point	No data available	
Boiling point/boiling range	: 96-103°C (205-217°F)	
Vapor pressure	: 1.70 PSI at 37.8°C (100.0°F)	
Relative density	: 0.693 at 15.6 °C (60.1 °F)	
Water solubility	: negligible	
Partition coefficient: n-	: No data available	
octanol/water Viscosity, kinematic	: No data available	
Relative vapor density	: 3 (Air = 1.0)	
Evaporation rate	: 1	
Percent volatile	: > 99 %	
Conductivity	: No data available	
SECTION 10: Stability and reac	ivity	
Reactivity	: Stable under recommended stora	ge conditions.
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Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous rea	actions
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 Hazardous decomposition	 May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. Carbon oxides
products Other data	: No decomposition if stored and applied as directed.
TION 11: Toxicological infor	
	Species: Rat
	Species: Rat Method: Acute toxicity estimate
TrusTec™ PRF Octane Blen Acute inhalation toxicity	Method: Acute toxicity estimate
TrusTec™ PRF Octane Blen Acute inhalation toxicity	Method: Acute toxicity estimate d No.80 : LC50: > 20 mg/l Species: Rat
	Method: Acute toxicity estimate d No.80 : LC50: > 20 mg/l
Acute inhalation toxicity TrusTec™ PRF Octane Blen	Method: Acute toxicity estimate d No.80 : LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate d No.80
Acute inhalation toxicity	Method: Acute toxicity estimate d No.80 : LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate
Acute inhalation toxicity TrusTec™ PRF Octane Blen	Method: Acute toxicity estimate Id No.80 : LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Id No.80 : LD50: > 2,000 mg/kg
Acute inhalation toxicity TrusTec™ PRF Octane Blen Acute dermal toxicity TrusTec™ PRF Octane Blen	Method: Acute toxicity estimate Method: Acute toxicity estimate Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Method: Acute toxicity estimate Method: Acute toxicity estimate Method: Acute toxicity estimate
Acute inhalation toxicity TrusTec™ PRF Octane Blen Acute dermal toxicity	Method: Acute toxicity estimate Method: Acute toxicity estimate Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Method: Acute toxicity estimate Species: Rabbit Method: Acute toxicity estimate
Acute inhalation toxicity TrusTec™ PRF Octane Blen Acute dermal toxicity TrusTec™ PRF Octane Blen Skin irritation TrusTec™ PRF Octane Blen	Method: Acute toxicity estimate Method: Acute toxicity estimate I LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Method: Acute toxicity estimate
Acute inhalation toxicity TrusTec™ PRF Octane Blen Acute dermal toxicity TrusTec™ PRF Octane Blen Skin irritation	Method: Acute toxicity estimate Method: Acute toxicity estimate I LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Method: Acute toxicity estimate
Acute inhalation toxicity TrusTec™ PRF Octane Blen Acute dermal toxicity TrusTec™ PRF Octane Blen Skin irritation TrusTec™ PRF Octane Blen	Method: Acute toxicity estimate Method: Acute toxicity estimate I LC50: > 20 mg/l Species: Rat Test atmosphere: dust/mist Method: Acute toxicity estimate Method: Acute toxicity estimate Metho

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2.2.4 Trimethylpentane (Isooctane) : Species: Rat, Male and female Application Route: Inhalation Dose: 0, 668, 2220, 6646 ppm Exposure time: 13 weeks Number of exposures: 6 hr/day 5 d/wk NOEL: 8.117 mg/ 3220 ppm Method: OECD Guideline 413 Information given is based on data obtained from similar substances. n-Heptane Species: Rat, male Sex: male Application Route: Inhalation Dose: 12.47 mg/l Exposure time: 16 wk Number of exposures: 12 h/d, 7 d/wk NOEL: 12.47 mg/l Exposure time: 16 wk Number of exposures: 12 h/d, 7 d/wk NOEL: 12.47 mg/l Roadverse effect has been observed in chronic toxicity tests. Species: Rat, Male and female Sex: Male and female Sex: Male and female Sex: Male and female Sex: Male and female Say the sposures: 6 h/d, 5 d/wk Method: OECD Test Guideline 413 No adverse effect has been observed in chronic toxicity tests. Species: Rat, Male and female Sex: Male and female (Isooctane) : Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative Cenotoxicity in vitro (Isooctane) : Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative nest Type: Sister Chromatid Exchange Assay Result: negative Test Type: Sister Chromatid Exchange Assay Result: negative n-Heptane Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative n-Heptane Test Type: Sister Chromatid Exchange Assay Result: negative n-Heptane Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative		
(Isooctane) Sex: Male and female Application Route: Inhalation Dose: 0, 668, 2220, 6646 ppm Exposure time: 13 weeks Number of exposures: 6 hr/day 5 d/wk NOEL: 8.117 mg/l 2220 ppm Method: OECD Guideline 413 Information given is based on data obtained from similar substances. n-Heptane Species: Rat, male Sex: male Application Route: Inhalation Dose: 12.47 mg/l Number of exposures: 61 wk Number of exposures: 12 hr/l, 7 d/wk NoEL: 12.47 mg/l No adverse effect has been observed in chronic toxicity tests. Species: Rat, Male and female Sex: Male an	Repeated dose toxicity	
Sex: male Application Route: Inhalation Dose: 12.47 mg/l Exposure time: 16 wk Number of exposures: 12 h/d, 7 d/wk NOEL: 12.47 mg/l No adverse effect has been observed in chronic toxicity tests. Species: Rat, Male and female Sex: Male and female Sex: Male and female Sex: Male and female Application Route: Inhalation Dose: 12.35 mg/l Exposure time: 26 wk Number of exposures: 6 h/d, 5 d/wk Method: OECD Test Guideline 413 No adverse effect has been observed in chronic toxicity tests. Sectoration Number of exposures: 6 h/d, 5 d/wk Method: OECD Test Guideline 413 No adverse effect has been observed in chronic toxicity tests. Sectorate Isooctane) : Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative Test Type: Sister Chromatid Exchange Assay Method: OECD Guideline 476 Result: negative Test Type: Unscheduled DNA synthesis assay Result: negative Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Nestlive Test Type: Ames test Method: Mutage		Sex: Male and female Application Route: Inhalation Dose: 0, 668, 2220, 6646 ppm Exposure time: 13 weeks Number of exposures: 6 hr/day 5 d/wk NOEL: 8.117 mg/l 2220 ppm Method: OECD Guideline 413 Information given is based on data obtained from similar
Sex: Male and female Application Route: Inhalation Dose: 12.35 mg/l Exposure time: 26 wk Number of exposures: 6 h/d, 5 d/wk Method: OECD Test Guideline 413 No adverse effect has been observed in chronic toxicity tests.Genotoxicity in vitro2,2,4-Trimethylpentane (Isooctane): Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negativeTest Type: Mouse lymphoma assay Method: OECD Guideline 476 Result: negativeTest Type: Sister Chromatid Exchange Assay Result: negativen-HeptaneTest Type: Ames test Method: OECD Guideline 476 Result: negativen-HeptaneTest Type: Sister Chromatid Exchange Assay Result: negative	n-Heptane	Sex: male Application Route: Inhalation Dose: 12.47 mg/l Exposure time: 16 wk Number of exposures: 12 h/d, 7 d/wk NOEL: 12.47 mg/l No adverse effect has been observed in chronic toxicity tests.
2,2,4-Trimethylpentane (Isooctane): Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative2,2,4-Trimethylpentane (Isooctane): Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Method: OECD Guideline 476 Result: negative1: Test Type: Sister Chromatid Exchange Assay Result: negative1: Test Type: Unscheduled DNA synthesis assay Result: negative1: Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay)		Sex: Male and female Application Route: Inhalation Dose: 12.35 mg/l Exposure time: 26 wk Number of exposures: 6 h/d, 5 d/wk Method: OECD Test Guideline 413
(Isooctane)Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negativeTest Type: Mouse lymphoma assay Method: OECD Guideline 476 Result: negativeTest Type: Sister Chromatid Exchange Assay Result: negativeTest Type: Unscheduled DNA synthesis assay Result: negativen-HeptaneTest Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay)	Genotoxicity in vitro	
Method: OECD Guideline 476 Result: negative Test Type: Sister Chromatid Exchange Assay Result: negative Test Type: Unscheduled DNA synthesis assay Result: negative n-Heptane Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay)		Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative Test Type: Unscheduled DNA synthesis assay Result: negative n-Heptane Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay)		Method: OECD Guideline 476
n-Heptane Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay)		
Method: Mutagenicity (Escherichia coli - reverse mutation assay)		
	n-Heptane	Method: Mutagenicity (Escherichia coli - reverse mutation assay)

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	Test Type: Mammalian cell gene mutation assay Method: OECD Guideline 476 Result: negative
	Test Type: Chromosome aberration test in vitro Method: OECD Guideline 473 Result: negative
	Test Type: Mitotic recombination Result: negative
Genotoxicity in vivo	
2,2,4-Trimethylpentane (Isooctane)	: Test Type: Unscheduled DNA synthesis assay Species: Mouse Dose: 500 mg/kg Result: negative
	Test Type: Unscheduled DNA synthesis assay Species: Rat Dose: 500 mg/kg Result: negative
Reproductive toxicity	
2,2,4-Trimethylpentane (Isooctane)	 Species: Rat Sex: male and female Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Number of exposures: 6 h/d 5 d/wk Method: OECD Test Guideline 416 NOAEL Parent: 3000 ppm NOAEL F1: 3000 ppm NOAEL F2: 3000 ppm Information given is based on data obtained from similar substances.
n-Heptane	Species: Rat Sex: male and female Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Number of exposures: 6 hr/d, 5 d/wk Test period: 13 wk Method: OECD Test Guideline 416 NOAEL Parent: 3000ppm NOAEL F1: 3000 ppm NOAEL F2: 3000 ppm Information given is based on data obtained from similar substances.
Developmental Toxicity	
2,2,4-Trimethylpentane (Isooctane)	: Species: Rat Application Route: Inhalation Dose: 0, 400, 1200 ppm Number of exposures: 6h/d Test period: GD6-15 NOAEL Teratogenicity: 1200 ppm
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	NOAEL Maternal: 1200 ppm Information given is based on data obtained from similar substances.
	Species: Rat Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Number of exposures: 6h/d Test period: GD6-15 Method: OECD Guideline 414 NOAEL Teratogenicity: 9000 ppm NOAEL Maternal: 3000 ppm Information given is based on data obtained from similar substances.
n-Heptane	Species: Rat Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Exposure time: GD6-15 Number of exposures: 6 hrs/d NOAEL Teratogenicity: 9000 ppm NOAEL Maternal: 3000 ppm
TrusTec™ PRF Octane Ble Aspiration toxicity	nd No.80 : May be fatal if swallowed and enters airways.
CMR effects	
2,2,4-Trimethylpentane (Isooctane)	 Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Teratogenicity: Animal testing did not show any effects on fetal development. Reproductive toxicity: Animal testing did not show any effects on fertility.
n-Heptane	Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Teratogenicity: Animal testing did not show any effects on fetal development. Reproductive toxicity: No toxicity to reproduction
TrusTec™ PRF Octane Ble Further information	 nd No.80 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. 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 inform	ation
Toxicity to fish	
2,2,4-Trimethylpentane	: LC50: 0.11 mg/l
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(Isooctane)	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.	
n-Heptane	LL50: 5.738 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Method: QSAR modeled data	
Toxicity to daphnia and ot	her aquatic invertebrates	
2,2,4-Trimethylpentane (Isooctane)	: EC50: 0.4 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Information given is based on data obtained from similar substances.	
n-Heptane	EC50: 1.5 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Toxic to aquatic organisms.	
	LC50: 0.1 mg/l Exposure time: 96 h Species: Mysidopsis bahia (mysid shrimp) semi-static test Very toxic to aquatic organisms.	
Toxicity to algae		
2,2,4-Trimethylpentane (Isooctane)	: EL50: 2.943 mg/l Exposure time: 72 h Method: QSAR modeled data	
n-Heptane	EL50: 4.338 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (microalgae) Method: QSAR	
Toxicity to fish (Chronic to	oxicity)	
n-Heptane	: NOELR: 1.284 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: QSAR modeled data	
Toxicity to daphnia and ot	her aquatic invertebrates (Chronic toxicity)	
2,2,4-Trimethylpentane (Isooctane)	 NOEL: 0.17 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Information given is based on data obtained from similar substances. 	
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Biodegradability	
2,2,4-Trimethylpentane (Isooctane)	 Result: Not readily biodegradable. Method: OECD Test Guideline 301 Expected to be inherently biodegradable. Information given is based on data obtained from similar substances.
n-Heptane	: Result: Readily biodegradable. 70 % Testing period: 10 d
Bioaccumulation	
2,2,4-Trimethylpentane (Isooctane)	: Bioconcentration factor (BCF): 231 Method: QSAR modeled data This material is not expected to bioaccumulate.
n-Heptane	: Bioconcentration factor (BCF): 552 Method: QSAR modeled data This material is not expected to bioaccumulate.
Mobility	
2,2,4-Trimethylpentane (Isooctane)	: Medium: Air Method: Calculation, Mackay Level I Fugacity Model After release, disperses into the air.
n-Heptane	 Medium: Air Method: Calculation, Mackay Level I Fugacity Model Content: 100 % After release, disperses into the air.
Results of PBT assessment 2,2,4-Trimethylpentane	: Non-classified PBT substance, Non-classified vPvB substance
(Isooctane) n-Heptane	: Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information Ecotoxicology Assessment	: Very toxic to aquatic life with long lasting effects.
Short-term (acute) aquatic	: Very toxic to aquatic life.
hazard Long-term (chronic) aquatic hazard	: Very toxic to aquatic life with long lasting effects.
SECTION 13: Disposal considera	tions

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

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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)

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

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, (-8 °C c.c.), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE), N-HEPTANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION) UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II

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

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

SDS Number:100000100076

14/18

Version 1.1

SAFETY DATA SHEET

TION 15: Regulatory information	tion
National legislation	
Poisonous and Deleterious S	Substances Control Law
	: Not applicable
	: Not applicable
Industrial Safety and Health	Law
Substances Subject to be	: 2,2,4-trimethylpentane(115)
Notified Names Article 57-2 (Enforcement Order Table 9)	heptane(526)
Substances Subject to be Notified Names Article 57-2	: 2,2,4-trimethylpentane(115)
(Enforcement Order Table 9)	heptane(526)
Enforcement Order of the Industrial Safety and Health Law - Attached table 1	: Inflammable Substance
(Dangerous Substances) Enforcement Order of the Industrial Safety and Health Law - Attached table 1	: Inflammable Substance
(Dangerous Substances) Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)	: Inflammable Substance
Harmful Substances Required	: Not applicable
Permission for Manufacture Harmful Substances Required Permission for Manufacture Hazardous Substances Subject to Labeling Requirements Article 57 (Enforcement Order Article 18)	: Not applicable
	: 2,2,4-trimethylpentane (115) heptane (526)
Hazardous Substances Subject to Labeling Requirements Article 57 (Enforcement Order Article 18)	: 2,2,4-trimethylpentane (115) heptane (526)
Ordinance on Prevention of Organic Solvent Poisoning	: Not applicable
Ordinance on Prevention of	: Not applicable

TrusTec[™] PRF Octane Blend No.80

Version 1.1

rsion 1.1	Revision Date 2023-09-20
Organic Solvent Poisoning Ordinance on Prevention of Lead Poisoning Ordinance on Prevention of Lead Poisoning Harmful Substances Prohibited from Manufacture Harmful Substances Prohibited from Manufacture Ordinance on Prevention of Hazards Due to Specified Chemical Substances Ordinance on Prevention of Tetraalkyl Lead Poisoning Ordinance on Prevention of Tetraalkyl Lead Poisoning	 Not applicable
Substances Prevented From Impairment of Health Substances Prevented From Impairment of Health	 Not applicable Listed Not applicable Listed
Chemical Substance Control	l Law
	 Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.
	: Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.
	Release Amounts of Specific Chemical Substances in the of Improvements to the Management Thereof
	Not applicableNot applicable
Other regulations	
Fire Service Law	: Flammable liquids Type 1 petroleums Hazardous rank II
Fire Service Law	: Flammable liquids Type 1 petroleums Hazardous rank II
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High Pressure Gas Safety Act	: Not applicable		
Explosive Control Law	Not applicable		
Vessel Safety Law	: Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)		
Aviation Law	: Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)		
High Pressure Gas Safety Act	: Not applicable		
Explosive Control Law	: Not applicable		
Vessel Safety Law	: Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)		
Aviation Law	: Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)		
Notification status Europe REACH Switzerland CH INV United States of America (USA) TSCA Canada DSL Australia AIIC New Zealand NZIoC Japan ENCS Korea KECI	 This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH). On the inventory, or in compliance with the inventory On or in compliance with the active portion of the TSCA inventory All components of this product are on the Canadian DSL On the inventory, or in compliance with the inventory Not in compliance with the inventory On the inventory, or in compliance with the inventory All substances in this product are on the canadian DSL On the inventory, or in compliance with the inventory All substances in this product were registered, notified to be registered, or exempted from registration by CPChem through an Only Representative according to K-REACH regulations. Importation of this product is permitted if the Korean Importer of Record was included on CPChem's notifications or if the Importer of Record themselves notified the substances. 		
Philippines PICCS Taiwan TCSI China IECSC	 On the inventory, or in compliance with the inventory On the inventory, or in compliance with the inventory On the inventory, or in compliance with the inventory 		
SECTION 16: Other information			
Further information Legacy SDS Number :	28440		
Significant changes since the las previous versions.	t version are highlighted in the margin. This version replaces all		
The information in this SDS perta	ains only to the product as shipped.		
	Safety Data Sheet is correct to the best of our knowledge, of its publication. The information given is designed only as a 17/18		
	1//10		

Version 1.1

Revision Date 2023-09-20

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 a	cronyms 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
		ATE	Information System Acute toxicity estimate