

# MOTOR GASOLINE

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 7/7/2017

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Version: 10.1

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

#### 1.1. Product identifier

Product form : Mixture  
 Product name : MOTOR GASOLINE  
 EC No : 289-220-8  
 CAS No : 86290-81-5  
 REACH registration No : N°CAS 86290-81-5 : TOTAL RAFFINADERIJ ANTWERPEN (01-2119471335-39-0069) - TOTAL RAFFINAGE FRANCE (01-2119471335-39-0040) – TOTAL RAFFINERIE MITTELDEUTSCHLAND (01-2119471335-39-0035) - TOTAL LINDSEY OIL REFINERY (01-2119471335-39-0076) - ZEELAND REFINERY (01-2119471335-39-0078) – TOTAL PETROCHEMICALS & REFINING (01-2119471335-39-0101)  
 Type of product : UVCB  
 Synonyms : EUROGRADE PREMIUM ; PREMIUM GRADE 95 & 98 ; 95 ETHANOLE 5% (FZN) ; ESSENCE EXPORT SANS PLOMB (DGS) ; 86290-81-5  
 Product group : -

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

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 Main use category : Professional use  
 Use of the substance/mixture : Distribution of substance  
 Formulation & (re)packing of substances and mixtures  
 Use as a fuel.  
 For the detailed uses of the product see annex of the safety data sheet

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

REFINING & CHEMICALS BRANCH  
 TOTAL LINDSEY OIL REFINERY Ltd  
 DN40 3LW KILLINGHOLME - UNITED KINGDOM  
 T +44 (0) 1469 563300 - F +44 (0) 1469 563766  
[rm.gb-msds@total.co.uk](mailto:rm.gb-msds@total.co.uk) - [www.total.com](http://www.total.com)

#### 1.4. Emergency telephone number

Emergency number : Emergency call Carechem 24 International :  
 • for English speaking countries: +44 (0) 1235 239 670  
 • for Europe (in local languages): + 33 1 49 00 00 49  
 • for Africa and Middle East: + 44 (0) 1235 239 671 • for China:  
 + 86 10 5100 3039  
 • for Asia Pacific (Hong-Kong, Singapore, Taiwan, Philippines, India, Vietnam, Sri Lanka, Japan, Korea, Malaysia, Indonesia, Thailand) :  
 + 65 3158 1074

Country	Organisation/Company	Address	Emergency number	Comment
	National Poisons Emergency number		08 45 46 47	
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 1 H224  
 Skin corrosion/irritation, Category 2 H315  
 Serious eye damage/eye irritation, Category 1 H318  
 Germ cell mutagenicity, Category 1B H340  
 Carcinogenicity, Category 1B H350  
 Reproductive toxicity, Category 2 H361fd

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Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity — Single exposure, Category 2	H371
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of H statements : see section 16

### Adverse physicochemical, human health and environmental effects

Extremely flammable liquid and vapour. May cause cancer. May cause genetic defects. Suspected of damaging fertility. Suspected of damaging the unborn child. May be fatal if swallowed and enters airways. Causes serious eye damage. Causes skin irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS08

GHS05

GHS07

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H224 - Extremely flammable liquid and vapour  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation  
H336 - May cause drowsiness or dizziness  
H340 - May cause genetic defects  
H350 - May cause cancer  
H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child  
H371 - May cause damage to organs  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P201 - Obtain special instructions before use  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P243 - Take precautionary measures against static discharge  
P262 - Do not get in eyes, on skin, or on clothing  
P273 - Avoid release to the environment  
P281 - Use personal protective equipment as required  
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P309+P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician  
P403+P235 - Store in a well-ventilated place. Keep cool

### 2.3. Other hazards

Other hazards not contributing to the classification

: In use, may form flammable/explosive vapour-air mixture. Handling this product may result in electrostatic accumulation. Use proper grounding procedures.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Gasoline	(CAS No) 86290-81-5 (EC No) 289-220-8	> 78	Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304
Tert-butyl methyl ether (Additive)	(CAS No) 1634-04-4 (EC No) 216-653-1	< 22	Flam. Liq. 2, H225 Skin Irrit. 2, H315

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Propane, 2-ethoxy-2-methyl- (Additive)	(CAS No) 637-92-3 (EC No) 211-309-7	< 22	Flam. Liq. 2, H225 STOT SE 3, H336
Isopentane	(CAS No) 78-78-4 (EC No) 201-142-8	< 16	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
xylene	(CAS No) 1330-20-7 (EC No) 215-535-7 (EC Index No) 601-022-00-9	< 16	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Isobutyl alcohol (Additive)	(CAS No) 78-83-1 (EC No) 201-148-0 (EC Index No) 603-108-00-1	< 15	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336
2-methylpropan-2-ol (Additive)	(CAS No) 75-65-0 (EC No) 200-889-7 (EC Index No) 603-005-00-1	< 15	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 STOT SE 3, H335
propan-2-ol (Additive)	(CAS No) 67-63-0 (EC No) 200-661-7 (EC Index No) 603-117-00-0  par	< 12	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Ethyl alcohol (Additive)	(CAS No) 64-17-5 (EC No) 200-578-6 (EC Index No) 603-002-00-5	< 5	Flam. Liq. 2, H225
Toluene	(CAS No) 108-88-3 (EC No) 203-625-9	> 3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
n-hexane	(CAS No) 110-54-3 (EC No) 203-777-6	> 3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361f STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Methyl alcohol (Additive)	(CAS No) 67-56-1 (EC No) 200-659-6 (EC Index No) 603-001-00-X	< 3	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Benzene	(CAS No) 71-43-2 (EC No) 200-753-7	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304

### Specific concentration limits:

Name	Product identifier	Specific concentration limits
n-hexane	(CAS No) 110-54-3 (EC No) 203-777-6	(C >= 5) STOT RE 2, H373
Methyl alcohol (Additive)	(CAS No) 67-56-1 (EC No) 200-659-6 (EC Index No) 603-001-00-X	( 3 <= C < 10) STOT SE 2, H371 (C >= 10) STOT SE 1, H370

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician immediately. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration. Place under medical observation.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Get medical advice if skin irritation persists.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Consult an eye specialist.
First-aid measures after ingestion	: Do not give anything to drink. Do not induce vomiting. If swallowed, rinse mouth with water (only if the person is conscious). Take immediately victim to hospital.

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### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Refer to § 11 for more details on effects.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

Explosion hazard : Heavier than air, vapours may travel long distances along ground, ignite and flash back to source. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Hazardous decomposition products in case of fire : Toxic fumes. Carbon oxides (CO, CO<sub>2</sub>). Aldehydes. Polycyclic-aromatic hydrocarbons (PAH). Carbon (C). Ketones.

### 5.3. Advice for firefighters

Protection during firefighting : Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Notify fire brigade and environmental authorities. Evacuate unnecessary personnel. Use water spray or fog for cooling exposed containers.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : No flames, no sparks. Eliminate all sources of ignition. Do not smoke. Use special care to avoid static electric charges. Prevent any contact with hot surfaces.

#### 6.1.1. For non-emergency personnel

Protective equipment : Do not attempt to take action without suitable protective equipment. Gloves. Safety glasses.

Emergency procedures for non-emergency personnel : Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Breathing apparatus.

Emergency procedures for emergency responders : Evacuate unnecessary personnel. Eliminate all ignition sources if safe to do so.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : If spilled, may cause the floor to be slippery. Sweep up or vacuum up the product. Dike for recovery or absorb with appropriate material. Take up liquid spill into absorbent material, e.g.: sand, saw dust. On water, recover/skim from surface and pour out in disposal container.

Other information : Dispose of contaminated material at an authorized site. Notify authorities if product enters sewers or public waters.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. In use, may form flammable/explosive vapour-air mixture. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge during blending and transfer operations. Explosion-free electrical equipment and lighting with earth.

Hygiene measures : Do not eat, drink or smoke when using this product. Keep away from food and drink. Always wash hands after handling the product. Take off contaminated clothing and wash before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Containers (tanks) should be grounded and provided with adequate pressure relief valve. Explosive vapour/air mixtures may be formed. Isolate, drain, wash and purge the systems or equipments before any maintenance or repair.

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Storage area : Store away from heat. Earth the equipment. Store in a well-ventilated place.  
Packaging materials : Stainless steel.

### 7.3. Specific end use(s)

Recommended to professional users.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Toluene (108-88-3)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	100 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	192 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	191 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	384 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	100 ppm
USA - ACGIH	ACGIH TWA (ppm)	20 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	0.02 mg/l (Medium: blood - Time: prior to last shift of workweek - Parameter: Toluene) 0.03 mg/l (Medium: urine - Time: end of shift - Parameter: Toluene) 0.3 mg/g Kreatinin (Medium: urine - Time: end of shift - Parameter: o-Cresol with hydrolysis (background))
<b>2-methylbutane (78-78-4)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	1000 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	1000 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	750 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	600 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	5400 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	1800 ppm (calculated)
USA - ACGIH	ACGIH TWA (ppm)	1000 ppm
<b>n-Hexane (110-54-3)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	20 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	20 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	216 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	60 ppm (calculated)
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	0.4 mg/l (Medium: urine - Time: end of shift at end of workweek - Parameter: 2,5-Hexanedione without hydrolysis)
<b>Benzene (71-43-2)</b>		
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	1 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	3.25 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	1 ppm

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<b>Benzene (71-43-2)</b>		
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	9.75 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	3 ppm (calculated)
USA - ACGIH	ACGIH TWA (ppm)	0.5 ppm
USA - ACGIH	ACGIH STEL (ppm)	2.5 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	25 µg/g creatinine (Medium: urine - Time: end of shift - Parameter: S-Phenylmercapturic acid (background)) 500 µg/g creatinine (Medium: urine - Time: end of shift - Parameter: t,t-Muconic acid (background))
<b>Xylene (mixture of isomers) (1330-20-7)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
EU	IOELV TWA (ppm)	50 ppm (pure)
EU	IOELV STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
EU	IOELV STEL (ppm)	100 ppm (pure)
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	220 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	441 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	100 ppm
USA - ACGIH	ACGIH TWA (ppm)	100 ppm
USA - ACGIH	ACGIH STEL (ppm)	150 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	1.5 g/g Kreatinin (Medium: urine - Time: end of shift - Parameter: Methylhippuric acids)
<b>Tert-butyl methyl ether (1634-04-4)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	183.5 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	367 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	183.5 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	367 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	100 ppm
USA - ACGIH	Local name	Methyl tert-butyl ether
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
USA - ACGIH	Remark (ACGIH)	URT irr; kidney dam
<b>Isobutyl alcohol (78-83-1)</b>		
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	225 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	75 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	154 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	231 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	75 ppm
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
<b>2-methylpropan-2-ol; tert-butyl alcohol (75-65-0)</b>		
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	300 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	100 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	450 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	150 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	308 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	462 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	150 ppm

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<b>2-methylpropan-2-ol; tert-butyl alcohol (75-65-0)</b>		
USA - ACGIH	ACGIH TWA (ppm)	100 ppm
<b>propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)</b>		
Ireland	OEL (8 hours ref) (ppm)	200 ppm
Ireland	OEL (15 min ref) (ppm)	400 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	999 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	400 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	1250 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	500 ppm
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	400 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	40 mg/l (Medium: urine - Time: end of shift at end of workweek - Parameter: Acetone (background, nonspecific))
<b>Ethyl alcohol (64-17-5)</b>		
Ireland	OEL (15 min ref) (ppm)	1000 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1920 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	1000 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	5760 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	3000 ppm (calculated)
USA - ACGIH	ACGIH STEL (ppm)	1000 ppm
<b>Methyl alcohol (67-56-1)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	200 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	200 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	266 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	200 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	333 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	250 ppm
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	250 ppm
USA - ACGIH	Biological Exposure Indices (BEI)	15 mg/l (Medium: urine - Time: end of shift - Parameter: Methanol (background, nonspecific))
<b>MOTOR GASOLINE (86290-81-5)</b>		
DNEL/DMEL (Workers)		
Acute - systemic effects, inhalation		1300 mg/m <sup>3</sup>
Acute - local effects, inhalation		1100 mg/m <sup>3</sup>
Long-term - local effects, inhalation		840 mg/m <sup>3</sup>
DNEL/DMEL (General population)		
Acute - systemic effects, inhalation		1200 mg/m <sup>3</sup>
Acute - local effects, inhalation		640 mg/m <sup>3</sup>
Long-term - local effects, inhalation		180 mg/m <sup>3</sup>

### 8.2. Exposure controls

#### Appropriate engineering controls:

The substance is flammable and therefore the following conditions must be met to ensure safe use: "Risks are controlled by storage and use under conditions which avoid all ignition sources."

. Ensure adequate ventilation. Safety shower. Eye fountain.

#### Personal protective equipment:

Gas mask A.

#### Hand protection:

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hydrocarbons resistant gloves. In case of repeated or prolonged contact wear gloves. recommended material: fluorinated polymer. polyvinyl alcohol. Layer thickness : all thicknesses. Breakthrough time : > 480 min. EN 374-3. In the event of contact with the liquid: Nitrile rubber gloves. Layer thickness : > 0,30 mm. Breakthrough time : > 60 min. EN 374-3. Gloves may degrade in contact with this chemical.

• Carefully check the glove for cracks or damage before reusing it, dispose of gloves where the penetration time is exceeded. • The penetration time depends on temperature, glove material, thickness and construction. Penetration time is measured against EN 374 in laboratory conditions corresponding to permanent static contact and is not necessarily representative of the risk in the workplace. Contact the gloves' supplier for further information on the selection and resistance of gloves.

### Eye protection:

Safety glasses. Do not wear contact lenses

### Skin and body protection:

Wear suitable protective clothing. Safety foot-wear

### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended



### Environmental exposure controls:

Avoid release to the environment. Assure that emissions are compliant with all applicable air pollution control regulations.

### Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless. Light yellow.
Odour	: Aromatic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 30 - 210 °C
Flash point	: < -40 °C
Auto-ignition temperature	: > 300 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 1000 hPa (35°C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 720 - 775 kg/m <sup>3</sup>
Solubility	: insoluble in water. Soluble in aromatic hydrocarbons. Soluble in most organic solvents.
Log Pow	: No data available
Viscosity, kinematic	: < 0.5 mm <sup>2</sup> /s
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.4 - 8.7 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Extremely flammable liquid and vapour.

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### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

In use may form flammable/explosive vapour-air mixture.

### 10.4. Conditions to avoid

No flames, no sparks. Eliminate all sources of ignition. High temperature. Heat.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Additional information : Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness

<b>MOTOR GASOLINE (86290-81-5)</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5610 mg/m <sup>3</sup>
<b>Toluene (108-88-3)</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat	28.1 (28.1 - 49) mg/l/4h
LC50 inhalation rat (ppm)	> 26700 ppm/1h
<b>2-methylbutane (78-78-4)</b>	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat	280 mg/l/4h
LC50 inhalation rat (ppm)	> 4094 ppmv/4h
<b>n-Hexane (110-54-3)</b>	
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (ppm)	48000 ppm/4h
<b>Benzene (71-43-2)</b>	
LD50 oral rat	930 (930 - 6400) mg/kg
LD50 dermal rabbit	> 8272 mg/kg
LC50 inhalation rat	34.4 mg/l/4h
<b>Xylene (mixture of isomers) (1330-20-7)</b>	
LD50 oral rat	4300 mg/kg
LD50 dermal rabbit	> 4200 mg/kg
LC50 inhalation rat	21.7 mg/l/4h
<b>Tert-butyl methyl ether (1634-04-4)</b>	
LD50 oral	4000 mg/kg
LD50 dermal	> 10000 mg/kg
LC50 inhalation rat (ppm)	23576 ppm/4h
LC50 inhalation rat (Vapours - mg/l/4h)	> 85 mg/l/4h
<b>Isobutyl alcohol (78-83-1)</b>	
LD50 oral rat	2460 mg/kg
LD50 dermal rabbit	3400 mg/kg
LC50 inhalation rat	> 6.5 mg/l/4h
<b>2-methylpropan-2-ol; tert-butyl alcohol (75-65-0)</b>	
LD50 oral rat	2733 mg/kg
LD50 dermal rabbit	> 2 g/kg
LC50 inhalation rat (ppm)	> 10000 ppm/4h
<b>propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)</b>	
LD50 oral rat	4396 mg/kg

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<b>propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)</b>	
LD50 dermal rabbit	12800 mg/kg
LC50 inhalation rat (ppm)	16000 ppm (Exposure time: 8 h)
<b>Ethyl alcohol (64-17-5)</b>	
LC50 inhalation rat	124.7 mg/l/4h
<b>Methyl alcohol (67-56-1)</b>	
LD50 oral rat	5628 mg/kg
LC50 inhalation rat	83.2 mg/l/4h
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness. May cause respiratory irritation. May cause damage to organs.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Additional information	: In case of accidental swallowing, due to its low viscosity, the product may be aspirated into the lung and induce a chemical pneumonitis developing over a few hours
<b>MOTOR GASOLINE (86290-81-5)</b>	
Viscosity, kinematic	< 0.5 mm <sup>2</sup> /s

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects. Do not allow product to spread into the environment.
Ecology - air	: Product evaporates when in contact with the air.
Ecology - water	: the product spreads out on the surface of the water, a small fraction of the constituents may be dissolved.

<b>MOTOR GASOLINE (86290-81-5)</b>	
LC50 fish 1	> 8.2 mg/l
EC50 Daphnia 1	> 4.5 mg/l
ErC50 (algae)	> 3.1 mg/l
<b>Toluene (108-88-3)</b>	
LC50 fish 1	15.22 - 19.05 mg/l (Pimephales promelas)
LC50 fish 2	12.6 mg/l (Pimephales promelas)
EC50 Daphnia 1	5.46 - 9.83 mg/l (Daphnia magna)
EC50 Daphnia 2	11.5 mg/l (Daphnia magna)
EC50 other aquatic organisms 1	> 433 mg/l (Pseudokirchneriella subcapitata)
EC50 other aquatic organisms 2	12.5 mg/l (Pseudokirchneriella subcapitata)
<b>2-methylbutane (78-78-4)</b>	
LC50 fish 1	4.26 mg/l
EC50 Daphnia 1	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	7.5 mg/l
EC50 other aquatic organisms 2	10.7 mg/l
<b>n-Hexane (110-54-3)</b>	
LC50 fish 1	2.1 - 2.98 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>Benzene (71-43-2)</b>	
LC50 fish 1	10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 1	8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	29 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
NOEC chronic fish	0.8 mg/l

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<b>Xylene (mixture of isomers) (1330-20-7)</b>	
LC50 fish 1	13.4 mg/l (Pimephales promelas)
LC50 fish 2	2.661 - 4.093 mg/l (Oncorhynchus mykiss)
EC50 Daphnia 1	3.82 mg/l (water flea)
EC50 Daphnia 2	0.6 mg/l (Gammarus lacustris)
<b>Tert-butyl methyl ether (1634-04-4)</b>	
LC50 fish 1	672 mg/l (Pimephales promelas)
LC50 fish 2	929 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	542 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	> 800 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
EC50 other aquatic organisms 2	184 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
<b>Isobutyl alcohol (78-83-1)</b>	
LC50 fish 1	1370 - 1670 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	375 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	1300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	1070 - 1933 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>2-methylpropan-2-ol; tert-butyl alcohol (75-65-0)</b>	
LC50 fish 1	6130 - 6700 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	933 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	4607 - 6577 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)</b>	
LC50 fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	> 1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
EC50 other aquatic organisms 2	> 1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
<b>Ethyl alcohol (64-17-5)</b>	
LC50 fish 1	12.0 - 16.0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	2 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>Methyl alcohol (67-56-1)</b>	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>12.2. Persistence and degradability</b>	
<b>MOTOR GASOLINE (86290-81-5)</b>	
Persistence and degradability	Inherently biodegradable.
<b>2-methylbutane (78-78-4)</b>	
Persistence and degradability	Readily biodegradable.
<b>12.3. Bioaccumulative potential</b>	
<b>Toluene (108-88-3)</b>	
Log Pow	2.65
<b>2-methylbutane (78-78-4)</b>	
BCF fish 1	25 - 81
Log Pow	3.2 - 3.3
Log Kow	2.72
<b>Benzene (71-43-2)</b>	
BCF fish 1	3.5 - 4.4
Log Pow	1.83
<b>Xylene (mixture of isomers) (1330-20-7)</b>	
BCF fish 1	0.6 - 15
Log Pow	2.77 - 3.15
<b>Tert-butyl methyl ether (1634-04-4)</b>	
Log Pow	1.06 (23°C)

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<b>Isobutyl alcohol (78-83-1)</b>	
Log Pow	0.79 (25 °C)
<b>2-methylpropan-2-ol; tert-butyl alcohol (75-65-0)</b>	
BCF fish 1	1.09
Log Pow	0.35
<b>propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)</b>	
Log Pow	0.05 (25 °C)
<b>Ethyl alcohol (64-17-5)</b>	
Log Pow	-0.32
<b>Methyl alcohol (67-56-1)</b>	
BCF fish 1	< 10
Log Pow	-0.77

### 12.4. Mobility in soil

<b>MOTOR GASOLINE (86290-81-5)</b>	
Ecology - soil	Avoid sub-soil penetration. it may pass through the soil and is likely to contaminate ground water.

<b>2-methylbutane (78-78-4)</b>	
Log Koc	1.78 (estimated value)

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Hazardous waste. Dispose of in accordance with relevant local regulations. Use only registered transporters. Do not discharge the product into the environment. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN Number</b>				
1203	1203	1203	1203	1203
<b>14.2. UN proper shipping name</b>				
MOTOR SPIRIT	MOTOR SPIRIT	Gasoline	MOTOR SPIRIT	MOTOR SPIRIT
<b>Transport document description</b>				
UN 1203 MOTOR SPIRIT, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS	UN 1203 MOTOR SPIRIT, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1203 Gasoline, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1203 MOTOR SPIRIT, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1203 MOTOR SPIRIT, 3, II, ENVIRONMENTALLY HAZARDOUS
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
<b>14.4. Packing Group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine Pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

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### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 243, 534, 363, 664
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Special packing provisions (ADR)	: BB2
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Tank special provisions (ADR)	: TU9
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: 3YE

#### - Transport by sea (IMDG)

Special provisions (IMDG)	: 243, 363
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-E
Stowage category (IMDG)	: E

#### - Air transport (IATA)

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A100
ERG code (IATA)	: 3H

#### - Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 243, 363, 534
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01

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Number of blue cones/lights (ADN)	: 1
<b>- Rail transport</b>	
Classification code (RID)	: F1
Special provisions (RID)	: 243, 363, 534
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02, R001
Special packing provisions (RID)	: BB2
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: LGBF
Special provisions for RID tanks (RID)	: TU9
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

IBC code : No information available.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

5. Benzene	Benzene
28. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as Carcinogen category 1A or 1B (Table 3.1) or Carcinogen category 1 or 2 (Table 3.2) and listed as follows: Carcinogen category 1A (Table 3.1)/Carcinogen category 1 (Table 3.2) listed in Appendix 1 Carcinogen category 1B (Table 3.1)/Carcinogen category 2 (Table 3.2) listed in Appendix 2	Gasoline - Benzene
29. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as Germ cell Mutagen category 1A or 1B (Table 3.1) or Mutagen category 1 or 2 (Table 3.2) and listed as follows: Mutagen category 1A (Table 3.1)/Mutagen category 1 (Table 3.2) listed in Appendix 3 Mutagen category 1B (Table 3.1)/Mutagen category 2 (Table 3.2) listed in Appendix 4	Gasoline - Benzene
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Toluene - 2-methylbutane - n-Hexane - Tert-butyl methyl ether - Benzene - Xylene (mixture of isomers) - Isobutyl alcohol - 2-methylpropan-2-ol; tert-butyl alcohol - propan-2-ol, isopropyl alcohol, isopropanol - Ethyl alcohol - Methyl alcohol
48. Toluene	Toluene

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out

## SECTION 16: Other information

Training advice : Training staff on good practice. Manipulations are to be done only by qualified and authorised persons.

Other information : Use good personal hygiene practices.

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3

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Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 1	Flammable liquids, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Muta. 1B	Germ cell mutagenicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H224	Extremely flammable liquid and vapour
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H361d	Suspected of damaging the unborn child
H361f	Suspected of damaging fertility
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

### SDS EU (REACH Annex II)

*This information applies to the PRODUCT AS SUCH and conforming to specifications of TOTAL.*

*In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear.*

*The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. However the revision of some data is in progress.*

*Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes.*

*The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive.*

*It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product.*

*It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product. (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.*

ES02010

Version 1.0

Trade name / designation Low Boiling point Naphta

## 1. Exposure scenario

### Industrial, Distribution of substance.

#### Use Descriptor

##### Sector of use

SU3 - Industrial Manufacturing (all)

#### Process Category

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)

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

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC15 - Use as a laboratory reagent

#### Environmental Release Category

ERC1 - Manufacture of substances

ERC2 - Formulation of mixtures

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 polymerization processes in production of resins, rubbers, polymers

ERC7 - Industrial use of substances in closed systems

#### Specific Environmental Release Category

ESVOC SpERC 1.1b. v1.

#### Processes, tasks, activities covered

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 distribution and associated laboratory activities.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

:

Fraction of EU tonnage used in region: 0.1

Regional use tonnage (tonnes/year): 1.87E+7

Fraction of Regional tonnage used locally: 0.002

Annual site tonnage (tonnes/year): 3.75E+4

Maximum daily site tonnage (kg/day): 1.2E+5

#### Frequency and duration of use

 Continuous release

Emission Days (days/year): 300

#### Environment factors not influenced by risk management

 -

Local freshwater dilution factor: 10



Local marine water dilution factor: 100

Release fraction to air from process (initial release prior to RMM): 0.001  
 Release fraction to wastewater from process (initial release prior to RMM): 0.00001  
 Release fraction to soil from process (initial release prior to RMM): 0.00001

#### Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation)  
 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required  
 Treat air emission to provide a typical removal efficiency of (%): 90  
 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%):  $\geq 12$   
 If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%):  $\geq 0$

#### Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

#### Conditions and measures related to municipal sewage treatment plant :

Estimated substance removal from wastewater via domestic sewage treatment (%): 95.5  
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 95.5  
 Maximum allowable site tonnage (MSafe) (kg/d):  $1.1E+6$   
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/d): 2000

#### Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or national regulations.

#### Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations

#### Remarks

Additional information on the basis for the allocation of the identified OCs (operating conditions) and RMMs ( Risk Management Measures) is contained in Petrorisk file

## 2.2. Control of exposure - Workers / Consumers

#### Product characteristics

##### Physical State

Liquid, vapour pressure > 10 kPa at STP

##### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

##### Amounts used

not applicable.

##### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

##### Human factors not influenced by risk management

not applicable

##### Other operational conditions affecting 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.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures.</b>
<b>General measures (carcinogens)</b>	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
<b>General measures (skin irritants)</b>	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.
<b>General exposures (closed systems) with sample collection</b>	Handle substance within a closed system. Sample via a closed loop or other system to avoid exposure. Wear suitable gloves tested to EN374.
<b>General exposures (closed systems) Outdoor</b>	Handle substance within a closed system.
<b>Process sampling</b>	Sample via a closed loop or other system to avoid exposure.
<b>Laboratory activities</b>	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.
<b>Bulk closed loading and unloading</b>	Ensure material transfers are under containment or extract ventilation.
<b>Equipment cleaning and maintenance</b>	Drain down and flush system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
<b>Storage</b>	Ensure operation is undertaken outdoors. Store substance within a closed system.

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures.</b>
<b>Not applicable</b>	

### **3. Exposure estimation and references**

**Health**

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

**Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

### **4. Guidance for Downstream User to check compliance with the Exposure scenario**

**Health**

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 enable the derivation of a DNEL for carcinogenic 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.

**Environment**

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>).



ES02014

Version 1.0

Trade name / designation Low Boiling point Naphta

## 1. Exposure scenario

### Formulation & (re)packing of substances and mixtures, Industrial.

#### Use Descriptor

##### Sector of use

SU3 - Industrial Manufacturing (all)

SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

#### Process Category

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)

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

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC15 - Use as a laboratory reagent

#### Environmental Release Category

ERC2 - Formulation of mixtures

#### Specific Environmental Release Category

ESVOC SpERC 2.2.v1.

#### Processes, tasks, activities covered

Formulation of the substance and its mixtures in batch or continuous operations within closed or contained systems, including incidental exposures during storage, materials transfers, mixing, maintenance, sampling and associated laboratory activities.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

:

Fraction of EU tonnage used in region: 0.1

Regional use tonnage (tonnes/year): 1.65E+7

Fraction of Regional tonnage used locally: 0.0018

Annual site tonnage (tonnes/year): 3.0E+4

Maximum daily site tonnage (kg/day): 1.0E+5

#### Frequency and duration of use

Continuous release

Emission Days (days/year): 300

#### Environment factors not influenced by risk management -

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Release fraction to air from process (initial release prior to RMM): 0.025

Release fraction to wastewater from process (initial release prior to RMM): 0.002

Release fraction to soil from process (initial release prior to RMM): 0.0001

#### Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.



#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Prevent discharge of undissolved substance to or recover from onsite wastewater  
 Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation)  
 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required  
 Treat air emission to provide a typical removal efficiency of (%): 56.5  
 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%):  $\geq 94.7$   
 If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%):  $\geq 0$

#### Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

#### Conditions and measures related to municipal sewage treatment plant :

Estimated substance removal from wastewater via domestic sewage treatment (%): 95.5  
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 95.5  
 Maximum allowable site tonnage (MSafe) (kg/d):  $1.0E+5$   
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/d): 2000

#### Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or national regulations.

#### Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations

#### Remarks

Additional information on the basis for the allocation of the identified OCs (operating conditions) and RMMs ( Risk Management Measures) is contained in Petrorisk file

## 2.2. Control of exposure - Workers / Consumers

#### Product characteristics

##### Physical State

Liquid, vapour pressure > 10 kPa at STP

##### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

##### Amounts used

not applicable.

##### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

##### Human factors not influenced by risk management

not applicable

##### Other operational conditions affecting 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.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures.</b>
<b>General measures (carcinogens)</b>	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
<b>General measures (skin irritants)</b>	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.
<b>General exposures (closed systems) with sample collection</b>	Handle substance within a closed system. Sample via a closed loop or other system to avoid exposure. Wear suitable gloves tested to EN374.
<b>General exposures (closed systems) Outdoor</b>	Handle substance within a closed system.
<b>Process sampling</b>	Sample via a closed loop or other system to avoid exposure.
<b>Laboratory activities</b>	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.
<b>Bulk transfers</b>	Ensure material transfers are under containment or extract ventilation.
<b>Drum/batch transfers</b>	Ensure material transfers are under containment or extract ventilation.
<b>Equipment cleaning and maintenance</b>	Drain down and flush system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear transfer lines prior to de-coupling. Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
<b>Storage</b>	Store substance within a closed system. Wear suitable gloves tested to EN374.

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures.</b>
<b>Not applicable</b>	

### 3. Exposure estimation and references

**Health**

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

**Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.



## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

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 carcinogenic 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.

### Environment

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



ES02025

Version 1.0

Trade name / designation Low Boiling point Naphta

## 1. Exposure scenario

Use as a fuel, Industrial.

### Use Descriptor

#### Sector of use

SU3 - Industrial Manufacturing (all)

### Process Category

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)

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

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC16 - Using material as fuel sources, limited exposure to unburned product to be expected

### Environmental Release Category

ERC7 - Industrial use of substances in closed systems

#### Specific Environmental Release Category

ESVOC SpERC 7.12a.v1.

### Processes, tasks, activities covered

Covers the use as a fuel (or fuel additives and additive components) within closed or contained systems, including incidental exposures during activities associated with its transfer, use, equipment maintenance and handling of waste.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

:

Fraction of EU tonnage used in region: 0.1

Regional use tonnage (tonnes/year): 1.4E+6

Fraction of Regional tonnage used locally: 1

Annual site tonnage (tonnes/year): 1.4E+6

Maximum daily site tonnage (kg/day): 4.6E+6

#### Frequency and duration of use

Continuous release  
Emission Days (days/year): 300

#### Environment factors not influenced by risk management -

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

#### Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 0.0025

Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Release fraction to soil from process (initial release prior to RMM): 0



#### Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation)

If discharging to domestic sewage treatment plant, no onsite wastewater treatment required

Treat air emission to provide a typical removal efficiency of (%): 99.4

Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%):  $\geq 76.9$

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%):  $\geq 0$

#### Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

#### Conditions and measures related to municipal sewage treatment plant :

Estimated substance removal from wastewater via domestic sewage treatment (%): 95.5

Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 95.5

Maximum allowable site tonnage (MSafe) (kg/d): 4.6E+6

Assumed domestic sewage treatment plant flow (m3/d): 2000

#### Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

#### Conditions and measures related to external recovery of waste

This substance is consumed during use and no waste of the substance is generated

#### Remarks

Additional information on the basis for the allocation of the identified OCs (operating conditions) and RMMs ( Risk Management Measures) is contained in Petrorisk file

## 2.2. Control of exposure - Workers / Consumers

#### Product characteristics

##### Physical State

Liquid, vapour pressure > 10 kPa at STP

##### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

##### Amounts used

not applicable.

##### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

##### Human factors not influenced by risk management

not applicable

##### Other operational conditions affecting 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.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures.</b>
<b>General measures (carcinogens)</b>	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
<b>General measures (skin irritants)</b>	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.
<b>Bulk closed unloading</b>	Ensure material transfers are under containment or extract ventilation.
<b>Drum/batch transfers</b>	Ensure material transfers are under containment or extract ventilation.
<b>Refuelling</b>	Ensure material transfers are under containment or extract ventilation.
<b>Refuelling aircraft</b>	Ensure material transfers are under containment or extract ventilation.
<b>General exposures (closed systems)</b>	Handle substance within a closed system. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan.
<b>Use as a fuel (closed systems)</b>	Handle substance within a closed system.
<b>Equipment cleaning and maintenance</b>	Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear spills immediately. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
<b>Storage</b>	Store substance within a closed system. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan.

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures.</b>
<b>Not applicable</b>	

### 3. Exposure estimation and references

**Health**

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

**Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.



#### 4. Guidance for Downstream User to check compliance with the Exposure scenario

##### Health

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.

##### Environment

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>).



ES02027

Version 1.0

Trade name / designation Low Boiling point Naphta

## 1. Exposure scenario

### Use as a fuel, Professional.

#### Use Descriptor

##### Sector of use

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Process Category

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)

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

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC16 - Using material as fuel sources, limited exposure to unburned product to be expected

#### Environmental Release Category

ERC9a - Wide dispersive indoor use of substances in closed systems

ERC9b - Wide dispersive outdoor use of substances in closed systems

#### Specific Environmental Release Category

ESVOC SpERC 9.12.v1.

#### Processes, tasks, activities covered

Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

:

Fraction of EU tonnage used in region: 0.1

Regional use tonnage (tonnes/year): 1.19E+6

Fraction of Regional tonnage used locally: 0.0005

Annual site tonnage (tonnes/year): 5.9E+2

Maximum daily site tonnage (kg/day): 1.6E+3

#### Frequency and duration of use Continuous release

Emission Days (days/year): 365

#### Environment factors not influenced by risk management -

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

#### Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM): 0.01

Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Release fraction to soil from process (initial release prior to RMM): 0.00001



#### Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation)

If discharging to domestic sewage treatment plant, no onsite wastewater treatment required

Treat air emission to provide a typical removal efficiency of (%): N/A

Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%):  $\geq 3.4$

If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%):  $\geq 0$

#### Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

#### Conditions and measures related to municipal sewage treatment plant :

Estimated substance removal from wastewater via domestic sewage treatment (%): 95.5

Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): 95.5

Maximum allowable site tonnage (MSafe) (kg/d):  $1.5E+4$

Assumed domestic sewage treatment plant flow (m<sup>3</sup>/d): 2000

#### Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

#### Conditions and measures related to external recovery of waste

This substance is consumed during use and no waste of the substance is generated

#### Remarks

Additional information on the basis for the allocation of the identified OCs (operating conditions) and RMMs ( Risk Management Measures) is contained in Petrorisk file

## 2.2. Control of exposure - Workers / Consumers

#### Product characteristics

##### Physical State

Liquid, vapour pressure > 10 kPa at STP

##### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

##### Amounts used

not applicable.

##### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

##### Human factors not influenced by risk management

not applicable

##### Other operational conditions affecting 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.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures.</b>
<b>General measures (carcinogens)</b>	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
<b>General measures (skin irritants)</b>	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.
<b>Bulk closed unloading</b>	Ensure material transfers are under containment or extract ventilation.
<b>Drum/batch transfers</b>	Ensure material transfers are under containment or extract ventilation.
<b>Refuelling</b>	Ensure material transfers are under containment or extract ventilation.
<b>Refuelling aircraft</b>	Ensure material transfers are under containment or extract ventilation.
<b>General exposures (closed systems)</b>	Handle substance within a closed system. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan.
<b>Use as a fuel (closed systems)</b>	Handle substance within a closed system.
<b>Equipment cleaning and maintenance</b>	Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear spills immediately. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
<b>Storage</b>	Store substance within a closed system. Provide a good standard of general ventilation Natural ventilation is from doors, windows etc Controlled ventilation means air is supplied or removed by a powered fan.

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures.</b>
<b>Not applicable</b>	

### 3. Exposure estimation and references

**Health**

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

**Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.



#### 4. Guidance for Downstream User to check compliance with the Exposure scenario

##### Health

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.

##### Environment

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>).



ES02029

Version 1.0

Trade name / designation Low Boiling point Naphta

## 1. Exposure scenario

Use as a fuel, Consumer.

### Use Descriptor

#### Sector of use

SU21 - Private households (=general public = consumers)

#### Product Category

PC13 - Fuels

#### Environmental Release Category

ERC9a - Wide dispersive indoor use of substances in closed systems

ERC9b - Wide dispersive outdoor use of substances in closed systems

#### Specific Environmental Release Category

ESVOC SpERC 9.12c.v1.

#### Processes, tasks, activities covered

Covers consumer uses of automotive fuels only.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

:

Fraction of EU tonnage used in region: 0.1

Regional use tonnage (tonnes/year): 1.39E+7

Fraction of Regional tonnage used locally: 0.0005

Annual site tonnage (tonnes/year): 7.0E+3

Maximum daily site tonnage (kg/day): 1.9E+4

#### Frequency and duration of use

Continuous release

Emission Days (days/year): 365

#### Environment factors not influenced by risk management

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Release fraction to air from process (initial release prior to RMM): 0.01

Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Release fraction to soil from process (initial release prior to RMM): 0.00001

**Conditions and measures related to municipal sewage treatment plant** Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation) :

Estimated substance removal from wastewater via domestic sewage treatment (%): 95.5

Maximum allowable site tonnage (MSafe) (kg/d): 1.8E+5

Assumed domestic sewage treatment plant flow (m3/d): 2000

#### Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.



#### Conditions and measures related to external recovery of waste

This substance is consumed during use and no waste of the substance is generated

#### Remarks

Additional information on the basis for the allocation of the identified OCs (operating conditions) and RMMs ( Risk Management Measures) is contained in Petrorisk file

## 2.2. Control of exposure - Workers / Consumers

#### Product characteristics

##### Physical State

Liquid, vapour pressure > 10 kPa at STP

##### Concentration of substance in product

Unless otherwise stated. Covers concentrations up to (%):100.

##### Amounts used

Unless otherwise stated. Covers use amounts up to (g) : 37500g . Covers skin contact area up to (cm<sup>2</sup>): 420.

##### Frequency and duration of use

Unless otherwise stated. Covers use up to (times/day of use):0.143 . Covers exposure up to (hours/event):2.

##### Other operational conditions affecting exposure

Unless otherwise stated. Assumes use at ambient temperature. Assumes use in a 20 m<sup>3</sup> room. Assumes use with typical ventilation.

### 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures.
not applicable	

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures.</b>
<b>PC13 - Fuels Liquid: Automotive Refuelling</b>	Unless otherwise stated Covers concentrations up to (%):1 Covers use up to (days/year):52 Covers use up to (times/day of use):1 Covers skin contact area up to (cm2): 210.00 For each use event, covers use amounts up to (g):37500 Covers outdoor use Covers use in room size of (m3):100 For each use event Covers exposure up to (hours/event):0.05 No specific risk management measure identified beyond those operational conditions stated
<b>PC13 - Fuels Liquid Scooter Refuelling</b>	Unless otherwise stated Covers concentrations up to (%):1 Covers use up to (days/year):52 Covers use up to (times/day of use):1 Covers skin contact area up to (cm2): 210.00 For each use event, covers use amounts up to (g): 3750 Covers outdoor use Covers use in room size of (m3):100 For each use event Covers exposure up to (hours/event):0.03 No specific risk management measure identified beyond those operational conditions stated
<b>PC13 - Fuels Liquid Garden Equipment - Use</b>	Unless otherwise stated Covers concentrations up to (%):1 Covers use up to (days/year):26 Covers use up to (times/day of use):1 For each use event, covers use amounts up to (g):750 Covers outdoor use Covers use in room size of (m3):100 For each use event Covers exposure up to (hours/event):2.00 No specific risk management measure identified beyond those operational conditions stated
<b>PC13 - Fuels Liquid: Garden Equipment - Refueling</b>	Unless otherwise stated Covers concentrations up to (%):1 Covers use up to (days/year):26 Covers use up to (times/day of use):1 Covers skin contact area up to (cm2): 420.00 For each use event, covers use amounts up to (g):750 Covers use in a one car garage (34 m3) under typical ventilation Covers use in room size of (m3):34 Covers exposure up to (hours/event):0.03 No specific risk management measure identified beyond those operational conditions stated

### 3. Exposure estimation and references

**Health**

The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC report #107 and the Chapter R15 of the IR&CSA TGD Where exposure determinants differ to these sources, then they are indicated

**Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

#### **4. Guidance for Downstream User to check compliance with the Exposure scenario**

**Health**

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.

**Environment**

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