

## **Diesel Reference Fuel T-30**

Version 1.14

Revision Date 2017-05-16

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

#### **Product information**

Product Name	:	Diesel Reference Fuel T-30
Material	:	1024272, 1108916, 1024276, 1024273, 1024274, 1024275, 1032194

#### EC-No.Registration number

Chemical name	CAS-No.	Legal Entity
	EC-No.	Registration number
	Index No.	
Diesel fuel	68476-34-6	Chevron Phillips Chemicals International NV
	270-676-1	01-2119475502-40-0023
	649-227-00-2	

SDS Number:100000100097	1/48
Emergency telephone: Health:	
	SDS Requests: (800) 852-5530 Technical Information: (832) 813-4862 Responsible Party: Product Safety Group Email:sds@cpchem.com
Local	: Chevron Phillips Chemicals International N.V. Airport Plaza (Stockholm Building) Leonardo Da Vincilaan 19 1831 Diegem Belgium
Company	<ul> <li>Chevron Phillips Chemical Company LP Specialty Chemicals 10001 Six Pines Drive The Woodlands, TX 77380</li> </ul>
Supported	: Manufacture Distribution Use as an intermediate Use as a fuel - industrial Use as a fuel – professional

## **Diesel Reference Fuel T-30**

Revision Date 2017-05-16

Version 1.14

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) EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Mexico CHEMTREC 01-800-681-9531 (24 hours) South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department E-mail address Website

: Product Safety and Toxicology Group SDS@CPChem.com www.CPChem.com :

#### **SECTION 2: Hazards identification**

#### Classification of the substance or mixture **REGULATION (EC) No 1272/2008**

:

Flammable liquids, Category 3

Acute aquatic toxicity, Category 2

Acute toxicity, Category 4

Skin irritation, Category 2

Carcinogenicity, Category 2

Aspiration hazard, Category 1

Specific target organ systemic toxicity repeated exposure, Category 2, Liver

, Thymus , Bone marrow Chronic aquatic toxicity, Category 2 H226: Flammable liquid and vapor. H401: Toxic to aquatic life. H332: Harmful if inhaled. H315: Causes skin irritation. H351: Suspected of causing cancer. H304: May be fatal if swallowed and enters airways. H373: May cause damage to organs through prolonged or repeated exposure.

H411: Toxic to aquatic life with long lasting effects.

#### Label elements

#### Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:		
Signal Word	:	Danger	
Hazard Statements	:	H226 H304 H315 H332	Flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. Harmful if inhaled.
		H351 H373	Suspected of causing cancer. May cause damage to organs (Liver) through prolonged or repeated exposure.
		H411	Toxic to aquatic life with long lasting effects.
SDS Number:100000100097			2/48

#### SAFETY DATA SHEET **Diesel Reference Fuel T-30** Revision Date 2017-05-16 **Precautionary Statements** : Prevention: D210 Keep away from heat/sparks/open

F210	flames/hot surfaces. No smoking.
P260	Do not breathe
	dust/fume/gas/mist/vapor/spray.
P280	Wear protective gloves/ protective clothing/
	eye protection/ face protection.
Response:	
P301 + P310	IF SWALLOWED: Immediately call a
	POISON CENTER/doctor.
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.
	5

Hazardous ingredients which must be listed on the label: 68476-34-6 Diesel fuel •

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

Synonyms :	Diesel Reference Fuel T
------------	-------------------------

: Mixture

Molecular formula

Mixtures

Version 1.14

#### **Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
Diesel fuel	68476-34-6 270-676-1 649-227-00-2	STOT RE 2; H373 Flam. Liq. 3; H226 Aquatic Acute 2; H401 Acute Tox. 4; H332 Skin Irrit. 2; H315 Carc. 2; H351 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	100

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **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
SDS Number:100000100097		3/48

	SAFETY DATA SHEET				
Diesel Reference Fuel	Diesel Reference Fuel T-30				
Version 1.14	Revision Date 2017-05-16				
	with water. If on clothes, remove clothes.				
In case of eye contact	<ul> <li>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.</li> </ul>				
If swallowed	: Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.				

#### SECTION 5: Firefighting measures

Г

Flash point	:	86,6 °C (187,9 °F)
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 an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.
Hazardous decomposition products	:	Hydrocarbons. 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

SDS Number:100000100097	4/48

			SAF	ETY DATA SHEET		
Diesel Reference Fue	I T-30					
Version 1.14			Revisio	on Date 2017-05-16		
		or draina infar		<u></u>		
Methods for cleaning up	<ul> <li>and lakes or drains inform respective authorities.</li> <li>Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according t</li> </ul>					
For additional details, see	local / nat he Exposure Scئا	tional regulatio enario in the A	ns (see section 13). nnex portion			
SECTION 7: Handling and sto	rage					
Handling						
Advice on safe handling	: Avoid forr exposure contact w section 8. in the app static disc exhaust ir be under local and	mation of aeros - obtain specia ith skin and ey Smoking, eat blication area. charges. Provi n work rooms. pressure. Disp national regula	sol. Do not breathe vap al instructions before use es. For personal protect ing and drinking should Take precautionary mea de sufficient air exchang Open drum carefully as pose of rinse water in ac ations.	ors/dust. Avoid e. Avoid tion see be prohibited asures against ge and/or content may cordance with		
Advice on protection against fire and explosion	: Do not sp material. discharge Keep awa ignition.	Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.				
Storage						
Requirements for storage areas and containers	: No smokin ventilated carefully r Observe I materials	ng. Keep cont I place. Contai resealed and k label precautio must comply v	ainer tightly closed in a ners which are opened ept upright to prevent le ns. Electrical installation vith the technological sa	dry and well- must be akage. ns / working fety standards.		
SECTION 8: Exposure control	s/personal prof	tection				
Ingredients with workplac	ce control para	meters				
Componentes	Bases	Valor	Parâmetros de controlo	Nota		
Fuels, diesel, no. 2	PT OEL	VLE-MP	100 mg/m3	P, A3,		
	PT OEL	VLE-MP	100 mg/m3	P, A3, Fração inalável e vapor		
A3 Agente carcinogénico conf P Perigo de absorção cutâne	irmado nos animais de a	laboratório com relev	rância desconhecida no Homem.			
Komponentai	Pagrindas, bazė	Vertė	Kontrolės parametrai	Pastaba		
Fuels, diesel, no. 2	LT OEL	IPRD	200 mg/m3			
	LTOEL	TPRD	300 mg/m3			
HR	· · ·					
Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka		
Fuels, diesel, no. 2 2 Karc. kat. 2: tvari koie su v	HR OEL jerojatno karcinogene z	GVI a ljude	100 ppm, 400 mg/m3	2, 2, T,		
T Otrovno	,	,				
Bestanddeler	Basis	Waarda	Controlenaromotoro	Opmerking		
Destanuuelen	Dasis	waarue	Controleparameters	Opmerking		
SDS Number:100000100097		5/48				

\_\_\_\_\_

Г

#### SAFETY DATA SHEET Diesel Reference Fuel T-30 Version 1.14 Revision Date 2017-05-16 Fuels, diesel, no. 2 BE OEL TGG 8 hr 100 mg/m3 D. 100 mg/m3 BE OEL TGG 8 hr D, damp en aërosol D Opname van het agens via de huid, de slijmvliezen of de ogen vormt een belangrijk deel van de totale blootstelling. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht. **Engineering measures** Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Personal protective equipment Respiratory protection : 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, 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 wash bottle with pure water. Tightly fitting safety goggles. Eye protection : Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate:. Flame retardant protective clothing. Footwear protecting against chemicals. When using do not eat or drink. When using do not smoke. Hygiene measures 5 Wash hands before breaks and at the end of workday. For additional details, see the Exposure Scenario in the Annex portion **SECTION 9: Physical and chemical properties** Information on basic physical and chemical properties

Appearance		
Form Physical state	: Liquid : Liquid at 20 °C (68 °F) (101,30 kPa)	
Color	: Pale yellow to brown (if undyed), red to purple (dyed)	
SDS Number:100000100097	6/48	

SAFETY DATA SHEET
Revision Date 2017-05-16
Mild
86,6 °C (187,9 °F)
No data available
No data available
No
No data available
No data available
Mixture
Not applicable
Not applicable
-6 °C (21 °F) Method: ASTM D97
208 - 347 °C (406 - 657 °F) Method: ASTM D 86
0,10 kPa at  40 °C (104 °F)
0,786 at 21 °C (70 °F), ASTM D 1298
0,7864 g/cm3
6,56 L/G
Negligible
No data available
2,4 cSt at  40 °C (104 °F)
No data available
No data available
> 99 %

#### SECTION 10: Stability and reactivity

SDS Number:100000100097

	SAFETY DATA SHEET
iesel Reference Fuel	1-30
ersion 1.14	Revision Date 2017-05-16
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous rea	ctions
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	: Hydrocarbons Carbon oxides
Other data	: No decomposition if stored and applied as directed.
ECTION 11: Toxicological info	rmation
Acute oral toxicity	
Diesel fuel	: LD50: > 5.000 mg/kg Species: Rat Sex: male and female Method: OECD Test Guideline 401
Acute inhalation toxicity	
Diesel fuel	: LC50: 4,1 mg/l Exposure time: 4 h Species: Rat Sex: male and female Test atmosphere: dust/mist Method: OECD Test Guideline 403 Test substance: yes
Acute dermal toxicity	
Diesel fuel	: LD50 Dermal: > 4.300 mg/kg Species: Rabbit Sex: male and female Test substance: yes
Skin irritation	
Diesel fuel	: Irritating to skin.
Eye irritation Diesel fuel	: No eye irritation
Sensitization	
28 Number 100000100007	8/48

esel Reference Fuel	T-30
ersion 1.14	Revision Date 2017-05
Diesel fuel	: Did not cause sensitization on laboratory animals.
Repeated dose toxicity	
Diesel fuel	: Species: Rat, Male and female Sex: Male and female Application Route: Dermal Dose: 0, 30, 125, 500 mg/kg Exposure time: 13 wks Number of exposures: daily, 5 days/week NOEL: 30 mg/kg Method: OECD Guideline 411 Target Organs: Thymus, Liver, Bone marrow Information given is based on data obtained from similar substances.
	Species: Rat, Male and female Sex: Male and female Application Route: inhalation (dust/mist/fume) Dose: 0, 0.35, 0.88, 1.71 mg/l Exposure time: 13 wks Number of exposures: Twice/wk NOEL: > 1,71 mg/l Method: OECD Guideline 413
Carcinogenicity	
Diesel fuel	: Species: Mouse Sex: male Dose: 0, 25 ul Exposure time: lifetime Number of exposures: 3 times/wk Remarks: Moderate dermal carcinogen
Developmental Toxicity	
Diesel fuel	: Species: Rat Application Route: Inhalation Dose: 0, 86.9, 408.8 ppm Number of exposures: 6 h/d Test period: GD 6-15 Method: OECD Guideline 414 NOAEL Teratogenicity: 408.8 ppm NOAEL Maternal: 408.8 ppm Information given is based on data obtained from similar substances.
	Species: Rat Application Route: Dermal Dose: 30, 125, 500, 1000 mg/kg Exposure time: daily Test period: GD 0-20 Method: OECD Guideline 414 NOAEL Teratogenicity: 125 mg/kg Information given is based on data obtained from similar substances.
S Number:100000100097	9/48

Diesel Reference Fuel T	SAFETY DATA SHEET
Version 1.14	Revision Date 2017-05-16
Diesel Reference Fuel T-30 Aspiration toxicity	: May be fatal if swallowed and enters airways.
CMR effects	
Diesel fuel	<ul> <li>Carcinogenicity: Limited evidence of carcinogenicity in animal studies</li> <li>Teratogenicity: Animal testing did not show any effects on fetal development</li> </ul>
Diesel Reference Fuel T-30 Further information	: Solvents may degrease the skin.
SECTION 12: Ecological informati	
Toxicity to fish	
Diesel fuel	: LL50: 3,2 mg/l Exposure time: 96 h Species: Menidia beryllina (Silverside) semi-static test Method: EPA/600/4-90/027
Toxicity to daphnia and other	r aquatic invertebrates
Diesel fuel	: EC50: 68 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
Toxicity to algae	
Diesel fuel	: EbC50: 10 mg/l Exposure time: 72 h Species: Raphidocellus subcapitata (algae) static test Analytical monitoring: no Method: OECD Test Guideline 201
Biodegradability	
Diesel fuel	: aerobic Result: Not readily biodegradable. 57,5 % Testing period: 28 d Method: OECD Test Guideline 301F
Ecotoxicology Assessment	
Acute aquatic toxicity Diesel fuel	: Toxic to aquatic life.
Chronic aquatic toxicity Diesel fuel	: Toxic to aquatic life with long lasting effects.
SDS Number:100000100097	10/48

Discol Deference Fuel 7	SAFETY DATA SHEET
	I-30
Version 1.14	Revision Date 2017-05-16
Results of PBT assessment Diesel fuel	: Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information	: Toxic to aquatic life with long lasting effects.
SECTION 13: Disposal considera	ations
The information in this SDS of	ertains only to the product as shipped
Use material for its intended p	purpose or recycle if possible. This material, if it must be discarded.
may meet the criteria of a haz other State and local regulation regulated components may be classified as a hazardous was disposal facility.	ardous waste as defined by US EPA under RCRA (40 CFR 261) or ons. Measurement of certain physical properties and analysis for e necessary to make a correct determination. If this material is ote, federal law requires disposal at a licensed hazardous waste
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.
For additional details, see the	Exposure Scenario in the Annex portion
SECTION 14: Transport informat	ion
The shipping descriptions s shipments in non-bulk pack	hown here are for bulk shipments only, and may not apply to ages (see regulatory definition).
Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the informatio description for the material. F bill of lading.	stic or international mode-specific and quantity-specific Dangerous nal shipping description requirements (e.g., technical name or names, on shown here, may not always agree with the bill of lading shipping lashpoints for the material may vary slightly between the SDS and the
<b>US DOT (UNITED STATES D</b> UN1202, DIESEL FUEL, C	COMBUSTIBLE LIQUID, III
IMO / IMDG (INTERNATIONA UN3082, ENVIRONMENT 9, III, (86,6 °C), MARINE F	AL MARITIME DANGEROUS GOODS) ALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DIESEL FUEL), POLLUTANT, (DIESEL FUEL)
IATA (INTERNATIONAL AIR UN3082, ENVIRONMENT 9, III	TRANSPORT ASSOCIATION) ALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DIESEL FUEL),
ADR (AGREEMENT ON DAN UN1202, DIESEL FUEL, 3 FUEL)	<b>IGEROUS GOODS BY ROAD (EUROPE))</b> , III, (D/E), ENVIRONMENTALLY HAZARDOUS, (DIESEL
SDS Number:100000100097	11/48

#### **Diesel Reference Fuel T-30** Version 1.14 Revision Date 2017-05-16 **RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))** UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (DIESEL FUEL) ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS) UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (DIESEL FUEL) Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code **SECTION 15: Regulatory information** National legislation **Chemical Safety Assessment** Ingredients : Fuels, diesel, no. 2 270-676-1 Update: **Major Accident Hazard** : 96/82/EC Legislation Not applicable Water contaminating class : WGK 2 water endangering (Germany) VwVwS Notification status Europe REACH This mixture contains only ingredients which have been : registered according to Regulation (EU) No. 1907/2006 (REACH). United States of America (USA) **On TSCA Inventory** : TSCA Canada DSL All components of this product are on the Canadian : DSL Australia AICS On the inventory, or in compliance with the inventory : New Zealand NZIoC On the inventory, or in compliance with the inventory 1 On the inventory, or in compliance with the inventory Japan ENCS : Korea KECI On the inventory, or in compliance with the inventory : Philippines PICCS On the inventory, or in compliance with the inventory : China IECSC : On the inventory, or in compliance with the inventory

Version 1.14

Revision Date 2017-05-16

#### **SECTION 16: Other information**

NFPA Classification	: Health Hazard: 2 Fire Hazard: 2 Reactivity Hazard: 0	2 0
Further information	: CPC00523	
	. 0.00020	

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.

ł	Key or legend to abbreviations and a	cronyms used	d 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 Eff
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agen
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupati 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 Effec Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentra
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 Substa
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recov
>=	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	TSCA	Toxic Substance Control Act
1	00010007		240

## **Diesel Reference Fuel T-30**

Version 1.14

Revision Date 2017-05-16

	New Chemical Substances		
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%		

#### Full text of H-Statements referred to under sections 2 and 3.

- H226 Flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H332 Harmful if inhaled.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H401 Toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

SDS Number:100000100097

Version 1.14

Revision Date 2017-05-16

4. Chart title of Europeuro Cooperios Mor			
1. Short title of Exposure Scenario: Manufacture			
Main User Groups	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites		
Sector of use :	<b>SU3, SU8, SU9:</b> Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals		
Process category :	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC15: Use as laboratory reagent</li> </ul>		
Environmental release category	ERC1: Manufacture of substances		
Further information :	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities		
2.1 Contributing scenario controll substances	ing environmental exposure for:ERC1: Manufacture of		
Product characteristics			
Remarks	Substance is complex UVCB., Predominantly hydrophobic.		
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (tonnes/day): (Msafe)	: 3.300		
Environment factors not influenced by risk management			
Dilution Factor (River)	- 1δ.υυυ m3/α - 10		
Dilution Factor (Coastal Areas)	: 100		
Other given operational conditions affecting environmental exposure			
Number of emission days per year	: 300		
Emission or Release Factor: Air	: 1%		
SDS Number:100000100097	15/48		

	SAFETY DATA SHEET
Diesel Reference Fuel T-3	0
Version 1.14	Revision Date 2017-05-16
Emission or Release Factor: Water Emission or Release Factor: Soil	: 0,003 % : 0,01 %
Technical conditions and measures	/ Organizational measures
Air	: Treat air emission to provide a typical removal efficiency of
Water	<ul> <li>(76). (Effectiveness: 90 %)</li> <li>Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of ≥ (%):</li> </ul>
Remarks	: Common practices vary across sites thus conservative
Water	<ul> <li>process release estimates used.</li> <li>If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%):</li> </ul>
Remarks	<ul> <li>(Effectiveness: 0 %)</li> <li>Risk from environmental exposure is driven by freshwater sediment.</li> </ul>
Remarks	<ul> <li>Prevent discharge of undissolved substance to or recover from onsite wastewater.</li> </ul>
Remarks	<ul> <li>If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.</li> </ul>
Remarks	: Prevent discharge of undissolved substance to or recover from wastewater
Remarks Remarks	<ul> <li>Do not apply industrial sludge to natural soils.</li> <li>Sludge should be incinerated, contained or reclaimed.</li> </ul>
Conditions and moasures related to	municipal cowago troatmont plant
Type of Sewage Treatment Plant Flow rate of sewage treatment	: Municipal sewage treatment plant : 10.000 m3/d
Effectiveness (of a measure) Percentage removed from waste water	: 94,1 % : 94,1 %
Waste treatment	<ul> <li>External treatment of waste for disposal</li> <li>During manufacturing no waste of the substance is generated.</li> <li>External recovery of waste</li> </ul>
Recovery Methods	: During manufacturing no waste of the substance is generated.
2.2 Contributing scenario contro	Iling worker exposure for: PROC1: Use in closed
Product characteristics	
Remarks	Substance is complex UVCB., Predominantly hydrophobic.
Remarks Remarks	<ul><li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li><li>With potential for aerosol generation.</li></ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecti Remarks	ng workers exposure : Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Technical conditions and measures Handle substance within a closed sys	stem., Store substance within a closed system.
SDS Number: 100000100007	16/49
3D3 Number. 100000100097	10/40

## **Diesel Reference Fuel T-30**

#### Version 1.14

Revision Date 2017-05-16

#### Organizational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimize exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions.

## 2.2 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>				
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)				
Other operational conditions affecting	n workers exposure				
Remarks	<ul> <li>Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>				
Technical conditions and measures					
Handle substance within a closed system	em Store substance within a closed system.				
	,				
2.2 Contributing scenario controll	ing worker exposure for: PROC3: Use in closed batch				
process (synthesis or formulation					
Product characteristics					
Remarks	: Liquid, vapour pressure < 0.5 kPa at STP				
Remarks	: With potential for aerosol generation.				
Prequency and duration of use	· Covers deily evenesures up to 0 hours (uplace stated				
Remarks	differently)				
	uncionay,				
Other operational conditions affecting	g workers exposure				
Remarks	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.				
Technical conditions and measures					
Handle substance within a closed system.					
Organizational measures to prevent /limit releases, dispersion and exposure					
SDS Number:100000100097	17/48				

	SAFETY DATA SHEET
Diesei Reference Fuel 1-30	
Version 1.14	Revision Date 2017-05-16
No other specific measures identified.	
2.2 Contributing scenario controllin other process (synthesis) where or	ng worker exposure for: PROC4: Use in batch and portunity for exposure arises
Product characteristics	
Remarks :	Liquid, vapour pressure < 0.5 kPa at STP
Remarks :	With potential for aerosol generation.
Frequency and duration of use Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks :	workers exposure Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Conditions and measures related to per Wear suitable gloves tested to EN374.	ersonal protection, hygiene and health evaluation
2.2 Contributing scenario controllin substance or preparation (charging non-dedicated facilities	ng worker exposure for: PROC8a: Transfer of g/discharging) from/to vessels/large containers at
Remarks :	Liquid, vapour pressure < 0.5 kPa at STP
Remarks :	With potential for aerosol generation.
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks :	workers exposure Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
<b>Technical conditions and measures</b> Drain down system prior to equipment c	opening or maintenance.
Conditions and measures related to per Wear chemically resistant gloves (tested	ersonal protection, hygiene and health evaluation d to EN374) in combination with 'basic' employee training.
2.2 Contributing scenario controllin substance or preparation (charging dedicated facilities	ng worker exposure for: PROC8b: Transfer of g/ discharging) from/ to vessels/ large containers at
Product characteristics	
Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosal generation
	war potential for acrosol generation.
Frequency and duration of useRemarks:	Covers daily exposures up to 8 hours (unless stated
SDS Number:100000100097	18/48

## Diesel Reference Fuel T-30

SDS Number:100000100097

Version 1.14						Revisio	n Date 2017-05-16
		differ	ently)				
Other operatic Remarks	onal conditions a	ffecting worke : Oper abov of oc	ers exposure ation is carried o e ambient tempe cupational hygie	out at eratur ene is	elevat e)., As imple	ted tempera ssumes a go mented.	ture (> 20°C ood basic standard
Technical con Handle substa	ditions and meas ance within a close	sures ed system.					
Conditions an Wear suitable	d measures relat gloves tested to l	<b>ed to persona</b> EN374.	Il protection, hy	/gien	e and	health eva	luation
2.2 Contribut reagent	ing scenario co	ontrolling wo	orker exposure	e for:	PRO	C15: Use	as laboratory
Product chara Remarks Remarks	cteristics	: Liqui : With	d, vapour pressu potential for aer	ure < osol (	0.5 kP genera	a at STP tion.	
Frequency and Remarks	d duration of use	: Cove differ	ers daily exposur rently)	es up	o to 8 h	ours (unles	s stated
Other operatic Remarks	onal conditions a	ffecting worke : Oper abov of oc	ers exposure ation is carried of e ambient tempe cupational hygie	out at eratur ne is	elevat e)., As implei	ed tempera ssumes a go mented.	ture (> 20°C ood basic standard
Organizationa No other spec	I measures to pro	event /limit rel ntified.	leases, dispersi	ion a	nd exj	oosure	
3. Exposure	estimation and	reference to	its source				
Environment							
Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Valu	e type	Level of Exposure	Risk characterization ratio
ERC1	Hydrocarbon Block Method with Petrorisk		Air			0,46 mg/m3	
			Freshwater Freshwater			0,036 mg/L 1,4 mg/kg we	0,54 et 0,61
			sediment			weight	0.054
			Marine sediment			0,0036 mg/L	0,054
						wet weight	0.045
Agricultural soil 0,17 mg/kg 0,015 wet weight							
		1000					
Workers/Cons	umers						
Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type		Level	of Exposure	Risk characterization ratio
PROC1, CS15	ECETOC TRA		Worker – inhala	tion.	0.0	1 ma/m3	0.00

19/48

Version 1.14			Revision	Date 2017-05-16
	Modified	long-term – systemic	1	
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,11
		Worker – long-term – systemic Combined routes		0,11
PROC1, CS85	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	1 mg/m3	0,01
		Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,49
PROC2, CS15, CS85	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	1 mg/m3	0,01
		Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,49
PROC3, CS15	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	3 mg/m3	0,04
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
		Worker – long-term – systemic Combined routes		0,16
PROC3, CS2	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	2,1 mg/m3	0,03
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
		Worker – long-term – systemic Combined routes		0,15
PROC4, CS16	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	5 mg/m3	0,07
		Worker – dermal, long- term – systemic	6,86 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,55
PROC8a, CS39	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	2 mg/m3	0,03
		Worker – dermal, long- term – systemic	13,71 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,50
PROC8b, CS501, CS503	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	5 mg/m3	0,07
		Worker – dermal, long- term – systemic	6,86 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,55
PROC15, CS36	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	5 mg/m3	0,07
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
		Worker – long-term – systemic Combined routes		0,19
PROC1: Use CS15: Gener PROC1: Use	in closed process, no al exposures (closed s in closed process, no roduct storage	likelihood of exposure systems) likelihood of exposure		
PROC2: Use	in closed, continuous	process with occasional controll	ed exposure	
CS15: Gener CS85: Bulk p	al exposures (closed s roduct storage	systems)		
SDS Number:10	0000100097	20/4	8	

## **Diesel Reference Fuel T-30**

Revision Date 2017-05-16

Version 1.14

PROC3: Use in closed batch process (synthesis or formulation) CS15: General exposures (closed systems)

PROC3: Use in closed batch process (synthesis or formulation) CS2: Process sampling

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises CS16: General exposures (open systems)

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities CS39: Equipment cleaning and maintenance

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities CS501: Bulk closed loading and unloading CS503: Bulk transfers (open systems)

PROC15: Use as laboratory reagent CS36: Laboratory activities

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on gualitative risk characterisation. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file - "Site-Specific Production" worksheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Taking into account the findings of the air- monitoring evaluation on benzene included as the Tier 2 analysis in the Low Boiling Point Naphtha category, the default "Air Removal Efficiency" of 90% included in the SPERC has been shown to be over- conservative and that the 95% efficiency can safely be claimed in a Tier II analysis. On this basis, the Tier 2 analysis demonstrates that no refineries have RCRs>1 (see PETRORISK file in IUCLID section 13- "Tier 2 Site Specific Production worksheet"). 1. Short title of Exposure Scenario: Distribution Main User Groups SU 3: Industrial uses: Uses of substances as such or in : preparations at industrial sites SU3: Industrial Manufacturing (all) Sector of use SDS Number:100000100097 21/48

	SAFETY DATA SHEET
Diesel Reference Fuel T-30	
Version 1.14	Revision Date 2017-05-16
Process category :	<ul> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC15: Use as laboratory reagent</li> </ul>
Environmental release category :	ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7: Manufacture of substances, Formulation of preparations, Formulation in materials, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in inclusion into or onto a matrix, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids, Industrial use of monomers for manufacture of thermoplastics, Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers, Industrial use of substances in closed systems
Further information :	Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, maintenance and associated laboratory activities. Excludes emissions during transport.
2.1 Contributing scenario controllin ERC4, ERC5, ERC6a, ERC6b, ERC6 Formulation of preparations, Formu in processes and products, not bec inclusion into or onto a matrix, Indu substance (use of intermediates), Ir use of monomers for manufacture of regulators for polymerisation proce Industrial use of substances in closs Product characteristics	ig environmental exposure for:ERC1, ERC2, ERC3, c, ERC6d, ERC7: Manufacture of substances, alation in materials, Industrial use of processing aids coming part of articles, Industrial use resulting in astrial use resulting in manufacture of another industrial use of reactive processing aids, Industrial of thermoplastics, Industrial use of process esses in production of resins, rubbers, polymers, and systems
Remarks Maximum allowable site tonnage : (MSafe) based on release following total wastewater treatment removal (tonnes/day): (Msafe)	Substance is complex UVCB., Predominantly hydrophobic.
SDS Number:100000100097	22/48

## Diesel Reference Fuel T-30

Version 1.14

Revision Date 2017-05-16

Environment factors not influenced t	by risk management
Flow rate	: 18.000 m3/d
Dilution Factor (River)	: 10
Didition actor (Coastal Aleas)	. 100
Other given operational conditions a Continuous use/release	ffecting environmental exposure
Number of emission days per year	: 300
Emission or Release Factor: Air	: 0,1 %
Emission or Release Factor: Water	: 0,0001 %
Emission or Release Factor: Soil	: 0,001 %
Technical conditions and measures /	Organizational measures
Air	: Treat air emission to provide a typical removal efficiency of (%): (Effectiveness: 90 %)
Water	: Treat onsite wastewater (prior to receiving water discharge) to
	provide the required removal efficiency of $\geq$ (%): (Effectiveness: 0 %)
Remarks	: Common practices vary across sites thus conservative process release estimates used.
Water	: If discharging to domestic sewage treatment plant, provide the
	required onsite wastewater removal efficiency of $\geq$ (%):
	(Effectiveness: 0 %)
Remarks	: Prevent discharge of undissolved substance to or recover
Remarks	· Risk from environmental exposure is driven by humans via
Remarks	indirect exposure (primarily indestion)
Remarks	: No wastewater treatment required.
Remarks	: Prevent discharge of undissolved substance to or recover
	from wastewater.
Remarks	: Do not apply industrial sludge to natural soils.
Remarks	: Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to	municipal sewage treatment plant
Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Flow rate of sewage treatment	: 2.000 m3/d
plant effluent	
Effectiveness (of a measure)	: 94,1 % • 04.1 %
water	. 94,1 %
Conditions and measures related to	external treatment of waste for disposal
vvaste treatment	: External treatment and disposal of waste should comply with
Conditions and measures related to	applicable local and/or national regulations.
Recovery Methods	• External recovery and recycling of waste should comply with
	applicable local and/or national regulations.
2.2 Contributing scenario control	ling worker exposure for: PROC1: Use in closed
process, no likelihood of exposur	e
Product characteristics	Substance is complex LIV/CD. Dredeminently by dreader in
Remarks	Substance is complex UVCB., Predominantly hydrophobic.
Remarks	: Liquid, vapour pressure < 0.5 kPa at STP
Remarks	: With potential for aerosol generation.
	,
Frequency and duration of use	
SDS Number:100000100097	23/48

	SAFETY DATA SHEET
Diesel Reference Fuel T-30	
Version 1.14	Revision Date 2017-05-16
Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affectin Remarks	<ul> <li>g workers exposure</li> <li>Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
Technical conditions and measures Avoid direct skin contact with product. (tested to EN374) if hand contact with they occur. Wash off skin contaminati prevent/minimize exposures and to re closed system., Store substance within	Identify potential areas for indirect skin contact. Wear gloves substance is likely. Clean up contamination/spills as soon as on immediately. Provide basic employee training to port any skin effects that may develop., Handle substance within a n a closed system.
<b>Conditions and measures related to p</b> Control any potential exposure using r maintained facilities and a good stands prior to breaking containment. Drain of Where there is potential for exposure: aware of basic actions to minimize exp available; clear up spills and dispose of effectiveness of control measures; pro implement corrective actions.	personal protection, hygiene and health evaluation measures such as contained systems, properly designed and ard of general ventilation. Drain down systems and transfer lines down and flush equipment where possible prior to maintenance. Ensure relevant staff are informed of exposure potential and posures; ensure suitable personal protective equipment is of waste in accordance with regulatory requirements; monitor wide regular health surveillance as appropriate; identify and
2.2 Contributing scenario controll continuous process with occasion	ling worker exposure for: PROC2: Use in closed, nal controlled exposure
Product characteristics	
Remarks	: Liquid, vapour pressure < 0.5 kPa at STP
Remarks	: With potential for aerosol generation.
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Remarks	<ul> <li>g workers exposure</li> <li>Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
<b>Technical conditions and measures</b> Handle substance within a closed syst	tem., Store substance within a closed system.
2.2 Contributing scenario controll process (synthesis or formulation	ling worker exposure for: PROC3: Use in closed batch າ)
Product characteristics	
Remarks	: Liquid, vapour pressure < 0.5 kPa at STP
Remarks	: With potential for aerosol generation.
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
SDS Number:100000100097	24/48

	SAFETY DATA SHEET
Diesel Reference Fuel T-30	
Version 1.14	Revision Date 2017-05-16
Other operational conditions affecting Remarks :	workers exposure Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
<b>Technical conditions and measures</b> Handle substance within a closed system	m.
Organizational measures to prevent /lin No other specific measures identified.	mit releases, dispersion and exposure
2.2 Contributing scenario controllir other process (synthesis) where or	ng worker exposure for: PROC4: Use in batch and oportunity for exposure arises
Product characteristics	
Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting	workers exposure
Remarks :	Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Conditions and measures related to per Wear suitable gloves tested to EN374.	ersonal protection, hygiene and health evaluation
2.2 Contributing scenario controllir substance or preparation (charging non-dedicated facilities	ng worker exposure for: PROC8a: Transfer of g/discharging) from/to vessels/large containers at
Product characteristics	
Remarks :	Liquid, vapour pressure < 0.5 kPa at STP
Remarks :	With potential for aerosol generation.
Frequency and duration of use Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks :	workers exposure Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
<b>Technical conditions and measures</b> Drain down system prior to equipment o	pening or maintenance.
Conditions and measures related to per Wear chemically resistant gloves (tested	ersonal protection, hygiene and health evaluation d to EN374) in combination with 'basic' employee training.
2.2 Contributing scenario controllin substance or preparation (charging	ng worker exposure for: PROC8b: Transfer of g/ discharging) from/ to vessels/ large containers at
SDS Number:100000100097	25/48

Version 1.14

Revision Date 2017-05-16

SAFETY DATA SHEET

dedicated facilities					
Product characteristics					
Product characteristics	Liquid vapour prossure < 0.5 kPa at STP				
Remarks :	With potential for aerosol generation				
	with potential for acrosol generation.				
Frequency and duration of use					
Remarks :	Covers daily exposures up to 8 hours (unless stated				
	differently)				
Other operational conditions affecting	workers exposure				
Remarks .	operation is carried out at elevated temperature (> 20 C				
	of occupational bygiene is implemented				
	or occupational hygicite is implemented.				
Technical conditions and measures					
Handle substance within a closed system	m.				
Conditions and measures related to pe	ersonal protection, hygiene and health evaluation				
Wear suitable gloves tested to EN3/4.					
2.2. Constributing coordination					
2.2 Contributing scenario controllin	ng worker exposure for: PROC9: Transfer of				
substance or preparation into small	i containers (dedicated filling line, including				
weigning)					
Product characteristics					
Remarks :	Liquid, vapour pressure < 0.5 kPa at STP				
Remarks :	With potential for aerosol generation.				
Frequency and duration of use					
Remarks	Covers daily exposures up to 8 hours (upless stated				
	differently)				
Other operational conditions affecting workers exposure					
Remarks :	Operation is carried out at elevated temperature (> 20°C				
	above ambient temperature)., Assumes a good basic standard				
	of occupational hygiene is implemented.				
Conditions and massures related to no	weenel protection, burging and health avaluation				
Wear suitable gloves tested to EN374	ersonal protection, hygiene and health evaluation				
2 2 Contributing scenario controllir	ng worker exposure for: PROC15: Use as laboratory				
reagent					
Product characteristics					
Remarks	Liquid, vapour pressure < 0.5 kPa at STP				
Remarks	With potential for aerosol generation.				
Frequency and duration of use					
Remarks :	Covers daily exposures up to 8 hours (unless stated				
	differently)				
Duther operational conditions affecting	Operation is corried out at alculated temperature (- 20%)				
remarks :	operation is carried out at elevated temperature (> 20°C				
	above ambient temperature). Assumes a good basic standard				
SUS Number:100000100097	26/48				

Version 1.14

Revision Date 2017-05-16

#### Organizational measures to prevent /limit releases, dispersion and exposure No other specific measures identified.

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	Risk characterization ratio
ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7	Hydrocarbon Block Method with Petrorisk		Air		0,024 mg/m3	
			Freshwater		0,0018 mg/L	0,048
			Freshwater sediment		1,4 mg/kg wet weight	0,055
			Marine water		0,000057 mg/L	0,00083
			Marine sediment		0,064 mg/kg wet weight	0,0019
			Agricultural soil		0,17 mg/kg wet weight	0,0017

#### ERC1: Manufacture of substances

ERC2: Formulation of preparations

ERC3: Formulation in materials

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC5: Industrial use resulting in inclusion into or onto a matrix

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b: Industrial use of reactive processing aids

ERC6c: Industrial use of monomers for manufacture of thermoplastics

ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC7: Industrial use of substances in closed systems

#### Workers/Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	Risk characterization ratio
PROC1, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	0,01 mg/m3	0,00
			Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
			Worker – long-term – systemic Combined routes		0,12
PROC1, CS67	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,49
PROC2, CS15, CS67	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,49
PROC3, CS2	ECETOC TRA		Worker – inhalation,	3 mg/m3	0,04
SDS Number:100000100097 27/48					

Version 1.14

Revision Date 2017-05-16

Version 1.14				1/6/130	on Date 2017-03-10
	Modified		long-term – systemic		
			Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
			Worker – long-term –		0,16
			routes		
PROC4, CS16	ECETOC TRA Modified		Worker – inhalation,	5 mg/m3	0,07
	Wouncu		Worker – dermal, long- term – systemic	6,86 mg/kg/d	0,47
			Worker – long-term –		0,55
			systemic Combined routes		
PROC8a, CS39	ECETOC TRA		Worker – inhalation,	2 mg/m3	0,03
	Widdiffed		Worker – dermal, long-	13,71 mg/kg/d	0,47
			term – systemic Worker – long-term –		0,50
			systemic Combined		
PROC8b,	ECETOC TRA		Worker – inhalation,	5 mg/m3	0,07
CS501, CS503	Modified		long-term – systemic Worker – dermal long-	6.86 mg/kg/d	0.47
			term – systemic	0,00 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,55
PROC9, CS6	ECETOC TRA Modified		Worker – inhalation,	5 mg/m3	0,07
	Widdined		Worker – dermal, long-	6,86 mg/kg/d	0,47
			term – systemic Worker – long-term –		0.55
			systemic Combined		0,00
PROC15, CS36	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	5 mg/m3	0,07
	Widdified		Worker – dermal, long-	0,34 mg/kg/d	0,12
			Worker – long-term –		0,19
			systemic Combined routes		
PROC1: Use	in closed process	s, no likelihood o	of exposure		
CS15: Gener	al exposures (clos	sed systems)			
PROC1: Use CS67: Storad	in closed process	s, no likelihood o	of exposure		
	<b>, , , , , , , , , ,</b>				
PROC2: Use CS15: Gener CS67: Storaç	in closed, continu al exposures (clos ge	ious process wi sed systems)	th occasional control	led exposure	
PROC3: Use CS2: Proces	in closed batch p s sampling	rocess (synthes	sis or formulation)		
PROC4: Use CS16: Gener	in batch and othe al exposures (ope	er process (syntl en systems)	hesis) where opportu	nity for exposure	e arises
PROC8a: Tra at non-dedica CS39: Equipt	ansfer of substanc ated facilities ment cleaning and	e or preparation I maintenance	n (charging/dischargi	ng) from/to vesse	els/large containers
PROC8b: Tra containers at CS501: Bulk CS503: Bulk	ansfer of substanc dedicated facilitie closed loading an transfers (open sy	e or preparatior s d unloading /stems)	n (charging/ discharg	ing) from/ to ves	sels/ large
PROC9: Trar	nsfer of substance	or preparation	into small containers	(dedicated filling	g line, including

SDS Number:100000100097

28/48

## **Diesel Reference Fuel T-30**

Revision Date 2017-05-16

Version 1.14

weighing) CS6: Drum and small package filling

PROC15: Use as laboratory reagent CS36: Laboratory activities

#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk Management Measures are based on qualitative risk characterisation.Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

#### 1. Short title of Exposure Scenario: Use as an intermediate

Main User Groups	: <b>SU 3:</b> Industrial uses: Uses of substances as such or in
Sector of use	<ul> <li>SU3, SU8, SU9: Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals</li> </ul>
Process category	<ul> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC15: Use as laboratory reagent</li> </ul>
Environmental release category	: <b>ERC6a:</b> Industrial use resulting in manufacture of another substance (use of intermediates)
Further information	: Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge,
SDS Number:100000100097	29/48

## Diesel Reference Fuel T-30

Version 1.14

Revision Date 2017-05-16

road/rail car and bulk container).

2.1 Contributing scenario control resulting in manufacture of anoth	ling environmental exposure for:ERC6a: Industrial use er substance (use of intermediates)			
Product characteristics				
Remarks	Substance is complex UVCB., Predominantly hydrophobic.			
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d):(Msafe)	: 410.000			
Environment factors not influenced b	by risk management			
Flow rate	: 18.000 m3/d			
Dilution Factor (River) Dilution Factor (Coastal Areas)	: 10 : 100			
Other given operational conditions a	ffecting environmental exposure			
Continuous use/release	J			
Number of emission days per vear	: 300			
Emission or Release Factor: Air	: 0,1 %			
Emission or Release Factor: Water	: 0,003 %			
Emission or Release Factor: Soil	: 0,1 %			
Technical conditions and measures /	Organizational measures			
Air	: Treat air emission to provide a typical removal efficiency of			
	(%): (Effectiveness: 80 %)			
Water	<ul> <li>Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of ≥ (%): (Effectiveness: 51.6 %)</li> </ul>			
Remarks	: Common practices vary across sites thus conservative process release estimates used.			
Water	<ul> <li>If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%):</li> <li>(Effectiveness: 0 %)</li> </ul>			
Remarks	<ul> <li>Risk from environmental exposure is driven by freshwater sediment.</li> </ul>			
Remarks	: Prevent discharge of undissolved substance to or recover from onsite wastewater.			
Remarks	: If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.			
Remarks	: Prevent discharge of undissolved substance to or recover from wastewater.			
Remarks	: Do not apply industrial sludge to natural soils.			
Remarks	: Sludge should be incinerated, contained or reclaimed.			
Conditions and measures related to	municipal sewage treatment plant			
Type of Sewage Treatment Plant	: Municipal sewage treatment plant			
Flow rate of sewage treatment	• 2 000 m3/d			
plant effluent	. <u>2.000 mora</u>			
Effectiveness (of a measure)	· 94.1 %			
Percentage removed from waste water	· 94,1 %			
Conditions and measures related to external treatment of waste for disposal				
SDS Number:100000100097	30/48			

	SAFETY DATA SHEET
<b>Diesel Reference Fuel T-30</b>	
Version 1.14	Revision Date 2017-05-16
Waste treatment	: This substance is consumed during use and no waste of the substance is generated.
Conditions and measures related to Recovery Methods	<ul> <li>external recovery of waste</li> <li>This substance is consumed during use and no waste of the substance is generated.</li> </ul>
2.2 Contributing scenario control process, no likelihood of exposur	ling worker exposure for: PROC1: Use in closed re
Product characteristics Remarks	Substance is complex UVCB., Predominantly hydrophobic.
Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affectin Remarks	<ul> <li>g workers exposure</li> <li>Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
Technical conditions and measures Avoid direct skin contact with product. (tested to EN374) if hand contact with they occur. Wash off skin contaminat prevent/minimize exposures and to re closed system., Store substance withi	Identify potential areas for indirect skin contact. Wear gloves substance is likely. Clean up contamination/spills as soon as ion immediately. Provide basic employee training to port any skin effects that may develop., Handle substance within a n a closed system.
<b>Conditions and measures related to</b> Control any potential exposure using a maintained facilities and a good stand prior to breaking containment. Drain of Where there is potential for exposure: aware of basic actions to minimize ex available; clear up spills and dispose of effectiveness of control measures; pro- implement corrective actions.	personal protection, hygiene and health evaluation measures such as contained systems, properly designed and lard of general ventilation. Drain down systems and transfer lines down and flush equipment where possible prior to maintenance. Ensure relevant staff are informed of exposure potential and posures; ensure suitable personal protective equipment is of waste in accordance with regulatory requirements; monitor povide regular health surveillance as appropriate; identify and
2.2 Contributing scenario control continuous process with occasio	ling worker exposure for: PROC2: Use in closed, nal controlled exposure
Product characteristics	
Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affectin Remarks	<ul> <li>g workers exposure</li> <li>Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
SDS Number:100000100097	31/48

Version 1.14

Revision Date 2017-05-16

#### Technical conditions and measures

Handle substance within a closed system., Store substance within a closed system.

2.2 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch	
process (synthesis or formulation)	

#### Product characteristics

Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting	workers exposure
Remarks :	Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
<b>Technical conditions and measures</b> Handle substance within a closed syste	m.
Organizational measures to prevent /li No other specific measures identified.	mit releases, dispersion and exposure
other process (synthesis) where op	ng worker exposure for: PROC4: Use in batch and opportunity for exposure arises
Broduct characteristics	
Remarks	Liquid, vapour pressure < 0.5 kPa at STP
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting	workers exposure
Remarks :	Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Conditions and measures related to per Wear suitable gloves tested to EN374.	ersonal protection, hygiene and health evaluation
2.2 Contributing scenario controllin substance or preparation (charging non-dedicated facilities	ng worker exposure for: PROC8a: Transfer of g/discharging) from/to vessels/large containers at
Product characteristics	
Remarks :	Liquid, vapour pressure < 0.5 KPa at STP With potential for aerosol generation
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated
SDS Number:100000100097	32/48

## Diesel Reference Fuel T-30

Version 1.14

Revision Date 2017-05-16

differently)         Other operational conditions affecting workers exposure         Remarks       : Operation is carried out at elevated temperature), Assumes a good basic standard of occupational hygiene is implemented.         Texhnical conditions and measures       : Distributing scenario controlling worker exposure for: PROCBb: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         Product characteristics       : Liquid, vapour pressure < 0.5 kPa at STP         Remarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature), Assumes a good basic standard of occupational hygiene is implemented.         Product characteristics       : Covers daily exposures up to 8 hours (unless stated differently):         Other operational conditions affecting worker exposure of corcupational hygiene is implemented.       : 20°C above ambient temperature), Assumes a good basic standard of occupational hygiene is implemented.         Technical conditions and measures       : Operation is carried out at elevated temperature (> 20°C above ambient temperature), Assumes a good basic standard of occupational hygiene is implemented.         21 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics       : Liquid, vapour pressure < 0.5 kPa at STP         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP         Remarks       : Covers daily exposures up to 8 hours (unless stated differently):         Pr		
Other operational conditions affecting workers exposure       Remarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature), Assumes a good basic standard of occupational hygiene is implemented.         Technical conditions and measures       Drain down system prior to equipment opening or maintenance.         Conditions and measures related to personal protection, hygiene and health evaluation       Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.         2.2 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         Product characteristics       Remarks         Remarks       : Uquid, vapour pressure < 0.5 kPa at STP		differently)
Technical conditions and measures         Drain down system prior to equipment opening or maintenance.         Conditions and measures related to personal protection, hygiene and health evaluation         Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.         2.2 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         Product characteristics       Remarks       Liquid, vapour pressure < 0.5 kPa at STP Remarks	Other operational conditions affecting Remarks :	<b>workers exposure</b> Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Conditions and measures related to personal protection, hygiene and health evaluation         Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.         2.2 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         Product characteristics       Emarks       : Liquid, vapour pressure < 0.5 kPa at STP	Technical conditions and measures Drain down system prior to equipment of	opening or maintenance.
2.2 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         Product characteristics       Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Conditions and measures related to perform the second seco	ersonal protection, hygiene and health evaluation d to EN374) in combination with 'basic' employee training.
Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	2.2 Contributing scenario controlling substance or preparation (charging dedicated facilities	ng worker exposure for: PROC8b: Transfer of g/ discharging) from/ to vessels/ large containers at
Product characteristics <ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>Remarks</li> <li>With potential for aerosol generation.</li> </ul> Frequency and duration of use       Remarks       Covers daily exposures up to 8 hours (unless stated differently)         Other operational conditions affecting workers exposure       Remarks       Covers daily exposures up to 8 hours (unless stated differently)         Other operational conditions affecting workers exposure       Remarks       Covers daily exposures up to 8 hours (unless stated differently).         Other operational conditions and measures <ul> <li>Operational hygiene is implemented.</li> <li>Technical conditions and measures</li> <li>Handle substance within a closed system.</li> </ul> Conditions and measures related to personal protection, hygiene and health evaluation         Wear suitable gloves tested to EN374.         2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics <ul> <li>Remarks</li> <li>With potential for aerosol generation.</li> </ul> Frequency and duration of use <ul> <li>Remarks</li> <li>With potential for aerosol generation.</li> </ul> Frequency and duration of use <ul> <li>Covers daily exposures up to 8 hours (unless stated differently)</li> <li>Other operatio</li></ul>	Product characteristics	
Frequency and duration of use Remarks       : Covers daily exposures up to 8 hours (unless stated differently):         Other operational conditions affecting workers exposure Remarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.         Technical conditions and measures Handle substance within a closed system.       Conditions and measures related to personal protection, hygiene and health evaluation Wear suitable gloves tested to EN374.         2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics Remarks       : Liquid, vapour pressure < 0.5 kPa at STP Remarks         Remarks       : With potential for aerosol generation.         Frequency and duration of use Remarks       : Covers daily exposures up to 8 hours (unless stated differently):         Other operational conditions affecting workers exposure Aemarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.         Organizational measures to prevent /limit releases, dispersion and exposure No other specific measures identified.       Ogranizational measures identified.	Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Other operational conditions affecting workers exposure       Remarks       Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.         Technical conditions and measures       Handle substance within a closed system.         Conditions and measures related to personal protection, hygiene and health evaluation         Wear suitable gloves tested to EN374.         2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Frequency and duration of use Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Technical conditions and measures         Handle substance within a closed system.         Conditions and measures related to personal protection, hygiene and health evaluation         Wear suitable gloves tested to EN374.         2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Other operational conditions affecting Remarks :	<b>workers exposure</b> Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
Conditions and measures related to personal protection, hygiene and health evaluation         Wear suitable gloves tested to EN374.         2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Technical conditions and measures Handle substance within a closed syste	m.
2.2 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent         Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Conditions and measures related to po Wear suitable gloves tested to EN374.	ersonal protection, hygiene and health evaluation
Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	2.2 Contributing scenario controlli	ng worker exposure for: PROC15: Use as laboratory
Product characteristics         Remarks       : Liquid, vapour pressure < 0.5 kPa at STP		
Remarks       : Liquid, vapour pressure < 0.5 kPa at STP	Product characteristics	
Frequency and duration of use Remarks       : Covers daily exposures up to 8 hours (unless stated differently)         Other operational conditions affecting workers exposure Remarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.         Organizational measures to prevent /limit releases, dispersion and exposure No other specific measures identified.         SDS Number:100000100097       33/48	Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Other operational conditions affecting workers exposure         Remarks       : Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.         Organizational measures to prevent /limit releases, dispersion and exposure         No other specific measures identified.         SDS Number:100000100097       33/48	Frequency and duration of use Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Organizational measures to prevent /limit releases, dispersion and exposure No other specific measures identified. SDS Number:100000100097 33/48	Other operational conditions affecting Remarks :	workers exposure Operation is carried out at elevated temperature (> 20°C above ambient temperature)., Assumes a good basic standard of occupational hygiene is implemented.
SDS Number:100000100097 33/48	Organizational measures to prevent /li No other specific measures identified.	mit releases, dispersion and exposure
	SDS Number:100000100097	33/48

#### Version 1.14

#### Revision Date 2017-05-16

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	Risk characterization ratio
ERC6a	Hydrocarbon Block Method with Petrorisk		Air		0,022 mg/m3	
			Freshwater		0,0045 mg/L	0,067
			Freshwater sediment		1,5 mg/kg wet weight	0,12
			Marine water		0,000057 mg/L	0,0067
			Marine sediment		0,079 mg/kg wet weight	0,085
			Agricultural soil		0,17 mg/kg wet weight	0,0017

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

#### Workers/Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	Risk characterization ratio
PROC1, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	0,01 mg/m3	0,00
			Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,11
			Worker – long-term – systemic Combined routes		0,11
PROC1, CS85	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,49
PROC2, CS15, CS85	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,49
PROC3, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	3 mg/m3	0,04
			Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
			Worker – long-term – systemic Combined routes		0,16
PROC3, CS2	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	2,1 mg/m3	0,03
			Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
			Worker – long-term – systemic Combined routes		0,15
PROC4, CS16	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	5 mg/m3	0,07
			Worker – dermal, long- term – systemic	6,86 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,55
SDS Number:1	00000100097		34/4	48	

SAFETY DATA SHEET

SAFETY DATA SHEET

Version 1.14			Revision	Date 2017-05-1
PROC8a, CS39	ECETOC TRA Modified	Worker – inhalation, long-term – svstemic	2 mg/m3	0,03
		Worker – dermal, long- term – systemic	13,71 mg/kg/d	0,47
		Worker – long-term – systemic Combined		0,50
PROC8b, CS501, CS503	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	5 mg/m3	0,07
		Worker – dermal, long- term – systemic	6,86 mg/kg/d	0,47
		Worker – long-term – systemic Combined routes		0,55
PROC15, CS36	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	5 mg/m3	0,07
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12
		Worker – long-term – systemic Combined		0,19
PROC3: Use CS15: Gener PROC3: Use CS2: Process PROC4: Use CS16: Gener	in closed batch p ral exposures (clos in closed batch p s sampling in batch and othe ral exposures (ope	cess (synthesis or formulation) d systems) cess (synthesis or formulation) process (synthesis) where opportu systems)	nity for exposure a	rises
PROC8a: Tra at non-dedica CS39: Equip	ansfer of substanc ated facilities ment cleaning anc	or preparation (charging/dischargi naintenance	ng) from/to vessels	/large container
PROC8b: Tra containers at CS501: Bulk CS503: Bulk	ansfer of substanc dedicated facilitie closed loading an transfers (open sy	or preparation (charging/ discharg unloading tems)	ing) from/ to vesse	ls/ large
PROC15: Us CS36: Labora	e as laboratory re atory activities	gent		
. Guidance f y the Expos	to Downstream sure Scenario	ser to evaluate whether he w	orks inside the I	boundaries se

SDS Number:100000100097

35/48

	SAFETY DATA SHEET
Diesel Reference Fuel T-3	0
Version 1.14	Revision Date 2017-05-16
Predicted exposures are not experience Measures/Operational Conditions Where other Risk Management Me ensure that risks are managed to a Available hazard data do not enab Available hazard data do not supp effects. Risk Management Measures are bassumed operating conditions whi necessary to define appropriate sit Required removal efficiency for wa either alone or in combination. Required removal efficiency for air combination. Further details on scaling and com (http://cefic.org/en/reach-for-indus)	cted to exceed the DN(M)EL when the Risk Management outlined in Section 2 are implemented. easures/Operational Conditions are adopted, then users should at least equivalent levels. De the derivation of a DNEL for dermal irritant effects. For the need for a DNEL to be established for other health based on qualitative risk characterisation.Guidance is based on ch may not be applicable to all sites; thus, scaling may be te-specific risk management measures. Astewater can be achieved using onsite/offsite technologies, r can be achieved using on-site technologies, either alone or in trol technologies are provided in SpERC factsheet tries-libraries.html).
1. Short title of Exposure Scenario: US	e as a luei - industrial
Main User Groups Sector of use Process category	<ul> <li>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</li> <li>SU3: Industrial Manufacturing (all)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC16: Using material as fuel sources, limited exposure to unburned product to be expected</li> </ul>
Environmental release category	: ERC7: Industrial use of substances in closed systems
Further information	: Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
2.1 Contributing scenario control substances in closed systems	lling environmental exposure for:ERC7: Industrial use of
Remarks	Substance is complex UVCB. Predominantly hydrophobic
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (tonnes/day): (Msafe)	: 5.000
SDS Number:100000100097	36/48

Γ

## **Diesel Reference Fuel T-30**

Version 1.14 Revision Date 2017-05-16 Environment factors not influenced by risk management Flow rate : 18.000 m3/d : 10 Dilution Factor (River) Dilution Factor (Coastal Areas) : 100 Other given operational conditions affecting environmental exposure Continuous use/release Number of emission days per year : 300 Emission or Release Factor: Air : 0,5 % Emission or Release Factor: Water : 0,001 % Emission or Release Factor: Soil : 0 % Technical conditions and measures / Organizational measures : Treat air emission to provide a typical removal efficiency of Air (%): (Effectiveness: 95 %) Water : Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): (Effectiveness: 97,7 %) Remarks : Common practices vary across sites thus conservative process release estimates used. Water : If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): (Effectiveness: 60.4 %) Remarks : Risk from environmental exposure is driven by freshwater sediment. Remarks : If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. : Prevent discharge of undissolved substance to or recover Remarks from wastewater. Remarks : Do not apply industrial sludge to natural soils. Remarks : Sludge should be incinerated, contained or reclaimed. Conditions and measures related to municipal sewage treatment plant Type of Sewage Treatment Plant : Municipal sewage treatment plant : 2.000 m3/d Flow rate of sewage treatment plant effluent Effectiveness (of a measure) : 94,1 % Percentage removed from waste : 97,7 % water Conditions and measures related to external treatment of waste for disposal Remarks : Combustion emissions limited by required exhaust emission controls. Remarks : Combustion emissions considered in regional exposure assessment. Conditions and measures related to external recovery of waste **Recovery Methods** : External recovery and recycling of waste should comply with applicable local and/or national regulations. 2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure **Product characteristics** Remarks Substance is complex UVCB., Predominantly hydrophobic. Remarks : Liquid, vapour pressure < 0.5 kPa at STP : With potential for aerosol generation. Remarks Frequency and duration of use SDS Number:100000100097 37/48

	SAFETY DATA SHEET
Diesel Reference Fuel T-30	
Version 1.14	Revision Date 2017-05-16
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks :	workers exposure Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.
Technical conditions and measures Avoid direct skin contact with product. In (tested to EN374) if hand contact with su they occur. Wash off skin contamination prevent/minimize exposures and to repor- closed system.	dentify potential areas for indirect skin contact. Wear gloves ubstance is likely. Clean up contamination/spills as soon as n immediately. Provide basic employee training to rt any skin effects that may develop., Store substance within a
Organizational measures to prevent /lin No other specific measures identified.	nit releases, dispersion and exposure
<b>Conditions and measures related to per</b> Control any potential exposure using meanitained facilities and a good standar prior to breaking containment. Drain do Where there is potential for exposure: E aware of basic actions to minimize expo available; clear up spills and dispose of effectiveness of control measures; provi implement corrective actions.	rsonal protection, hygiene and health evaluation easures such as contained systems, properly designed and d of general ventilation. Drain down systems and transfer lines wn and flush equipment where possible prior to maintenance. nsure relevant staff are informed of exposure potential and sures; ensure suitable personal protective equipment is waste in accordance with regulatory requirements; monitor de regular health surveillance as appropriate; identify and
2.2 Contributing scopario controllin	ng worker exposure for: PPOC2: Use in closed
continuous process with occasiona	al controlled exposure
Product characteristics	
Remarks :	With potential for aerosol generation.
Francisco and dimetion of the	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks :	workers exposure Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.
Technical conditions and measures Store substance within a closed system.	
2.2 Contributing scenario controllir process (synthesis or formulation)	g worker exposure for: PROC3: Use in closed batch
Remarks	Liquid, vapour pressure < 0.5 kPa at STP
Remarks :	With potential for aerosol generation.
Frequency and duration of use	
SDS Number:100000100097	38/48

Diesel Reference Fuel T-30	SAFETY DATA SHEET		
Version 1.14	Povision Data 2017.05-16		
Remarks	: Covers daily exposures up to 8 hours (unless stated differently)		
Other operational conditions affecting Remarks	<ul> <li>g workers exposure</li> <li>Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>		
Organizational measures to prevent / No other specific measures identified.	limit releases, dispersion and exposure		
2.2 Contributing scenario controll substance or preparation (chargir non-dedicated facilities	ing worker exposure for: PROC8a: Transfer of ng/discharging) from/to vessels/large containers at		
Product characteristics			
Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>		
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)		
Other operational conditions affecting Remarks	<ul> <li>g workers exposure</li> <li>Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>		
Technical conditions and measures Drain down system prior to equipment	opening or maintenance.		
Conditions and measures related to p Wear chemically resistant gloves (test	personal protection, hygiene and health evaluation ed to EN374) in combination with 'basic' employee training.		
2.2 Contributing scenario controll substance or preparation (chargin dedicated facilities	ing worker exposure for: PROC8b: Transfer of ng/ discharging) from/ to vessels/ large containers at		
Product characteristics			
Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>		
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)		
Other operational conditions affecting workers exposure         Remarks       : Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.			
Conditions and measures related to p Wear suitable gloves tested to EN374.	personal protection, hygiene and health evaluation		
2.2 Contributing scenario controll	ing worker exposure for: PROC16: Using material as		
SDS Number:100000100097	39/48		

Version 1.14

Revision Date 2017-05-16

SAFETY DATA SHEET

#### fuel sources, limited exposure to unburned product to be expected

Remarks	: Liquid, vapour pressure < 0.5 kPa at STP
Remarks	: With potential for aerosol generation.
Frequency and duration of	use
Remarks	: Covers daily exposures up to 8 hours (unless stated differently)

Remarks

: Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.

Organizational measures to prevent /limit releases, dispersion and exposure No other specific measures identified.

#### 3. Exposure estimation and reference to its source

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	Risk characterization ratio
ERC7	Hydrocarbon Block Method with Petrorisk		Air		0,29 mg/m3	
			Freshwater		0,055 mg/L	0,8
			Freshwater sediment		2,1 mg/kg wet weight	0,91
			Marine water		0,0055 mg/L	0,08
			Marine sediment		0,21 mg/kg wet weight	0,091
			Agricultural soil		0,17 mg/kg wet weight	0,01

ERC7: Industrial use of substances in closed systems

#### Workers/Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	Risk characterization ratio
PROC1, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term – systemic Combined routes		0,49
PROC1, CS67	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	0,14 mg/kg/d	0,05
			Worker – long-term – systemic Combined routes		0,06
PROC2, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker – dermal, long- term – systemic	1,37 mg/kg/d	0,47
			Worker – long-term –		0,49
SDS Number:100000100097 40/48					

# Diesel Reference Fuel T-30

Povision Data 2017 05 16

Version 1.14			Revisi	on Date 2017-05-16		
		systemic Combined				
PROC2, CS67	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	1 mg/m3	0,01		
		Worker – dermal, long- term – systemic	0,14 mg/kg/d	0,05		
		Worker – long-term – systemic Combined		0,06		
PROC3 CS107	ECETOC TRA	routes Worker – inhalation	1 mg/m3	0.01		
	Modified	long-term – systemic	r mg/mo	0,01		
		Worker – dermal, long- term – systemic	0,34 mg/kg/d	0,12		
		Worker – long-term – systemic Combined routes		0,13		
PROC8a, CS39, CS103	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	1 mg/m3	0,01		
		Worker – dermal, long- term – systemic	13,71 mg/kg/d	0,47		
		Worker – long-term – systemic Combined		0,49		
PROC8b. CS8.	ECETOC TRA	routes Worker – inhalation.	5 ma/m3	0.07		
CS14	Modified	long-term – systemic	0.00 // //	0.47		
		term – systemic	6,86 mg/kg/d	0,47		
		Worker – long-term –		0,55		
		routes				
PROC16, CS107	ECETOC TRA Modified	Worker – inhalation, long-term – systemic	1 mg/m3	0,03		
		Worker – dermal, long- term – systemic	0,03 mg/kg/d	0,01		
		Worker – long-term – systemic Combined		0,02		
PROC1: Use in closed process, no likelihood of exposure CS15: General exposures (closed systems)						
PROC1: Use CS67: Storag	in closed process je	no likelihood of exposure				
PROC2: Use CS15: Gener	in closed, continu al exposures (clos	ous process with occasional control ed systems)	led exposure			
PROC2: Use CS67: Storac	in closed, continu le	ous process with occasional control	led exposure			
PROC3: Use	in closed batch p	ocess (synthesis or formulation)				
	eu systems)					
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities CS39: Equipment cleaning and maintenance						
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities CS8: Drum/batch transfers CS14: Bulk transfers						
PROC16: Using material as fuel sources, limited exposure to unburned product to be expected CS107: (closed systems)						

SDS Number:100000100097

41/48

Version 1.14

Revision Date 2017-05-16

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

#### 1. Short title of Exposure Scenario: Use as a fuel - professional

Main User Groups	: <b>SU 22:</b> Professional uses: Public domain (administration,
Sector of use	<ul> <li>education, entertainment, services, craftsmen)</li> <li>SU 22: Professional uses: Public domain (administration, education, entertainment services craftsmen)</li> </ul>
Process category	<ul> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC16: Using material as fuel sources, limited exposure to unburned product to be expected</li> </ul>
Environmental release category	: <b>ERC9a, ERC9b:</b> Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information	: Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
2.1 Contributing scenario control dispersive indoor use of substan substances in closed systems	lling environmental exposure for:ERC9a, ERC9b: Wide ces in closed systems, Wide dispersive outdoor use of
Product characteristics Remarks	Substance is complex UVCB., Predominantly hydrophobic.
SDS Number:100000100097	42/48

## Diesel Reference Fuel T-30

Version 1.14

Revision Date 2017-05-16

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d):(Msafe)	: 140.000
Environment factors not influenced	by risk management
Flow rate	: 18.000 m3/d
Dilution Factor (River)	: 10
Dilution Factor (Coastal Areas)	: 100
Other given operational conditions	affecting environmental exposure
Number of emission days per year	: 365
Technical conditions and measures	/ Organizational massures
	- Deleges frontion to sir from wide dispersive use (regional use
Remarks	$\sim -0.001 \%$
Water	Release fraction to wastewater wide dispersive use
Remarks	
Soil	: Release fraction to soil from wide dispersive use (regional use
	only)
Remarks	: < 0.001 %
Remarks	: Common practices vary across sites thus conservative
	process release estimates used.
Remarks	: Risk from environmental exposure is driven by humans via
	indirect exposure (primarily ingestion).
Remarks	No wastewater treatment required.
Air	: I reat air emission to provide a typical removal efficiency of
Bemerke	(%): • Not applicable
Water	<ul> <li>Treat onsite wastewater (prior to receiving water discharge) to</li> </ul>
	provide the required removal efficiency of $\geq$ (%): (Effectiveness: 0 %)
Water	: If discharging to domestic sewage treatment plant, provide the
	required onsite wastewater removal efficiency of $\geq$ (%): (Effectiveness: 0 %)
Remarks	: Prevent discharge of undissolved substance to or recover from wastewater.
Remarks	: Do not apply industrial sludge to natural soils.
Remarks	: Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to	municinal sewage treatment plant
Type of Sewage Treatment Plant	· Municipal sewage treatment plant
Flow rate of sewage treatment	· 2 000 m3/d
plant effluent	
Effectiveness (of a measure)	: 94,1 %
Percentage removed from waste	: 94,1 %
water	
Conditions and measures related to	external treatment of waste for disposal
Remarks	: Combustion emissions limited by required exhaust emission controls.
Remarks	: Combustion emissions considered in regional exposure assessment
Conditions and measures related to	external recovery of waste
Recovery Methods	: External recovery and recycling of waste should comply with
SDS Number:100000100007	12/10
555 Number. 100000100097	40/40

SAFETY DATA SHEET

Version 1.14

Revision Date 2017-05-16

applicable local and/or national regulations.

2.2 Contributing scenario controlling process, no likelihood of exposure	ng worker exposure for: PROC1: Use in closed
Product characteristics	
Remarks	Substance is complex UVCB., Predominantly hydrophobic.
Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Fragman and duration of was	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting	workers exposure
Remarks :	Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.
Technical conditions and measures	
Avoid direct skin contact with product. (tested to EN374) if hand contact with s they occur. Wash off skin contaminatio prevent/minimize exposures and to repo closed system.	Identify potential areas for indirect skin contact. Wear gloves ubstance is likely. Clean up contamination/spills as soon as n immediately. Provide basic employee training to ort any skin effects that may develop., Store substance within a
Organizational measures to prevent /li No other specific measures identified.	mit releases, dispersion and exposure
<b>Conditions and measures related to pe</b> Control any potential exposure using m maintained facilities and a good standar prior to breaking containment. Drain do Where there is potential for exposure: E aware of basic actions to minimize expo available; clear up spills and dispose of effectiveness of control measures; prov implement corrective actions.	ersonal protection, hygiene and health evaluation easures such as contained systems, properly designed and rd of general ventilation. Drain down systems and transfer lines own and flush equipment where possible prior to maintenance. Ensure relevant staff are informed of exposure potential and osures; ensure suitable personal protective equipment is waste in accordance with regulatory requirements; monitor ide regular health surveillance as appropriate; identify and
2.2 Contributing scenario controlling	ng worker exposure for: PROC2: Use in closed,
continuous process with occasion	al controlled exposure
Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.
Frequency and duration of use	
Remarks :	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting Remarks	workers exposure Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.
SDS Number:100000100097	44/48

	SAFETY DATA SHEET
Diesel Reference Fuel 1-30	)
Version 1.14	Revision Date 2017-05-16
Organizational measures to prevent A No other specific measures identified.	limit releases, dispersion and exposure
2.2 Contributing scenario control process (synthesis or formulation	ling worker exposure for: PROC3: Use in closed batch າ)
Product characteristics	
Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affectin Remarks	<ul> <li>g workers exposure</li> <li>Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
Organizational measures to prevent A No other specific measures identified.	/limit releases, dispersion and exposure
2.2 Contributing scenario control substance or preparation (chargin non-dedicated facilities	ling worker exposure for: PROC8a: Transfer of ng/discharging) from/to vessels/large containers at
Product characteristics	
Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affectin Remarks	<ul> <li>g workers exposure</li> <li>Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.</li> </ul>
Conditions and measures related to Wear chemically resistant gloves (test	personal protection, hygiene and health evaluation ed to EN374) in combination with 'basic' employee training.
2.2 Contributing scenario control substance or preparation (chargin dedicated facilities	ling worker exposure for: PROC8b: Transfer of ng/ discharging) from/ to vessels/ large containers at
Product characteristics Remarks Remarks	<ul> <li>Liquid, vapour pressure &lt; 0.5 kPa at STP</li> <li>With potential for aerosol generation.</li> </ul>
Frequency and duration of use Remarks	: Covers daily exposures up to 8 hours (unless stated differently)
SDS Number:100000100097	45/48

	SAFETY DATA SHEET				
Diesel Reference Fuel T-30					
Version 1.14	Revision Date 2017-05-16				
Other operational conditions affecting Remarks :	<b>workers exposure</b> Assumes use at not more than 20°C above ambient temperature, unless stated differently., Assumes a good basic standard of occupational hygiene is implemented.				
Conditions and measures related to per Wear suitable gloves tested to EN374.	ersonal protection, hygiene and health evaluation				
2.2 Contributing scenario controlling fuel sources, limited exposure to u	ng worker exposure for: PROC16: Using material as inburned product to be expected				
Product characteristics Remarks : Remarks :	Liquid, vapour pressure < 0.5 kPa at STP With potential for aerosol generation.				
Frequency and duration of use Remarks :	Covers daily exposures up to 8 hours (unless stated differently)				
Other operational conditions affecting workers exposure         Remarks       : Assumes use at not more than 20°C above ambient         temperature, unless stated differently., Assumes a good basic         standard of occupational hygiene is implemented.					
<b>Technical conditions and measures</b> Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour), Ensure operation is undertaken outdoors.					
3. Exposure estimation and reference to its source					

#### Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value type	Level of Exposure	Risk characterization ratio
ERC9a, ERC9b	Hydrocarbon Block Method with Petrorisk		Air		0,02 mg/m3	
			Freshwater		0,0015 mg/L	0,043
			Freshwater sediment		1,4 mg/kg wet weight	0,05
			Marine water		0,000028 mg/L	0,00041
			Marine sediment		0,063 mg/kg wet weight	0,0014
			Agricultural soil		0,17 mg/kg wet weight	0,0054

ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems

#### Workers/Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value type	Level of Exposure	Risk characterization ratio
PROC1, CS15	ECETOC TRA Modified		Worker – inhalation, long-term – systemic	1 mg/m3	0,01
			Worker - dermal, long-	1,34 mg/kg/d	0,46
	000000007		10/	10	
SDS Number:10	0000100097		46/4	48	

Revision Date 2017-05-16

#### term - systemic Worker - long-term -0.48 systemic Combined routes PROC1, CS67 ECETOC TRA Worker - inhalation, 0,01 mg/m3 0.00 Modified long-term - systemic Worker - dermal, long-0,34 mg/kg/d 0,12 term - systemic Worker – long-term – 0,12 systemic Combined routes PROC2, CS15 ECETOC TRA Worker - inhalation, 1 mg/m3 0,01 Modified long-term – systemic Worker - dermal, long-1,34 mg/kg/d 0,46 term - systemic Worker - long-term -0,48 systemic Combined routes PROC3, CS107 ECETOC TRA Worker - inhalation, 0,01 1 mg/m3 Modified long-term - systemic Worker - dermal, long-0,34 mg/kg/d 0,12 term – systemic Worker – long-term – 0,13 systemic Combined routes PROC8a, CS39 ECETOC TRA Worker - inhalation, 1 mg/m3 0,01 Modified long-term – systemic Worker - dermal, long-0.47 13,71 mg/kg/d term – systemic Worker – long-term -0.49 systemic Combined routes Worker - inhalation, PROC8a, CS103 ECETOC TRA 5 mg/m3 0,07 Modified long-term – systemic Worker - dermal, long-13,71 mg/kg/d 0,47 term - systemic Worker – long-term – 0.55 systemic Combined routes PROC8b, CS14, ECETOC TRA Worker - inhalation, 0,07 5 mg/m3 long-term – systemic CS507 Modified Worker - dermal, long-6,86 mg/kg/d 0,47 term – systemic Worker – long-term – 0,55 systemic Combined routes PROC8b, CS8 ECETOC TRA Worker - inhalation, 0,01 1 mg/m3 Modified long-term - systemic Worker - dermal, long-6,86 mg/kg/d 0,47 term – systemic Worker - long-term -0,49 systemic Combined routes Worker - inhalation, PROC16, CS107 ECETOC TRA 14 mg/m3 0,20 Modified long-term – systemic Worker - dermal, long-0,34 mg/kg/d 0,12 term – systemic Worker - long-term -0,32 systemic Combined routes PROC1: Use in closed process, no likelihood of exposure CS15: General exposures (closed systems) PROC1: Use in closed process, no likelihood of exposure CS67: Storage PROC2: Use in closed, continuous process with occasional controlled exposure CS15: General exposures (closed systems) PROC3: Use in closed batch process (synthesis or formulation) SDS Number:100000100097 47/48

Version 1.14

Version 1.14

Revision Date 2017-05-16

CS107: (closed systems)

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

CS39: Equipment cleaning and maintenance

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

CS103: Vessel and container cleaning

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities CS14: Bulk transfers CS507: Refueling

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities CS8: Drum/batch transfers

PROC16: Using material as fuel sources, limited exposure to unburned product to be expected CS107: (closed systems)

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk Management Measures are based on qualitative risk characterisation.Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).