SAFETY DATA SHEET

Reference Fuel B

Version 1.2 Revision Date 2022-06-07

MSDS number:

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

Product Name	:	Reference Fuel B
Material	:	1097282, 1069683, 1029654, 1030661, 1029655
Recommended use of the product	:	Fuel
Address	:	Chevron Phillips Chemical Company LP Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380
Address	:	CHEVRON PHILLIPS CHEMICALS ASIA PTE. LTD. C/O DONG WOO CORPORATION #B-2601,JEONGJAIL-RO, BUNDANG-GU,SEONGNAMI-SI, GYEONGGI-DO,13557 SOUTH KOREA Telephone no.: +612-9186-1132

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)
Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)
Belgium: 070 245 245 (24 hours/day, 7 days/week)
Bulgaria: +359 2 9154 233
Croatia: +3851 2348 342 (24 hours/day, 7 days/week)
Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402
Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212
Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Finland: 0800 147 111 09 471 977 (24 hours/day)
France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)
Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Greece: (0030) 2107793777 (24 hours/day, 7 days/week)
Hungary: +36-80-201-199 (24 hours/day, 7 days/week)
Iceland: 543 2222 (24 hours/day, 7 days/week)
Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371 67042473. (24 hours.)
Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Lithuania: +370 (85) 2362052
Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)
Malta: +356 2395 2000
The Netherlands: NVIC: +31 (0)88 755 8000
Norway: 22 59 13 00 (24 hours/day, 7 days/week)
Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Portugal: CIAV phone number: +351 800 250 250
Romania: +40213183606
Slovakia: +421 2 5477 4166
Slovenia: Phone number: 112
Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)
Sweden: 112 – ask for Poisons Information

Responsible Department	:	Product Safety and Toxicology Group
E-mail address	:	SDS@CPChem.com
Website	:	www.CPChem.com
Appointees	:	회사명: 리이치 24 시코리아㈜. 주소: 서울시 서초구 헌릉로 7, 외국기업창업지원연구센터 (IKP) 908-909호 전화: +82-1067838981

SECTION 2: Hazards identification

Hazard classification

Standards for classification and labeling of chemical substances and material safety data sheet (ministry of employment and labor public notice No. 2020-130)

Classification

: Flammable liquids, Category 2
Skin corrosion/irritation, Category 2
Reproductive toxicity, Category 2
Specific target organ toxicity - single exposure, Category 3, Central nervous system
Specific target organ toxicity - repeated exposure, Category 2
Aspiration hazard, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

Warning label elements including precautionary statements

Symbol(s) :

Signal Word : Danger

Hazard Statements : H225: Highly flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H361: Suspected of damaging fertility or the unborn child.
H373: May cause damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

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 the contact area thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
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.
P321: Specific treatment (see supplemental first aid instructions on this label).
P331: Do NOT induce vomiting.
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.
P391: Collect spillage.
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 and container according to wastes control act.

Other hazards which do not result in classification :

SECTION 3: Composition/information on ingredients

Molecular formula : Mixture

Common name	Synonyms	CAS-No.	Concentration	KECI Number
2,2,4-Trimethylpentane (Isooctane)	2,2,4-trimethylpentane	540-84-1	69 % - 71%	KE-34634
Toluene	toluene	108-88-3	29 % - 31%	KE-33936

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.

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.

In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
If inhaled	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
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	:	-12.1°C (10.2°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 protection	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products	:	Carbon oxides.

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to

form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: Handling and storage

Handling

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

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

Secure 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.

Specific Use : Fuel

SECTION 8: Exposure controls/personal protection

KR

Components	Basis	Value	Control parameters	Note
Toluene	KR OEL	TWA	50 ppm,	repr 2,
	KR OEL	STEL	150 ppm,	repr 2,
	KR PEL	TWA	50 ppm,	
	KR PEL	STEL	150 ppm,	

repr 2 Suspected human reproductive toxicant

Chemical exposure standards, biological exposure standards, etc.

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

Personal protective equipment

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

Physical state	:	liquid
Color	:	Colorless
Odor	:	Mild, Hydrocarbon
pH	:	Not applicable
Freezing point	:	No data available

Pour point		No data available
Boiling point/boiling range	:	99°C (210°F)
Flash point	:	-12.1°C (10.2°F) Method: Tag closed cup
Evaporation rate	:	1
Lower explosion limit	:	1 %(V)
Upper explosion limit	:	6.5 %(V)
Vapor pressure	:	1.50 PSI at 37.8°C (100.0°F)
Solubility	:	negligible
Relative density	:	0.75 at 15.6 °C (60.1 °F)
Vapor density	:	3.69 (Air = 1.0)
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Viscosity, kinematic	:	0.5 - 0.7 mm2/s at 20°C (68°F)
Molecular weight	:	Not applicable

SECTION 10: Stability and reactivity

Reactivity : Stable under recommended storage conditions.

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not

occur.

Hazardous reactions: Vapors may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous decomposition products : Carbon oxides

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

SECTION 11: Toxicological information

Information on exposure routes

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

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

Reference Fuel B
Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Reference Fuel B
Skin corrosion or irritation : Skin irritation
largely based on animal evidence.

Reference Fuel B
Eye corrosion or irritation : Vapors may cause irritation to the eyes, respiratory system and the skin.

Reference Fuel B
Respiratory Sensitization : Did not cause sensitization on laboratory animals.

Reference Fuel B
Skin sensitization

Reference Fuel B
Carcinogenicity : Remarks: Not expected to be carcinogenic based on individual component data.

Repeated dose toxicity

2,2,4-Trimethylpentane (Isooctane)	:	Species: Rat, Male and female Sex: Male and female Application Route: Inhalation Dose: 0, 668, 2220, 6646 ppm Exposure time: 13 weeks Number of exposures: 6 hr/day 5 d/wk NOEL: 8.117 mg/l 2220 ppm Method: OECD Guideline 413 Information given is based on data obtained from similar substances.
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

Germ cell mutagenicity (in vitro)

2,2,4-Trimethylpentane (Isooctane)	:	Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative Test Type: Mouse lymphoma assay Method: OECD Guideline 476 Result: negative Test Type: Sister Chromatid Exchange Assay Result: negative Test Type: Unscheduled DNA synthesis assay Result: negative
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

Germ cell mutagenicity (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
Toluene		Test Type: Cytogenetic assay Result: negative Test Type: Mouse micronucleus assay Result: negative

Developmental Toxicity

2,2,4-Trimethylpentane (Isooctane)	:	Species: Rat Application Route: Inhalation Dose: 0, 400, 1200 ppm Number of exposures: 6h/d Test period: GD6-15 NOAEL Teratogenicity: 1200 ppm NOAEL Maternal: 1200 ppm Information given is based on data obtained from similar substances. Species: Rat Application Route: Inhalation Dose: 0, 900, 3000, 9000 ppm Number of exposures: 6h/d Test period: GD6-15 Method: OECD Guideline 414 NOAEL Teratogenicity: 9000 ppm NOAEL Maternal: 3000 ppm Information given is based on data obtained from similar substances.
Toluene		Species: Rat Application Route: Inhalation Dose: 0, 100, 500, 2000 ppm

Test period: 95 d
NOAEL Teratogenicity: 400-750 ppm

Specific Target Organ Toxicity (Single Exposure)

Specific Target Organ Toxicity (Repeated Exposure)

Reference Fuel B
Aspiration toxicity : May be fatal if swallowed and enters airways.

CMR effects

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

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.

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.

Toluene Species: Rat
Application Route: Inhalation
Dose: 0, 100, 500, 2000 ppm

Test period: 95 d
NOAEL Parent: 2000 ppm

Reference Fuel B
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

Ecological Toxicity

Toxicity to fish

2,2,4-Trimethylpentane (Isooctane)	:	LC50: 0.11 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Toluene		LC50: 18 - 36 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates

2,2,4-Trimethylpentane (Isooctane)	:	EC50: 0.4 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Information given is based on data obtained from similar substances.
Toluene		EC50: 3.78 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

Toxicity to algae

2,2,4-Trimethylpentane (Isooctane)	:	EL50: 2.943 mg/l Exposure time: 72 h Method: QSAR modeled data
Toluene		EC50: 134 mg/l Exposure time: 72 h Species: Chlamydomonas angulosa (Green algae)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

2,2,4-Trimethylpentane (Isooctane)	:	NOEL: 0.17 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Information given is based on data obtained from similar substances.

Persistence and degradability

2,2,4-Trimethylpentane (Isooctane)	:	Result: Not readily biodegradable. Method: OECD Test Guideline 301
Toluene	:	

Bioaccumulative

2,2,4-Trimethylpentane (Isooctane)	:	Bioconcentration factor (BCF): 231 Method: QSAR modeled data This material is not expected to bioaccumulate.
Toluene	:	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.
Toluene	:	Not expected to adsorb on soil.

Results of PBT assessment

2,2,4-Trimethylpentane (Isooctane)	:	Non-classified PBT substance, Non-classified vPvB substance
Toluene	:	Non-classified vPvB substance, Non-classified PBT substance
Other adverse effects	:	Very toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

2,2,4-Trimethylpentane (Isooctane)	:	Very toxic to aquatic life.
Toluene	:	Toxic to aquatic life.

Long-term (chronic) aquatic hazard

2,2,4-Trimethylpentane (Isooctane)	:	Very toxic to aquatic life with long lasting effects.
Toluene	:	Harmful 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.

Disposal method : 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.

Disposal precaution : 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.

UN Number	:	
UN Product Shipping Name	:	
Hazard Class	:	
Packing Group	:	
Marine Pollutant	:	
Special Safety Measures on Mode of Transport	:	

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

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

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, (-12.1°C), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOOCTANE))

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))

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

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

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))

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

National legislation

Regulation under the Occupational Safety and Health Act
A Material Safety Datasheet (MSDS) has to be prepared and provided for this product according to article 41 of ISHA.

Regulation		Chemical name	Threshold limits
Harmful Substances Prohibited from Manufacturing	:	Not applicable	
Harmful Substances Required Permission for Manufacture	:	Not applicable	

Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act

Regulation		Chemical name	Threshold limits
Toxic Chemicals	:	Not applicable	
Prohibited Chemicals	:	Not applicable	
Restricted Chemicals	:	Not applicable	
Toxic Release Inventory	:	toluene	>= 1 %

Dangerous Substances Safety Management Act

Dangerous Substances Safety Management Act : Flammable liquids, Type 1 petroleums, Water insoluble liquid

Regulations by the Waste Management Act :

Regulations by other domestic and foreign laws

Europe REACH : This product is in full compliance according to REACH regulation 1907/2006/EC.

Switzerland CH INV : On the inventory, or in compliance with the inventory

United States of America (USA) TSCA : On or in compliance with the active portion of the TSCA inventory

Canada DSL : All components of this product are on the Canadian DSL

Other AIIC : On the inventory, or in compliance with the inventory

New Zealand NZIoC : Not in compliance with the inventory

Japan ENCS : On the inventory, or in compliance with the inventory

Korea KECI : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).

Philippines PICCS : On the inventory, or in compliance with the inventory

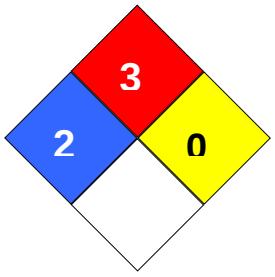
Taiwan TCSI : On the inventory, or in compliance with the inventory

China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

Source of data	:	
Date of initial writing	:	
Revision number	:	
Last revision date	:	

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



Other information

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	PICCS	Philippines Inventory of

	Chemical Substances		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%		