Safety Data Sheet as per EC Regulation No. 1907/2006

Gasoline Standard 95 / Gasoline 95
PdNr. 436000

Date of issue: 01.02.2007
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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	:	Gasoline Standard 95 / Gasoline 95

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

Use of the Substance/Mixture

Intended usage	:	Operation of Otto carburettor engines including those with systems for the reduction of pollutants.
Identified uses according to CSR (Chemical Safety Report)	:	**SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites** 01a - Distribution of substance 02 - Formulation & (re)packing of substances and mixtures 12a - Use as a fuel - Industrial **SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)** 12b- Use as a fuel - Professional **SU21: Consumer uses: Private households (= general public = consumers)** 12c - Use as a fuel - Consumer

For details related the Uses please see Annex.

1.3 Details of the supplier of the safety data sheet

Street address **Manufacturer, importer, supplier**	:	OMV Petrom S.A. Strada Coralilor Nr. 22 Sector 1 013329 Bucureşti („Petrom City") Romania
Telephone	:	+40 (0) 725 16 16 16
E-mail address of the expert person	:	info.msds@petrom.com

1.4 Emergency telephone number

+40 (0) 725 16 16 16	Emergency Center HSSE / Normal charge call / 24/7 / Romanian / English language
+40 21 318 36 06	Office for International Sanitary Regulation and Toxicological Information/Normal charge call; Mo-Fr; 8:00-15:00; Romanian language

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (EC Regulation No 1272/2008)

Flam. Liq. 1 H224, Skin Irrit. 2 H315, Asp. Tox. 1 H304, Repr. 2 H361fd, Muta. 1B H340, Carc. 1B H350, STOT SE 3 Inhalation H336, Aquatic Chronic 2 H411,
For the full text of classifications referred to in this section and H-phrases, see Section 16.

Classification (Directive 67/548/EEC or 1999/45/EC)

F+ R12, Carc.Cat.2 R45, Mut.Cat.2 R46, Repr.Cat.3 R63, Repr.Cat.3 R62, Xn R65, Xi R38, R67, N R51/53,
For the full text of the R phrases mentioned in this Section, see Section 16.

2.2 Labelling elements

Labelling (EC Regulation No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H224 Extremely flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :
Prevention:
P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
Disposal:
P501 Dispose of contents/container according to the disposal routes specified by law.

2.3 Other hazards

Remarks : Particular danger of slippage caused by the escaped or spilled product.
Further dangers to man and environment caused by the product are not known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

not applicable

3.2 Mixtures

Chemical nature	Complex mixture of volatile hydrocarbons, that contains paraffins, naphthenes, olefins and aromatics with C-number predominantly from 4 to 12. Can contain oxygenates. Can also contain small amounts of proprietary performance-enhancing additives (max. 0,1%w/w).

Hazardous ingredients

Chemical Name	Index-No. CAS-No. EINECS-No./ELINCS No. Registration number	Classification (67/548/EEC)	Classification (EC Regulation No 1272/2008)	Concentration [%W/W]
Gasoline	649-378-00-4 86290-81-5 289-220-8 01-2119471335-39-0104	F+; R12 Carc.Cat.2; R45 Mut.Cat.2; R46 Repr.Cat.3; R63 Xn; R65 Xi; R38 R67 N; R51/53 Repr.Cat.3; R62	Flam. Liq. 1; H224 Skin Irrit. 2; H315 Asp. Tox. 1; H304 Repr. 2; H361fd Muta. 1B; H340 Carc. 1B; H350 STOT SE 3; Inhalation H336 Aquatic Chronic 2; H411	<= 90,00
2-ethoxy-2-methylpropane (ETBE)	- 637-92-3 211-309-7 01-2119452785-29-0015	F; R11 R67	Flam. Liq. 2; H225 STOT SE 3; Inhalation H336	<= 15,00
tert-butyl methyl ether (MTBE)	603-181-00-X 1634-04-4 216-653-1 01-2119452786-27	F; R11 Xi; R38	Flam. Liq. 2; H225 Skin Irrit. 2; H315	<= 5,00
Ethanol	603-002-00-5 64-17-5 200-578-6 01-2119457610-43	F; R11	Flam. Liq. 2; H225 Eye Irrit. 2; H319	<= 5,00
2-methoxy-2-methyl-butane (TAME)	603-213-00-2 994-05-8 213-611-4 01-2119453236-41-0004	F; R11 Xn; R22 R67	Flam. Liq. 2; H225 Acute Tox. 4; H302 STOT SE 3; Inhalation H336	<= 5,00
Methanol	603-001-00-X 67-56-1 200-659-6 01-2119433307-44	F; R11 T; R23/24/25 T; R39/23/24/25	Flam. Liq. 2; H225 Acute Tox. 3; H331 Acute Tox. 3; H311 Acute Tox. 3; H301 STOT SE 1; H370	< 1,00
Propan-2-ol	603-117-00-0 67-63-0 200-661-7 -	F; R11 Xi; R36 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; oral;, Inhalation H336	< 1,00

These values do not represent any product specification / max. possible mass percentages for classification
For the full text of the R phrases mentioned in this Section, see Section 16.
For the full text of classifications referred to in this section and H-phrases, see Section 16.
Marker for classification

Chemical Name	Index-No. CAS-No. EINECS-No./ELINCS No.	Classification (67/548/EEC)	Classification (EC Regulation No 1272/2008)	Concentration [%W/W]
n-hexane	601-037-00-0 110-54-3 203-777-6	Xn; R48/20 Xi; R38 Repr.Cat.3; R62 Xn; R65 F; R11 R67 N; R51/53	Flam. Liq. 2; H225 Repr. 2; H361f Asp. Tox. 1; H304 STOT RE 2; H373 Skin Irrit. 2; H315 STOT SE 3; Inhalation H336 Aquatic Chronic 2; H411	>= 3,00
Toluene	601-021-00-3 108-88-3 203-625-9	F; R11 Repr.Cat.3; R63 Xn; R48/20 Xn; R65 Xi; R38 R67	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Asp. Tox. 1; H304 Repr. 2; H361d STOT SE 3; Inhalation H336 STOT RE 2; H373	>= 3,00
Benzene	601-020-00-8 71-43-2 200-753-7	F; R11 Carc.Cat.1; R45 Mut.Cat.2; R46 T; R48/23/24/25 Xn; R65 Xi; R36/38	Flam. Liq. 2; H225 Carc. 1A; H350 Muta. 1B; H340 STOT RE 1; H372 Asp. Tox. 1; H304 Eye Irrit. 2; H319 Skin Irrit. 2; H315 Aquatic Chronic 3; H412	>= 0,10

These values do not represent any product specification / max. possible mass percentages for classification
For the full text of the R phrases mentioned in this Section, see Section 16.
For the full text of classifications referred to in this section and H-phrases, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice	:	Own protection of the first responders to be considered.
Inhalation	:	After inhaling the vapours during an accident affected persons are to be taken to the fresh air. If required artificial respiration and/or cardiac massage to be applied. In case of persistent discomforts a doctor is to be consulted.
Skin contact	:	After skin contact wash it thoroughly off using water and soap, contaminated clothing is to be taken off.
Eye contact	:	Upon the contact with the eye rinse it under running water and with the lids forced apart or by means of the eye rinsing bottle for 15 minutes. In case of persistent discomforts an ophthalmologist is to be consulted.
Ingestion, Intake into the Lungs	:	Do not induce vomiting. Consulting a doctor. In case of suspicion (vomiting, coughing, breathing troubles) a doctor is to be consulted.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Nausea, vomiting, and diarrhea as well as the danger of a chemical pneumonitis due to the aspiration during the swallowing or vomiting. Product vapours in high concentrations may cause irritations of the eyes and mucous skins (nose, throat). Upon a long-term inhalation of concentrated vapours headache, vertigo, euphoria, excitation, tremors, tonoclonic spasms, unconsciousness, circulatory insufficiency, and paralysis of the central respiratory system may occur. Very high concentrations lead to unconsciousness after short-term exposure already.
Effects	:	Upon aspiration risk of a chemical pneumonitis.

4.3 Indication of immediate medical attention and special treatment needed

Treatment	:	Upon the absorption of doses of more than 1 to 2 ml per kg of body weight activated carbon (approx. 50 g) is to be given and the person hospitalised. Sedative medicaments (upon medical advice) to be applied in the case of strong excitation.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	In the case of a small source of fire: dry extinguishing powder or carbon dioxide. In the case of a large source of fire: mechanical foam.
Unsuitable extinguishing media	:	Water in a full jet;

5.2 Special hazards arising from the substance or mixture

Particular hazards due to the substance or the preparation, its products of combustion, or the gases produced during the combustion	:	Evaporated product is heavier than air and rests close to the bottom. The vapours can produce an explosive mixture together with air. Prevent the penetration into the sewer system and rooms at low levels. Prevent the penetration into the soil and waters. Sources of ignition to be kept off. Use explosion-proof and solvent resistant devices only. This substance can propagate on the surface and reignite. Potential combustion products such as CO, SOx, NOx can result and must be observed.

5.3 Advice for firefighters

Special protecting equipment	:	Use a respiratory protecting device independent from the ambient air (insulating device) and in the case of a massive release and/or production of pollutants an absolutely tight chemical protection suit.
Further information	:	Containers in the close environment are to be cooled immediately using water spraying and removed from the dangerous zone, if possible. Fire residues and contaminated extinguishing water have to be properly disposed of in accordance with the local official regulations

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Approaching only in the direction of the wind (changes of the wind directions to be considered). Make explosimeter measurements for determining the dangerous zone and cordon it off. Keep unconcerned persons off the site. First-aiders must wear personal protective equipment. Affected rooms to be ventilated thoroughly. Avoid contact with the skin. Remove all the sources of ignition in the close environment. Avoid the formation of sparks. In the dangerous zone non explosion-proof machinery, devices, and vehicles are to be stopped, no smoking, no actuation of any switch or electrical device that may produce a spark. Evaporated product is heavier than air and propagates close to the ground.

6.2 Environmental precautions

Environmental precautions	:	Escaping point to be sealed. Preventing the penetration into the sewer system, surface waters, and the groundwater by erecting sand and/or earth blockings or by means of other suitable blocking measures. In the case of escapes into surface waters, the sewer system, or into the soil the competent authorities are to be informed.

6.3 Methods and materials for containment and cleaning up

Suitable processes for cleaning or absorption or containment	:	Major amounts to be aspirated or pumped over. Residual amounts to be absorbed and/or contained using non-flammable absorbing material like e.g. sand, earth, or oil binding agents. Note: When the binding agent is depleted upon the complete absorption the evaporation rate increases and thus, the risk of a fire. All waste is to be filled in properly marked hazardous goods containers and disposed of in accordance with the official regulations.
Unsuitable processes for cleaning or absorption or containment	:	No data available

6.4 Reference to other sections

See also section 8 (personal protective equipment) and 13 (disposal).

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Information on the safe handling	:	Obtain special instructions before use. Only to be used within a closed system. Vapours to be aspirated at the outlet point. Exhaust gas and exhaust air to be evacuated into the atmosphere only via suitable separators and/or scrubbers. If required ventilation of the room at the bottom level. Contact with the skin, eyes, and clothing to be avoided. Vapours must not be inhaled. Spilling of the product to be avoided.
Advice on protection against fire and explosion	:	Evaporated product is heavier than air and rests close to the bottom. The vapours can produce an explosive mixture together with air. Prevent the penetration into the sewer system and rooms at low levels. Prevent the penetration into the soil and waters. Measures against electrostatical charging to be taken. All devices to be earthed or connected via conductors. Sources of ignition to be kept off.

See also section 8 (personal protective equipment) and 13 (disposal).

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Mobile containers to be kept tightly closed and at a thoroughly ventilated place. Only approved stationary containers to be used. All tanks and devices to be earthed or connected via conductors. Storage upon a suitable underground. Normally, a tightly sealed and resistant storage room is required. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Before entering storage tanks and beginning work in enclosed spaces, the air must be tested for oxygen content, air pollutants and explosive atmosphere. Recommended materials: For containers, or container linings use mild steel, stainless steel. Unsuitable materials: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer. If the product is supplied in containers: Keep only in the original container. Keep containers properly labelled. Protect from the sunlight. Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazards. Emptied containers may contain residues of flammable product.
Further information on storage conditions	:	Heat influences to be avoided. Sources of ignition to be kept off.
Advice on common storage	:	Do not store together with: explosive hazardous substances , gases , other explosive hazardous substances , flammable solid hazardous substances , pyrophoric or self-heating hazardous substances , hazardous substances which develop flammable gases upon contact with water , highly oxidising hazardous substances , ammonium nitrate and preparations containing ammonium nitrate , organic peroxides and self-reactivehazardous substances , non-combustible, acutely toxic cat. 1 and 2 / very toxic hazardous substances , infectious substances, radioactive substances , Restrictions for storage with: oxidising hazardous substances , non-combustible hazardous substances that are of acute toxicity cat. 3 / toxic or with chronic effects , combustible solids , other combustible and non-combustible substances , Due to specific storage instructions and because of particular properties of the substances within a storage facility, other restrictions may result from the assessment of the hazards.

7.3 Specific end use(s)

Information relating to special applications	:	To be used only for the intended purpose, as mentioned in Section 1.2. For information on specific uses refer to the exposure scenarios in the annex.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational limit value of the product

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Limit value at the workplace (8 hr)	300	-	-		Romanian government decision no. 1218/2006
Limit value at the workplace (15 min)	500	-	-		Romanian government decision no. 1218/2006

Occupational limit value of the components

Components: Intentional ingredients of mixtures and/or markers for substance classification

Gasoline - CAS-No.: 86290-81-5 - EINECS-No.: 289-220-8

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	300	-	-	-	Romanian government decision no. 1218/2006
Short-term exposure level (STEL) at the workplace (15 min)	500	-	-	-	Romanian government decision no. 1218/2006

tert-butyl methyl ether (MTBE) - CAS-No.: 1634-04-4 - EINECS-No.: 216-653-1

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	183,5	50	-	-	Romanian government decision no. 1/2012; Directive 2009/161/EU
Short-term exposure level (STEL) at the workplace (15 min)	367	100	-	-	Romanian government decision no. 1/2012; Directive 2009/161/EU

Methanol - CAS-No.: 67-56-1 - EINECS-No.: 200-659-6

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Short-term exposure level (STEL) at the workplace (15 min)	-	5	-	H	Romanian government decision no. 1218/2006
Exposure limit at the workplace (8 hr)	260	200	-	H	Romanian government decision no. 1218/2006; Directive 2006/15 EC

Ethanol - CAS-No.: 64-17-5 - EINECS-No.: 200-578-6

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	1.900	1.000	-	-	Romanian government decision no. 1218/2006
Short-term exposure level (STEL) at the workplace (15 min)	9.500	5.000	-	-	Romanian government decision no. 1218/2006

Propan-2-ol - CAS-No.: 67-63-0 - EINECS-No.: 200-661-7

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	200	81	-	-	Romanian government decision no. 1218/2006
Short-term exposure level (STEL) at the workplace (15 min)	500	203	-	-	Romanian government decision no. 1218/2006

Toluene - CAS-No.: 108-88-3 - EINECS-No.: 203-625-9

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	192	50	-	H	Romanian government decision no. 1218/2006; Directive 2006/15 EC
Short-term exposure level (STEL) at the workplace (15 min)	384	100	-	H	Romanian government decision no. 1218/2006; Directive 2006/15 EC

Benzene - CAS-No.: 71-43-2 - EINECS-No.: 200-753-7

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	3,25	1	-	H	Romanian government decision no. 1218/2006; Directive 2004/37/EC

n-hexane - CAS-No.: 110-54-3 - EINECS-No.: 203-777-6

Type	mg/m3	ppm	Exceeding coefficient	Note	Source
Exposure limit at the workplace (8 hr)	72	20	-	-	Romanian government decision no. 1218/2006; Directive 2006/15 EC

A Fraction passing the alveoles
E Inhalable fraction
H Skin resorptive
Y A risk of teratogenic effects need not be feared when the occupational exposure limit and the biological limit value (BLV) are respected.
Z A risk of teratogenic effects cannot be excluded even if the OEL and the BLV are respected.
Sh danger of skin sensitisation
SP danger of photo contact sensitisation

Biological limit values of the product

No data known

Biological limit values of the components

Toluene 108-88-3

Type	Value	Parameter	Material of examination	Time of sampling	Source
Biological limit value	2 g/l	Hippuric acid	Urine	end of the shift	Romanian government decision no. 1218/2006
Biological limit value	3 mg/l	o-cresole	Urine	end of the shift	Romanian government decision no. 1218/2006

n-hexane 110-54-3

Type	Value	Parameter	Material of examination	Time of sampling	Source
Biological limit value	5 mg/g Creatinine	2,5-hexandione	Urine	end of the shift	Romanian government decision no. 1218/2006

Benzene 71-43-2

Type	Value	Parameter	Material of examination	Time of sampling	Source
Biological limit value	25 micro-g/g creatinine	S–phenyl mercapturic acid	Urine	end of the shift	Romanian government decision no. 1218/2006
Biological limit value	50 mg/l	Total phenols	Urine	end of the shift	Romanian government decision no. 1218/2006

Methanol 67-56-1

Type	Value	Parameter	Material of examination	Time of sampling	Source
Biological limit value	6 mg/l	Methanol	Urine	end of the shift	Romanian government decision no. 1218/2006

Propan-2-ol 67-63-0

Type	Value	Parameter	Material of examination	Time of sampling	Source
Biological limit value	50 mg/l	Acetone	Urine	end of the shift	Romanian government decision no. 1218/2006

DNEL or DMEL of product

Not applicable for mixtures.

DNEL or DMEL of compounds

Gasoline	:	Exposure routes: Worker, acute exposure, systemic, inhalation Exposure time: 15 min Value: 1300 mg/m3 DNEL
		Exposure routes: Worker, acute exposure, local, inhalation Exposure time: 15 min Value: 1100 mg/m3 DNEL
		Exposure routes: Worker, long-term exposure, local, inhalation Exposure time: 8 h Value: 840 mg/m3 DNEL
		Exposure routes: General population, acute exposure, systemic, inhalation Exposure time: 15 min Value: 1200 mg/m3 DNEL
		Exposure routes: General population, acute exposure, local, inhalation Exposure time: 15 min Value: 640 mg/m3 DNEL
		Exposure routes: General population, long-term exposure, local, inhalation Exposure time: 24 h Value: 180 mg/m3 DNEL
		Exposure routes: worker, acute and long-term exposure, systemic effects, skin Value: 23,4 mg/kg/day DMEL, (reference value for benzene)
		Exposure routes: General population, acute and long-term exposure, inhalation, systemic effects Value: 1 ppb DMEL, (reference value for benzene)
		Exposure routes: General population, acute and long-term exposure, through skin, systemic effects Value: 0,0234 mg/kg/day DMEL, (reference value for benzene)

PNEC of product

Not applicable for mixtures.

PNEC of compounds

Gasoline	:	For the product category no single PNEC can be given because it is a hydrocarbon UVCB.

8.2 Exposure controls

To be used only for the intended purpose, as mentioned in Section 1.2.For information on specific uses refer to the exposure scenarios in the annex.

General safety measures

Hygiene measures	:	Any contact with the eyes, the skin, and clothing to be avoided. Clothing contaminated by that substance to be changed immediately and not to be reused before its cleaning.

Personal protective equipment

Respiratory protection	:	When vapours are produced: respiratory protecting and filtering device with gas filter A, characteristic colour: brown (A1 up to 0,1 % vv, A2 up to 0,5 % vv, A3 up to 1 % vv) to be used. In the case of high concentrations and ambiguous situations a respiratory protecting device independent from the ambient air (breathing apparatus) to be used.
Hand protection	:	Because of the great number of influence factors (e.g. temperature, mechanical stress) the duration of use of the recommended chemical protection gloves can be shorter than the penetration time determined in accordance with EN 374. In case of possible hand contact, wear liquid-proof protective gloves. **Material: Nitrile ;** Break through time: 10 min Strength of material: 0,40 mm Test method: EN 374 **Material: Viton;** Break through time: 480 min Strength of material: 0,70 mm Test method: EN 374 **Material: Butyl;** Break through time: 10 min Strength of material: 0,70 mm Test method: EN 374 **Material: Polychloroprene;** Break through time: 10 min Strength of material: 0,60 mm Test method: EN 374
Eye/face protection	:	Fully protecting goggles or protecting screen if there is a danger of splashing. Otherwise protecting goggles with lateral protection.
Body protection	:	Wear permanently flame resistant and permanently antistatical and solvent resistant and tight protective clothing.

Limitations and supervision of the exposure of the environment

Limitations and supervision of the exposure of the environment	:	Only use within closed apparatuses. At risk of exposure, suitable extraction should be carried out. Emission limits to be respected, cleaning of the exhaust air to be provided (if required). Also refer to section 6 "Measures in the cases of accidental release" When transported in vessels that may break suitable outer containers are to be used.
Limitation and monitoring of environmental exposure for specific applications	:	See exposure scenarios in Annex

8.3 Additional advice

In a concrete case and following an individual assessment of the hazards another personal protecting equipment may be required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Aggregate condition	:	liquid
Colour	:	clear as water to yellowish
Odour	:	petroleumesque
Odour threshold	:	Odour clearly perceptible

Characteristics	Values	Method	Note
pH			not applicable
Melting point/Freezing point			not determined
start of boiling	< 35 °C	EN ISO 3405	
final boiling point	<= 210 °C	EN ISO 3405	
Flash point	< 0 °C	EN 57	
Evaporation rate			not determined
Phase transition solid, gaseous			---
Lower explosion limit	ca. 0,6 %(V)		Literature data
Upper explosion limit	ca. 8 %(V)		Literature data
Vapour pressure	450 - 900 hPa at 37,8 °C	EN 13016-1	
Vapour density			no data available
Density	720 - 775 kg/m3 at 15 °C	EN ISO 12185	
Relative density			not relevant
Water solubility			practically insoluble
Solubility(ies)			Fat solubility: not determined
Partition coefficient (n-octanol/water)			no data available

Characteristics	Values	Method	Note
Auto-ignition temperature	> 250 °C		Literature data
Decomposition temperature			not determined
Viscosity, kinematic	ca. 0,6 mm2/s at 20 °C	EN ISO 3104	
Viscosity, dynamic			not determined
Explosive properties		Derivation from chemical structure	not explosive
Oxidising properties		Derivation from chemical structure	non-oxidising

9.2 Other information

no data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

chemically stable

10.2 Chemical stability

chemically stable

10.3 Possibility of hazardous reactions

Hazardous reactions : The formation of explosive mixtures of vapours and air is possible.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : strong acids and oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : none if correctly stored/transported

10.7 Additional advice

Invisible vapour, heavier than air

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral effect	:	for the mixture no data available
Acute oral effect Gasoline	:	LD50 rat Dose: > 5.000 mg/kg Method: OECD 401 Test substance: 86290-81-5
Acute inhaling effect	:	for the mixture no data available
Acute inhaling effect Gasoline	:	LC50 rat Dose: > 5.610 mg/m3 Method: OECD 403 Test substance: 86290-81-5
Acute dermatological effect	:	for the mixture no data available
Acute dermatological effect Gasoline	:	LD50 rabbit Dose: > 2.000 mg/kg Method: OECD 402 Test substance: 86290-81-5
Acute effect (other)	:	for the mixture no data available
Acute effect (other) Gasoline	:	no data available
Other effects	:	no information

Other effects Gasoline	:	no information

Skin corrosion/irritation

Skin irritation	:	Irritating to skin.
Skin irritation Gasoline	:	Rabbit skin Result: irritating Method: OECD 404 Test substance: 86290-81-5 Dose: 0,5 ml/4h

Serious eye damage/eye irritation

Eye irritation	:	Temporary irritation possible
Eye irritation Gasoline	:	Rabbit eye Result: not irritating Method: OECD 405 Test substance: 86290-81-5 Dose: 0,1 ml/1-2 s

Respiratory or skin sensitisation

sensitisation	:	No indication of sensitizing effect
sensitisation Gasoline	:	Skin sensitisation guinea pig Result: not sensitising Method: OECD 406 Test substance: 86290-81-5 Dose: 0,5 ml/24h

Germ cell mutagenicity

Genotoxicity in vitro	:	Remarks: for the mixture no data available
Genotoxicity in vitro Gasoline	:	Ames test Result: negative Method: OECD 471 Test substance: 86290-81-5
Genotoxicity in vitro 2-ethoxy-2-methylpropane (ETBE)	:	Ames test Result: negative Method: OECD 471
Genotoxicity in vitro tert-butyl methyl ether (MTBE)	:	Ames test Result: negative Method: OECD 471
Genotoxicity in vitro Ethanol	:	Gene mutation test Result: negative Method: OECD 476

Genotoxicity in vitro 2-methoxy-2-methyl-butane (TAME)	:	Ames test Result: negative Method: OECD 471
Genotoxicity in vitro Methanol	:	Ames test Result: negative Method: OECD 471
Genotoxicity in vitro Toluene	:	Ames test Result: negative Method: EU Method B.13/14
Genotoxicity in vitro n-hexane	:	Gene mutation test Result: negative Method: OECD 471
Genotoxicity in vitro Benzene	:	Ames test Result: negative Method: OECD 471
Genotoxicity in vivo	:	Remarks: for the mixture no data available
Genotoxicity in vivo Gasoline	:	micronucleus assay (clastogenicity) Test substance: gasoline vapor condensate Method: EPA OPPTS 870.5395 Result: negative
Genotoxicity in vivo 2-ethoxy-2-methylpropane (ETBE)	:	micronucleus assay (clastogenicity) Method: Guidelines for Screening Mutagenicity Testing Of Chemicals Guideline for micronucleus test in rodents, 21 November 2003 Result: negative
Genotoxicity in vivo tert-butyl methyl ether (MTBE)	:	micronucleus assay (clastogenicity) Method: EPA OPPTS 870.5385 Result: negative
Genotoxicity in vivo Ethanol	:	Chromosome aberration test Method: OECD 478 Result: negative
Genotoxicity in vivo 2-methoxy-2-methyl-butane (TAME)	:	micronucleus assay (clastogenicity) Method: OECD 474 Result: negative
Genotoxicity in vivo Methanol	:	micronucleus assay (clastogenicity) Method: OECD 474 Result: negative

Genotoxicity in vivo Toluene	:	Chromosome aberration test Species: rat Method: rat bone marrow cytogenetic analysis Result: negative
Genotoxicity in vivo n-hexane	:	Chromosome aberration test Method: not determined Result: negative
Genotoxicity in vivo Benzene	:	micronucleus assay (clastogenicity) Method: OECD 474 Result: Positive upon exposure with 100 and 200 ppm
Toxicological Assessment Germ cell mutagenicity	:	Components of this mixture are classified as mutagenic in REACH, Annex XVII, paragraph 29 (benzene content >= 0,1% w/w)
Toxicological Assessment Germ cell mutagenicity Gasoline	:	The substance is classified as mutagenic in REACH, Annex XVII, paragraph 29 (benzene content >= 0,1% w/w)
Toxicological Assessment Germ cell mutagenicity 2-ethoxy-2-methylpropane (ETBE)	:	no indication for germ cell mutagenicity
Toxicological Assessment Germ cell mutagenicity tert-butyl methyl ether (MTBE)	:	no indication for germ cell mutagenicity
Toxicological Assessment Germ cell mutagenicity Ethanol	:	No classification criteria for mutagenicity.
Toxicological Assessment Germ cell mutagenicity 2-methoxy-2-methyl-butane (TAME)	:	no indication for germ cell mutagenicity
Toxicological Assessment Germ cell mutagenicity Methanol	:	no indication for germ cell mutagenicity
Toxicological Assessment Germ cell mutagenicity Toluene	:	Based on the available data the product is not classified as mutagenic.
Toxicological Assessment Germ cell mutagenicity n-hexane	:	Based on the available data the product is not classified as mutagenic.
Toxicological Assessment Germ cell mutagenicity Benzene	:	Germ cell mutagenicity, Muta. 1B H340, May cause genetic defects.

Carcinogenicity

Carcinogenic effect	:	May cause cancer.

Carcinogenic effect Gasoline	:	Dose: 0,05 ml Test substance: 86290-81-5 Method: OECD 451 NOAEL dermal exposure time: 102 weeks;
Carcinogenic effect 2-ethoxy-2-methylpropane (ETBE)	:	Dose: 500 ppm Method: OECD 453 NOAEC: exposure time: 104 weeks;
Carcinogenic effect tert-butyl methyl ether (MTBE)	:	Dose: 400 ppm Method: EPA OTS 798.3300 NOAEC: exposure time: 104 weeks;
Carcinogenic effect Ethanol	:	Method: OECD 451 NOAEL Dose: > 3000 mg/kg/d exposure time: 104 weeks;
Carcinogenic effect 2-methoxy-2-methyl-butane (TAME)	:	no data available
Carcinogenic effect Methanol	:	Method: OECD 453 NOAEC Dose: >1,3 mg/l
Carcinogenic effect Toluene	:	Dose: NOAEC: 1.131 mg/m3 Method: OECD 453 exposure time: 104 weeks;
Carcinogenic effect n-hexane	:	Dose: NOAEC: 31.736 mg/m3 Method: OECD 451 exposure time: 104 weeks;
Carcinogenic effect Benzene	:	Method: EPA OPP 83-5 exposure time: 103 weeks; LOAEL Dose: 25 mg/kg (f), 50mg/kg (m)
Toxicological Assessment Carcinogenicity	:	Components of this mixture are classified as carcinogenic in REACH, Annex XVII, paragraph 28 (benzene content >= 0,1% w/w)
Toxicological Assessment Carcinogenicity Gasoline	:	The substance is classified as carcinogenic in REACH, Annex XVII, paragraph 28 (benzene content >= 0,1% w/w)
Toxicological Assessment Carcinogenicity 2-ethoxy-2-methylpropane (ETBE)	:	no indication for carcinogenicity
Toxicological Assessment Carcinogenicity tert-butyl methyl ether (MTBE)	:	no indication for carcinogenicity
Toxicological Assessment Carcinogenicity Ethanol	:	No classification criteria for carcinogenicity.

Toxicological Assessment Carcinogenicity 2-methoxy-2-methyl-butane (TAME)	:	no indication for carcinogenicity
Toxicological Assessment Carcinogenicity Methanol	:	no indication for carcinogenicity
Toxicological Assessment Carcinogenicity Toluene	:	Based on the available data the product is not classified as carcinogenic.
Toxicological Assessment Carcinogenicity n-hexane	:	Based on the available data the product is not classified as carcinogenic.
Toxicological Assessment Carcinogenicity Benzene	:	Carcinogenicity, Carc. 1A H350, May cause cancer.

Toxicity to reproduction

Reproduction toxicity/fertility	:	for the mixture no data available
Reproduction toxicity/fertility Gasoline	:	Test substance: 64741-66-8 Method: OECD 421 NOAEL: >24700 mg/m3 (P, F1)
Reproduction toxicity/fertility 2-ethoxy-2-methylpropane (ETBE)	:	Method: OECD 415 NOAEL: Dose 300 mg/kg/d (P, F1)
Reproduction toxicity/fertility tert-butyl methyl ether (MTBE)	:	Method: not determined NOAEC Dose: 8000 ppm (P, F1)
Reproduction toxicity/fertility Ethanol	:	Method: OECD 416 NOAEL (P, F1) Dose: 20,7 g/kg/d
Reproduction toxicity/fertility 2-methoxy-2-methyl-butane (TAME)	:	Method: EPA OPPTS 870.3700 NOAEC (maternal): 250 ppm
Reproduction toxicity/fertility Methanol	:	NOAEL (P) Dose: <1000 mg/kg
Reproduction toxicity/fertility Toluene	:	Method: OECD 416 NOAEC (P); Dose: 7500 mg/m3 NOAEC (F1); Dose: 1875 mg/m3
Reproduction toxicity/fertility n-hexane	:	Method: OECD 403 LOAEC Dose: >5000 ppm/24h
Reproduction toxicity/fertility Benzene	:	Method: OECD 415 NOAEC (P) Dose: 960 mg/m3
Development toxicity/teratogenicity	:	Can cause genetic defects and possibly impair fertility or harm the embryo in the womb.
Development toxicity/teratogenicity Gasoline	:	Test substance: unleaded gasoline vapor condensate Method: OECD 414 NOAEL: 23900 mg/m3
Development toxicity/teratogenicity 2-ethoxy-2-methylpropane (ETBE)	:	Method: OECD 414 NOAEL Dose: 1000 mg/kg/d
Development toxicity/teratogenicity tert-butyl methyl ether (MTBE)	:	Method: EPA OTS 798.4350 NOAEC (Development toxicity F1, F2); Dose: 4.000 ppm
Development toxicity/teratogenicity Ethanol	:	Method: OECD 414 NOAEL Dose: > 20000 ppm

Development toxicity/teratogenicity 2-methoxy-2-methyl-butane (TAME)	:	Method: EPA OPPTS 870.3700 NOAEC : 250 ppm (maternal/developmental toxicity)
Development toxicity/teratogenicity Methanol	:	Method: OECD 414 LOAEL Dose: 1027 mg/kg/d
Development toxicity/teratogenicity Toluene	:	Method: EPA OTS 798.4350 NOAEC Dose: 2812 mg/m3/20d
Development toxicity/teratogenicity n-hexane	:	NOAEC (maternal/developmental toxicity) Dose: 200 ppm (704 mg/m3)
Development toxicity/teratogenicity Benzene	:	Method: OECD 414 NOAEC Dose: 128 mg/m3
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility**	:	Based on the available data the product is classified as toxic to reproduction (fertility). Based on the available data, classified as toxic to development or teratogenic.
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** Gasoline	:	Classified as toxic to reproduction (development) due to toluene content >= 3% w/w Classified as toxic to reproduction (fertility) due to n-hexane content >= 3% w/w
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** 2-ethoxy-2-methylpropane (ETBE)	:	No reproduction toxicity or teratogenicity
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** tert-butyl methyl ether (MTBE)	:	No reproduction toxicity or teratogenicity
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** Ethanol	:	No notable risk to humans when TLV-value is observed
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** 2-methoxy-2-methyl-butane (TAME)	:	No reproduction toxicity or teratogenicity
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** Methanol	:	Based on the available data the product is not classified as toxic to reproduction (fertility). Based on the available data, not classified as toxic to development or teratogenic.
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** Toluene	:	Based on the available data the product is not classified as toxic to reproduction (fertility). Based on the available data the product is classified as teratogenic.
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** n-hexane	:	Based on the available data, the product is classified as toxic to reproduction. Based on the available data, not classified as toxic to development or teratogenic.
Toxicological Assessment **Development toxicity/teratogenicity** **Reproduction toxicity/fertility** Benzene	:	Based on the available data the product is not classified as toxic to reproduction (fertility). Based on the available data, not classified as toxic to development or teratogenic.

Specific Target Organ Toxicity - Single exposure

Specific Target Organ Toxicity - Single exposure	:	Remarks: May cause drowsiness or dizziness (Inhalation).
Specific Target Organ Toxicity - Single exposure Gasoline	:	Remarks: May cause drowsiness or dizziness (Inhalation).

Specific Target Organ Toxicityt - Repeated exposure

Effect upon repeated or longtime exposure	:	for the mixture no data available
Effect upon repeated or longtime exposure Gasoline	:	Repeated skin contact may lead to symptoms of irritation and/or inflammatory reactions (dermatitis).

Aspiration hazard

Aspiration toxicity	:	Can cause lung damage if swallowed or inhaled into the respiratory tract.
Aspiration toxicity Gasoline	:	Can cause lung damage if swallowed or inhaled into the respiratory tract.

Neurological effects

Neurological effects	:	for the mixture no data available
Neurological effects Gasoline	:	OECD 413, NOAEL: 6350 mg/m3
Narcotic effect	:	Very high concentrations lead to unconsciousness after short-term exposure already.
Narcotic effect Gasoline	:	Vapours may cause drowsiness and dizziness.

Toxicological Assessment

Acute effects	:	for the mixture no data available
Acute effects Gasoline	:	Based on the available data, the product is not classified as acutely toxic.
Sensitization	:	for the mixture no data available
Sensitization Gasoline	:	Based on the available data, the product is not classified as sensitising.
Repeated dose toxicity	:	for the mixture no data available
Repeated dose toxicity Gasoline	:	NOAEL oral; Dose: <500 mg/kg/d, Test substance, 86290-81-5

11.2 Additional advice

Further information	:	no information

Further information Gasoline	:	**no information**

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity

Acute toxicity for fish	:	for the mixture no data available
Acute toxicity for fish Gasoline	:	LL50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 10 mg/l Exposure time: 96 h Method: OECD 203
Acute toxicity for aquatic invertebrates	:	for the mixture no data available
Acute toxicity for aquatic invertebrates Gasoline	:	EL50 Species: Daphnia magna (large water flea) Dose: 4,5 mg/l Exposure time: 48 h Method: OECD 202
Toxicity for algae and aquatic plants	:	for the mixture no data available
Toxicity for algae and aquatic plants Gasoline	:	EL50 Species: Pseudokirchneriella subcapitata Dose: 3,1 mg/l Exposure time: 72 h Method: OECD 201
Toxicity for micro-organisms	:	for the mixture no data available
Toxicity for micro-organisms Gasoline	:	EC50 Species: Tetrahymena pyriformis Dose: 15,41 mg/l Exposure time: 40 h Method: not determined
Toxicity to edaphic organisms	:	for the mixture no data available
Toxicity to edaphic organisms Gasoline	:	Dose: 0,4 - 20,8 mg/kg PNEC;soil
Toxicity for terrestrial plants	:	for the mixture no data available
Toxicity for terrestrial plants Gasoline	:	Dose: 0,4 - 20,8 mg/kg PNEC;soil
Toxicity to other terrestrial non -mammalian organisms	:	for the mixture no data available

Toxicity to other terrestrial non -mammalian organisms Gasoline	:	no data available

Chronic toxicity

Toxicity to fish (Chronic toxicity)	:	for the mixture no data available
Toxicity to fish (Chronic toxicity) Gasoline	:	LL50 Species: Pimephales promelas Dose: 5,2 mg/l Exposure time: 14 d Method: OECD 204
Toxicity to daphnia and other aquatic invertebrates. (Chronic toxicity)	:	Remarks: for the mixture no data available
Toxicity to daphnia and other aquatic invertebrates. (Chronic toxicity) Gasoline	:	EL50 Species: Daphnia magna Dose: 10 mg/l Exposure time: 21 d Method: OECD 211

Ecotoxicological Assessment

Aquatic Acute	:	The product is toxic for water organisms.
Aquatic Acute Gasoline	:	The product is toxic for water organisms.
Aquatic Chronic	:	Toxic to aquatic life with long lasting effects.
Aquatic Chronic Gasoline	:	Toxic to aquatic life with long lasting effects.
Toxicity Data on Soil	:	no data available
Toxicity Data on Soil Gasoline	:	no data available
Other organisms relevant to the environment	:	no data available
Other organisms relevant to the environment Gasoline	:	no data available

12.2 Persistence and degradability

Persistence,Biodegradability	:	Not readily biodegradable.
Persistence, Biodegradability Gasoline	:	Not readily biodegradable.
Persistence, Biodegradability 2-ethoxy-2-methylpropane (ETBE)	:	Not readily biodegradable.
Persistence, Biodegradability tert-butyl methyl ether (MTBE)	:	Not readily biodegradable.
Persistence, Biodegradability Ethanol	:	Readily biodegradable.

Persistence, Biodegradability 2-methoxy-2-methyl-butane (TAME)	:	Not readily biodegradable.
Persistence, Biodegradability Methanol	:	Readily biodegradable.
Persistence, Biodegradability Toluene	:	ready biodegradability 86 % Method: APHA method no 219
Persistence, Biodegradability n-hexane	:	Readily biodegradable.
Persistence, Biodegradability Benzene	:	Readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation	:	no data available Bioconcentration (Partition coefficient (n-octanol/water)): no data available
Bioaccumulation Gasoline	:	Bioconcentration factor (BCF): 10 - 2.500 modelled data
Bioaccumulation 2-ethoxy-2-methylpropane (ETBE)	:	Not potentially bioaccumulative, (log Kow = 1,48 - 1,56)
Bioaccumulation tert-butyl methyl ether (MTBE)	:	Bioconcentration factor (BCF): <= 2.000 Not potentially bioaccumulative, (log Kow = 1,06)
Bioaccumulation Ethanol	:	Not potentially bioaccumulative, (log Kow <= 4,5)
Bioaccumulation 2-methoxy-2-methyl-butane (TAME)	:	Not potentially bioaccumulative, (log Kow = 1,55)
Bioaccumulation Methanol	:	Bioconcentration factor (BCF): < 10 Not potentially bioaccumulative, (log Kow = -0,77)
Bioaccumulation Toluene	:	Species: Leuciscus idus melanotus Exposure time: 3 d Bioconcentration factor (BCF): 90 Method: Exposure to single concentration in closed static system. Whole body concentration., Measurement by radioactive markers., (log Kow = 2,73 at 20°)
Bioaccumulation n-hexane	:	Bioconcentration factor (BCF): 501.187 does not greatly bioacumulate, (log Kow = 4,11)
Bioaccumulation Benzene	:	Bioconcentration factor (BCF): 13 Not expected to bioaccumulate due to the low log Kow < 3

12.4 Mobility in soil

Mobility	:	Remarks: Do not allow the product to be released uncontrolled into the environment.
Mobility Gasoline	:	Remarks: Koc >60,7 <229,2 log Koc >1,783 <2,36 (=2)

Mobility 2-ethoxy-2-methylpropane (ETBE)	:	Remarks: no data available
Mobility tert-butyl methyl ether (MTBE)	:	Remarks: no data available
Mobility Ethanol	:	Remarks: no significant adsorption on soils (read-across methanol)
Mobility 2-methoxy-2-methyl-butane (TAME)	:	Remarks: no data available
Mobility Methanol	:	Remarks: Koc = 1; no significant adsorption on soils.
Mobility Toluene	:	Method: OECD 312 Remarks: Koc = 34 - 120
Mobility n-hexane	:	Method: QSAR Remarks: log Koc = 3,34; Koc= 2187,76
Mobility Benzene	:	Method: QSAR Remarks: Koc = 134,1 l/kg
Transport between environmental compartments	:	The product evaporates readily.
Transport between environmental compartments Gasoline	:	Air (%) 91,6; Water (%) 4,9; Soil (%) 2,8; Sediment (%) 0,7.
Transport between environmental compartments 2-ethoxy-2-methylpropane (ETBE)	:	Air (%) 96,2; Water (%) 0,098; Soil (%) 3,66; Sediment (%) 0,002.
Transport between environmental compartments tert-butyl methyl ether (MTBE)	:	Air (%) 93,9; Water (%) 6,04; Soil (%) 0,05; Sediment (%) 0.
Transport between environmental compartments Ethanol	:	Air and Water (%) > 99%
Transport between environmental compartments 2-methoxy-2-methyl-butane (TAME)	:	Air (%) 95,7; Water (%) 4,26; Soil (%) 0,04 Sediment (%) 0,01.
Transport between environmental compartments Methanol	:	Air (%) 73,3; Water (%) 15,6; Soil (%) 11,1; Sediment (%) 0,02.
Transport between environmental compartments Toluene	:	Air (%) 99,47; Water (%) 0,49; Soil (%) 0,02; Sediment (%) 0,02.

Transport between environmental compartments n-hexane	:	Air (%) 91,6; Water (%) 4,9; Soil (%) 2,8; Sediment (%) 0,7.
Transport between environmental compartments Benzene	:	Air (%) 99,0; Water (%) 0,9; Soil (%) 0,1; Sediment (%) 0,1.
Physical-chemical eliminability	:	The product is insoluble and floats on water. May be separated mechanically in waste water plants.
Physical-chemical eliminability Gasoline	:	The product is insoluble and floats on water. May be separated mechanically in waste water plants.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	:	According to the results of current assessment(s), contains no substance assessed to be a PBT or a vPvB
Results of PBT and vPvB assessment Gasoline	:	According to the results of current assessment(s), contains no substance assessed to be a PBT or a vPvB
Results of PBT and vPvB assessment 2-ethoxy-2-methylpropane (ETBE)	:	The substance is not considered a PBT or vPvB.
Results of PBT and vPvB assessment tert-butyl methyl ether (MTBE)	:	The substance is not considered a PBT or vPvB.
Results of PBT and vPvB assessment Ethanol	:	The substance is not considered a PBT or vPvB.
Results of PBT and vPvB assessment 2-methoxy-2-methyl-butane (TAME)	:	The substance is not considered a PBT or vPvB.
Results of PBT and vPvB assessment Methanol	:	The substance is not considered a PBT or vPvB.

12.6 Other adverse effects

Effects upon sewage treatment plants	:	no information
Effects upon sewage treatment plants Gasoline	:	no information
Other adverse effects	:	Do not discharge liquid hydrocarbons into sewer system, water bodies and prevent from entering the ground. In the case of accidents call for assistance by professional oil-fighting forces.
Other adverse effects Gasoline	:	Do not discharge liquid hydrocarbons into sewer system, water bodies and prevent from entering the ground. In the case of accidents call for assistance by professional oil-fighting forces.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Information on the disposal of the product	:	Product residues are to be disposed of in accordance with the legal stipulations on hazardous waste.
Contaminated packaging	:	If the product has been supplied within a packaging, the empty original containers are to be reused preferably or, if this is not possible, they are to be recycled preferably.Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.
Disposal key according to European disposal index when using as described in Section 1.:		
Waste from residues	:	13 07 02* petrol
Contaminated packaging	:	15 01 10* packaging which contain residues of hazardous substances or which are contaminated by hazardous substances

13.2 Additional advice

The Waste Code depends on the origin of the waste and can deviate from the above data in a specific case.

Legislation on the disposal of product wastes:
Law no. 211/2011 on the waste management;
Government Decision no. 235/2007 on the disposal of waste oils;
Ordinance of the Minister for Water Management and Protection of the Environment no. 756/2004 in view of the approval of the technical regulations concerning the incineration of wastes;
Government Decision no. 349/2005 on the storage of wastes, as further amended and completed;
Government Decision no. 856/2002 on the documentary evidence to be submitted by the waste management companies and on the approval of the wastes lists, including the hazardous wastes, as further amended and completed;
Government Decision 1061/2008 for the transport of hazardous and non-hazardous goods inside Romania.

Legal stipulations on packing wastes:
Government Decision no. 621/2005 on the disposal of wastes and packing wastes, as further amended and completed;
Order no. 794/2012 on the procedure to report data concerning packaging and packaging waste;

SECTION 14. TRANSPORT INFORMATION

Road transport (ADR)

14.1	UN no.	:	1203
14.2	Proper shipping name	:	GASOLINE or MOTOR SPIRIT or PETROL
14.3	Transport hazard class	:	3
14.4	Packing group	:	II
14.5	Environmentally hazardous	:	yes
14.6	Special precautions for users	:	See section 7 and references therein.

Further information

Number to designate the hazard	:	33
ADR/RID-Labels	:	3
Classification Code	:	F1
Tunnel restriction code	:	(D/E)
Advice	:	Danger Label No 3, Fish and tree - Environmentally hazardous substance mark

Rail transport (RID)

14.1	UN no.	:	1203
14.2	Proper shipping name	:	GASOLINE or MOTOR SPIRIT or PETROL
14.3	Transport hazard class	:	3
14.4	Packing group	:	II
14.5	Environmentally hazardous	:	yes
14.6	Special precautions for users	:	See section 7 and references therein.

Further information

Number to designate the hazard	:	33
ADR/RID-Labels	:	3
Classification Code	:	F1
Advice	:	Danger Label No 3, Fish and tree - Environmentally hazardous substance mark

Inland navigation with tanker barges (ADN)

14.1	UN no.	:	1203
14.2	Proper shipping name	:	MOTOR SPIRIT or GASOLINE or PETROL
14.3	Transport hazard class	:	3
14.4	Packing group	:	II
14.5	Environmentally hazardous	:	yes
14.6	Special precautions for users	:	See section 7 and references therein.

Further information

Advice	:	(N2+CMR+F)

Sea transport (IMDG)

14.1	UN no.	:	1203
14.2	Proper shipping name	:	MOTOR SPIRIT or GASOLINE or PETROL
14.3	Transport hazard class	:	3
14.4	Packing group	:	II
14.5	Marine pollutant	:	yes
14.6	Special precautions for users	:	See section 7 and references therein.
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	MARPOL Annex 1

Further information

ICAO hazard labels	:	3
EmS	:	F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1	UN no.	:	1203
14.2	Proper shipping name	:	GASOLINE or MOTOR SPIRIT or PETROL
14.3	Transport hazard class	:	3
14.4	Packing group	:	II
14.5	Environmentally hazardous	:	yes
14.6	Special precautions for users	:	See section 7 and references therein.

Further information

ICAO hazard labels	:	3

Additional advice

In case of need further information on the transport classification can be requested from the producer.

SECTION 15. REGULATORY INFORMATION

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

Community provisions on the protection of the health and the environment

Directive 1999/13/EC of March 11, 1999 on the limitation of emissions of volatile organic compounds emerging during certain activities and in certain plants when using organic solvents (VOC-Directive).	:	When properly used, product is not subject to VOC-Guideline (see Section 1.2).
European Parliament and Council Directive 94/63/EC of 20 December 1994 on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations.	:	The legislation regarding the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations apply to this product.
Directive 2009/126/EC of the European Parliament and of the Council of 21 October 2009 on Stage II petrol vapour recovery during refuelling of motor vehicles at service stations	:	The legislation regarding the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations apply to this product.
Regulation (EC) no. 1907/2006, Annex XVII (REACH-regulation)	:	no. 28 Carcinogenic substances of the categories 1A and/or 1 or the categories 1B and/or 2 no. 29 Mutagenic substances of the categories 1A and/or 1 or the categories 1B and/or 2;
Directive 96/82/EC of the Council dated 9 December 1996 on control of hazards in event of serious accidents with hazardous materials (Seveso II Directive)	:	Annex I, Part 1: mineral oil products: a) Gasolines and naphthas Annex I, Part 2: - 8. extremely flammable - 9ii R51/53 "Toxic to aquatic organisms; may cause long-term adverse effect in the aquatic environment"
Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (SEVESO III).	:	Annex I, Part 1: P5a FLAMMABLE LIQUIDS Section "E" – ENVIRONMENTAL HAZARDS E2 Hazardous to the Aquatic Environment in Category Chronic 2. Annex I, Part 2: 34. Petroleum products and alternative fuels. (a) gasolines and naphthas
Council Directive 92/85/EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding (tenth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)	:	This product is subject to the restrictions set by the national legislation transposing the Directive.
Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work	:	This product is subject to the restrictions set by the national legislation transposing the Directive.

Other regulations:
Government Decision 937/2010 on the classification, packing, and labelling of dangerous preparations when placed on the market;
Regulation (CE) 1272/2008 on the classification, labelling and packaging of substances and mixtures, the amendment and repeal of Directives 67/548/CEE and 1999/45/CE, as well as amendment of Regulation (CE) 1907/2006, as further amended and completed.
Law no. 360/2003 on the handling of dangerous chemical substances and preparations, as further amended and completed;
Government Decision no. 1093/2003 for determining the minimum requirements to the safety and health of the workforce in view of preventing the risks of an exposure to carcinogenic or mutagenic substances at the workplace, as further amended and completed;
Regulation (EC) no. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as further amended and completed;
Government Decision no. 1408/2008 on the classification, packing, and labelling of dangerous substances;
Government Decision 477/2009 on the fixing of punitive measures in the event of contravention of the rules of Regulation (EC) 1.907/2006 of the European Parliament and Council on the registration, evaluation, approval and demarcation of chemical materials (REACH), for the founding of the European chemicals agency, the amendment of Directive 1999/45/EC and the repeal of Regulation (EEC) 793/93 of the Council and Regulation (EC) 1.488/94 of the Commission, as well as Directive 76/769/CEE of the Council and Directives 91/155/CEE, 93/67/CEE, 93/105/CE and 2000/21/CE of the Commission.
Government Decision 398 /2010 on the fixing of measures for the adherence to the rules of Regulation (EC) 1.272/2008 of the European Parliament and Council dated 16 December 2008 on the classification, labelling and packaging of materials and mixtures, the amendment and repeal of Directives 67/548/CEE and 1.999/45/CE, as well as amendment of Regulation (CE) 1.907/2006.
Regulation (EU) 453/2010 of the Commission from 20 May 2010 for the amendment of Regulation (CE) 1907/2006 of the European Parliament and Council and the Council on the registration, evaluation, approval and restriction of chemicals (REACH)
Law no. 319/2006 on the safety and health at work;
Government Decision no. 1218/2006 on the determination of the minimum requirements to the safety and health of the workforce in view of preventing risks caused by chemical substances, as further amended and completed;
Emergency ordinance 122/2010 establishing the penalties applicable for breaches of provisions in the Regulation (EC) 1.272/2008 of the European Parliament and Council dated 16 December 2008 on the classification, labelling and packaging of materials and mixtures, the amendment and repeal of Directives 67/548/EEC and 1.999/45/EC, as well as amendment of Regulation (EC) 1.907/2006.
Government Decision no.804/2007 on the control of major accident hazards involving dangerous substances, as further amended and completed.
Emergency ordinance 96/2003 concerning the motherhood protection at workplace, as further modified and completed.
Government Decision 600/2007 concerning the protection of young people at workplace, as further modified and completed.
Government Decision 893/2006 for amending Government Decision 1.593/2002 regarding approval of National Plan for preparedness, response and cooperation in case of marine pollution by hydrocarbons.

15.2 Chemical Safety Assessment

A chemical safety assessment for the main constituent was performed within the framework of the REACH registration. It was verified that control of the main constituent as a lead substance ensures appropriate control of all other constituents of the mixture. Therefore, the relevant scenarios for the main substance are attached in the annex.

SECTION 16. OTHER INFORMATION

Text of R-phrases referred to under sections 2 and 3

R11	Highly flammable.
R12	Extremely flammable.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62	Possible risk of impaired fertility.

R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

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

Flam. Liq.:	Flammable liquids
Skin Irrit.:	Skin corrosion/irritation
Asp. Tox.:	Aspiration hazard
Repr.:	Reproductive toxicity
Muta.:	Germ cell mutagenicity
Carc.:	Carcinogenicity
STOT SE:	Specific target organ toxicity - single exposure
Aquatic Chronic:	Chronic aquatic toxicity
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
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 (optic nerve (nervus opticus), central nervous system).
H372	Causes damage to organs (haematopoietic system) through prolonged or repeated exposure (oral, inhalation and dermal).
H373	May cause damage to organs (central nervous system) through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further information

Other information	:	Overall updates from the previous main version, not marked as stated at Additional advice, have been implemented in:, Section 1 and Annex
	:	Section 7 and 8, Sections 11 - 16

Markings (|) in the left border indicate changes in the previous main version.
The above data are in accordance with our knowledge and experience at the given date of revision and exclusively refer to the product in its as-delivered condition as it is unambiguously identifiable by the product number. In the case of usages deviating from those given in section 1 or when the product is mixed with other materials or is altered in the course of a production process, the statements given in the material safety data sheet may not apply without restrictions or even not at all any more. The data are not applicable to other products of the same or a similar designation.

Annex

The exposure scenarios for the most frequent applications are listed below. If required, other exposure scenarios will be provided upon request.

1. Brief title of the Exposure Scenario: 01a - Distribution of substance

Main User Groups	:	**SU3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
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 preparation (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 laboratory reagent
Environmental release category	:	**ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles
Further information	:	Specific Environmental Release Category ESVOC SpERC 1.1b.v1 Exposure scenario is also applicable for 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
Processes, tasks, activities covered	:	Bulk loading (including marine vessel/barge, rail/road car and IBC loading) of substance within closed or contained systems, including incidental exposures during its sampling, storage, unloading, maintenance and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Amount used

Remarks	:	Substance is complex UVCB.Predominantly hydrophobic.
Regional use tonnage	:	18,7 10E6 t/y
Annual site tonnage (tonnes/year)	:	37.500
Maximum daily site tonnage (kg/day)	:	120.000
Fraction of EU tonnage used in region	:	0,1
Fraction of Regional tonnage used locally	:	0,002
MSafe (maximum allowable site tonnage)	:	1,1 10E6 kg/day

Frequency and duration of use

Continuous exposure	:	300 Emission days (days/year)

Environmental factors not influenced by risk management

Local freshwater dilution factor	:	10
Local Marine water dilution factor	:	100

Other given operational conditions affecting environmental exposure

Continuous release.		
Emission or Release Factor: Air	:	0,100 %
Emission or Release Factor: Water	:	0,001 %
Emission or Release Factor: Soil	:	0,001 %
Remarks	:	All release factors refer to initial release prior to RMM. Release to water is release to wastewater.
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.

Technical conditions and measures / Organizational measures;

Air	:	Treat air emission to provide a typical removal efficiency of: 90 %
Water	:	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): 12 %
Water	:	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of: 0 %
Remarks	:	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.

Conditions and measures related to municipal sewage treatment plant

Flow rate of sewage treatment plant effluent	:	2.000 m3/d
Effectiveness (STP)	:	95,5 %
Total removal from wastewater according to internal and external location measures	:	95,5 %
Sludge Treatment	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

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

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**

PROC2 : **Use in closed, continuous process with occasional controlled exposure**

PROC3 : **Use in closed batch process (synthesis or formulation)**

PROC8a : **Transfer of substance or preparation (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 laboratory reagent**

Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 100 % (unless stated differently)
Physical Form (at time of use)	:	Liquid
Vapour pressure	:	Vapour Pressure is given at STP. > 100 hPa
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

Amount used

Not applicable :

Frequency and duration of use
Covers daily exposures up to 8 hours (unless stated differently) : 8 h

Technical conditions and measures
G18 General Measures (carcinogens).
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.
CS15 General exposures (closed systems) . CS56 With sample collection.
Handle substance within closed systems. Sample via a closed loop or other system intended to avoid exposure.
CS15 General exposures (closed systems). OC9 Outdoor.
Handle substance within closed systems.
CS2 Process sampling
Sample via a closed loop or other system intended to avoid exposure.
CS36 Laboratory activities
Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.
CS501 Bulk closed loading and unloading.
Ensure material transfers are under containment or extract ventilation.
CS39 Equipment cleaning and maintenance.
Drain down and flush system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
CS67 Storage.
Ensure operation is undertaken outdoors. Store substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure:
G19 General measures (skin irritants)
Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop.
G18 General Measures (carcinogens).
Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Conditions and measures related to personal protection, hygiene and health evaluation
G19 General measures (skin irritants)
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 skin contamination immediately.
G18 General Measures (carcinogens).
Where there is potential for exposure: Wear suitable gloves (tested to EN374) 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 waste safely.
CS15 General exposures (closed systems) . CS56 With sample collection.
Wear suitable gloves tested to EN374.
CS39 Equipment cleaning and maintenance.
Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

3. Exposure estimation and reference to its source

3.1. Health:
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
3.2. Environment:
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

4.1. 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.
4.2. 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 onsite 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. Brief title of the Exposure Scenario: 02 - Formulation & (re)packing of substances and mixtures

Main User Groups	:	**SU3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	**SU10:** Formulation [mixing] of preparations and/or repackaging (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 preparation (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 laboratory reagent
Environmental release category	:	**ERC2:** Formulation of preparations
Further information	:	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.

2.1 Contributing scenario controlling environmental exposure for: ERC2: Formulation of preparations

Amount used

Remarks	:	Substance is complex UVCB.Predominantly hydrophobic.
Regional use tonnage	:	16,5 10E6 t/y
Annual site tonnage (tonnes/year)	:	30.000
Maximum daily site tonnage (kg/day)	:	100.000
Fraction of EU tonnage used in region	:	0,1
Fraction of Regional tonnage used locally	:	0,0018
MSafe (maximum allowable site tonnage)	:	100.000 kg/day

Frequency and duration of use

Continuous exposure	:	300 Emission days (days/year)

Environmental factors not influenced by risk management

Local freshwater dilution factor	:	10
Local Marine water dilution factor	:	100

Other given operational conditions affecting environmental exposure

Continuous release.

Emission or Release Factor: Air	:	2,50 %
Emission or Release Factor: Water	:	0,20 %
Emission or Release Factor: Soil	:	0,01 %
Remarks	:	All release factors refer to initial release prior to RMM. Release to water is release to wastewater.
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.

Technical conditions and measures / Organizational measures;

Air	:	Treat air emission to provide a typical removal efficiency of: 56,5 %
Water	:	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): 94,7 %
Water	:	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): 0 %
Remarks	:	Prevent discharge of undissolved substance to or recover from 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.

Conditions and measures related to municipal sewage treatment plant

Flow rate of sewage treatment plant effluent	:	2.000 m3/d
Effectiveness (STP)	:	95,5 %
Total removal from wastewater according to internal and external location measures	:	95,5 %
Sludge Treatment	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

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

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**

PROC2 : **Use in closed, continuous process with occasional controlled exposure**

PROC3 : **Use in closed batch process (synthesis or formulation)**

PROC8a : **Transfer of substance or preparation (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 laboratory reagent**

Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 100 % (unless stated differently)
Physical Form (at time of use)	:	Liquid
Vapour pressure	:	Vapour Pressure is given at STP. > 100 hPa
Remarks	:	Assumes a good basic standard of occupational hygiene is implemented, Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Amount used

Not applicable :

Frequency and duration of use

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

Technical conditions and measures

G18 General Measures (carcinogens).
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.
CS15 General exposures (closed systems) . CS56 With sample collection.
Handle substance within closed systems. Sample via a closed loop or other system intended to avoid exposure.
CS15 General exposures (closed systems). OC9 Outdoor.
Handle substance within closed systems.
CS2 Process sampling
Sample via a closed loop or other system intended to avoid exposure.
CS36 Laboratory activities
Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure.
CS14 Bulk Transfers.
Ensure material transfers are under containment or extract ventilation
CS8 Drum/batch transfers
Ensure material transfers are under containment or extract ventilation.
CS39 Equipment cleaning and maintenance.
Drain down and flush system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
CS67 Storage.
Store substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure:
G19 General measures (skin irritants)
Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop.
G18 General Measures (carcinogens).
Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Conditions and measures related to personal protection, hygiene and health evaluation
G19 General measures (skin irritants)
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 skin contamination immediately.
G18 General Measures (carcinogens).
Where there is potential for exposure: Wear suitable gloves (tested to EN374) 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.
CS15 General exposures (closed systems) . CS56 With sample collection.
Wear suitable gloves tested to EN374.
CS39 Equipment cleaning and maintenance.
Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
CS67 Storage.
Wear suitable gloves tested to EN374.

3. Exposure estimation and reference to its source

3.1. Health:
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
3.2. Environment:
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

4.1. 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.

4.2. 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 onsite 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. Brief title of the Exposure Scenario: 12a - Use as a fuel - Industrial

Main User Groups	:	**SU3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
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 preparation (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
Further information	:	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.

2.1 Contributing scenario controlling environmental exposure for: ERC7: Industrial use of substances in closed systems

Amount used

Remarks	:	Substance is complex UVCB.Predominantly hydrophobic.
Regional use tonnage	:	1,4 10E6 t/y
Annual site tonnage	:	1,4 10E6 t/y
Maximum daily site tonnage	:	4,6 10E6 kg/day
Fraction of EU tonnage used in region	:	0,1
Fraction of Regional tonnage used locally	:	1,0
MSafe (maximum allowable site tonnage)	:	4,6 10E6 kg/day

Frequency and duration of use

Continuous exposure	:	300 Emission days (days/year)

Environmental factors not influenced by risk management

Local freshwater dilution factor	:	10
Local Marine water dilution factor	:	100

Other given operational conditions affecting environmental exposure

Continuous release.

Emission or Release Factor: Air	:	0,250 %
Emission or Release Factor: Water	:	0,001 %
Emission or Release Factor: Soil	:	0 %
Remarks	:	All release factors refer to initial release prior to RMM. Release to water is release to wastewater.
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.

Technical conditions and measures / Organizational measures;

Air	:	Treat air emission to provide a typical removal efficiency of: 99,4 %

Water	:	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): 76,9 %
Water	:	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): 0 %
Remarks	:	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.

Conditions and measures related to municipal sewage treatment plant

Flow rate of sewage treatment plant effluent	:	2.000 m3/d
Effectiveness (STP)	:	95,5 %
Total removal from wastewater according to internal and external location measures	:	95,5 %
Sludge Treatment	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	:	Combustion emissions limited by required exhaust emission controls., Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

Recovery Methods	:	This substance is consumed during use and no waste of the substance is generated.

2.2 Contributing scenario controlling worker exposure for:

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 preparation (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**

Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 100 % (unless stated differently)
Physical Form (at time of use)	:	Liquid
Vapour pressure	:	Vapour Pressure is given at STP. > 100 hPa
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

Amount used

Not applicable :

Frequency and duration of use

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

Technical conditions and measures

G18 General Measures (carcinogens).
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.
CS502 Bulk closed unloading
Ensure material transfers are under containment or extract ventilation.
CS8 Drum/batch transfers
Ensure material transfers are under containment or extract ventilation.
CS15 General exposures (closed systems).
Handle substance within closed systems. 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.
GEST_12I Use as a fuel, CS107 (closed systems)
Handle substance within closed systems.
CS39 Equipment cleaning and maintenance.
Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. 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.
CS67 Storage.
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.

Organisational measures to prevent /limit releases, dispersion and exposure:
G19 General measures (skin irritants)
Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop.
G18 General Measures (carcinogens).
Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
CS8 Drum/batch transfers
No specific measures identified.
CS507 Refuelling
No specific measures identified.
CS508 Refuelling aircraft
No specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation
G19 General measures (skin irritants)
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 skin contamination immediately.
G18 General Measures (carcinogens).
Where there is potential for exposure: Wear suitable gloves (tested to EN374) 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.
CS8 Drum/batch transfers
No specific measures identified.
CS507 Refuelling
No specific measures identified.
CS508 Refuelling aircraft
No specific measures identified.
CS39 Equipment cleaning and maintenance.
Clear spills immediately. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

3. Exposure estimation and reference to its source

3.1. Health:
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
3.2. Environment:
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

4.1. 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.
4.2. 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 onsite 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. Brief title of the Exposure Scenario: 12b- Use as a fuel - Professional

Main User Groups	:	**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 preparation (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
Further information	:	Specific Environmental Release Category ESVOC SpERC 9.12b.v1 Exposure scenario is also applicable for ERC9b: Wide dispersive outdoor use of substances in closed systems
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.

2.1 Contributing scenario controlling environmental exposure for: ERC9a: Wide dispersive indoor use of substances in closed systems

Amount used

Remarks	:	Substance is complex UVCB.Predominantly hydrophobic.
Regional use tonnage	:	1,19 10E6 t/y
Annual site tonnage (tonnes/year)	:	590
Maximum daily site tonnage (kg/day)	:	1.600
Fraction of EU tonnage used in region	:	0,1
Fraction of Regional tonnage used locally	:	0,0005
MSafe (maximum allowable site tonnage)	:	15.000 kg/day

Frequency and duration of use

Continuous exposure	:	365 Emission days (days/year)

Environmental factors not influenced by risk management

Local freshwater dilution factor	:	10
Local Marine water dilution factor	:	100

Other given operational conditions affecting environmental exposure

Emission or Release Factor: Air	:	1,000 %
Emission or Release Factor: Water	:	0,001 %
Emission or Release Factor: Soil	:	0,001 %
Remarks	:	All release factors refer to initial release prior to RMM. Release to water is release to wastewater.
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.

Technical conditions and measures / Organizational measures;

Air	:	Treat air emission to provide a typical removal efficiency of: 0 %
Water	:	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): 3,4 %
Water	:	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): 0 %
Remarks	:	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.

Conditions and measures related to municipal sewage treatment plant

Flow rate of sewage treatment plant effluent	:	2.000 m3/d
Effectiveness (STP)	:	95,5 %
Total removal from wastewater according to internal and external location measures	:	95,5 %
Sludge Treatment	:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	:	Combustion emissions limited by required exhaust emission controls., Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

Recovery Methods	:	This substance is consumed during use and no waste of the substance is generated.

2.2 Contributing scenario controlling worker exposure for:

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 preparation (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

Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 100 % (unless stated differently)
Physical Form (at time of use)	:	Liquid
Vapour pressure	:	Vapour Pressure is given at STP. > 100 hPa
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

Amount used

not applicable :

Frequency and duration of use

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

Technical conditions and measures

G18 General Measures (carcinogens).
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.
CS15 General exposures (closed systems). OC9 Outdoor.
Handle substance within a closed system.
GEST_12l Use as a fuel, CS107 (closed systems)
Handle substance within closed systems.
CS502 Bulk closed unloading
Ensure material transfers are under containment or extract ventilation.
CS8 Drum/batch transfers
Ensure material transfers are under containment or extract ventilation.
CS5 Equipment maintenance
Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. 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.
CS67 Storage.
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.

Organisational measures to prevent /limit releases, dispersion and exposure:
G19 General measures (skin irritants)
Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop.
G18 General Measures (carcinogens).
Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
GEST_12l Use as a fuel, CS107 (closed systems)
No specific measures identified.
CS8 Drum/batch transfers
No specific measures identified.
CS507 Refuelling
No specific measures identified.
CS5 Equipment maintenance
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
G19 General measures (skin irritants)
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 skin contamination immediately.
G18 General Measures (carcinogens).
Where there is potential for exposure: Wear suitable gloves (tested to EN374) 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.
GEST_12l Use as a fuel, CS107 (closed systems)
No specific measures identified.
CS8 Drum/batch transfers
No specific measures identified.
CS507 Refuelling
No specific measures identified.
CS5 Equipment maintenance
Clear spills immediately.

3. Exposure estimation and reference to its source

3.1. Health:
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
3.2. Environment:
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

4.1. 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.
4.2. 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 onsite 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. Brief title of the Exposure Scenario: 12c - Use as a fuel - Consumer

Main User Groups	:	**SU21:** Consumer uses: Private households (= general public = consumers)
Process category	:	**PC13:** Fuels
Environmental release category	:	**ERC9a:** Wide dispersive indoor use of substances in closed systems
Further information	:	Specific Environmental Release Category ESVOC SpERC 9.12c.v1 Exposure scenario is also applicable for ERC9b: Wide dispersive outdoor use of substances in closed systems
Processes, tasks, activities covered	:	Covers the consumer use of substance in liquid fuels

2.1 Contributing scenario controlling environmental exposure for: ERC9a: Wide dispersive indoor use of substances in closed systems

Product characteristics
Amount used

Remarks	:	Substance is complex UVCB.Predominantly hydrophobic.
Regional use tonnage	:	13,9 10E6 t/y
Annual site tonnage (tonnes/year)	:	7.000
Maximum daily site tonnage (kg/day)	:	19.000
Fraction of EU tonnage used in region	:	0,1
Fraction of Regional tonnage used locally	:	0,0005
MSafe (maximum allowable site tonnage)	:	180.000 kg/day

Frequency and duration of use

Continuous exposure	:	365 Emission days (days/year)

Environmental factors not influenced by risk management

Local freshwater dilution factor	:	10
Local Marine water dilution factor	:	100

Other given operational conditions affecting environmental exposure

Continuous release (FD2).		
Emission or Release Factor: Air	:	1,000 %
Emission or Release Factor: Water	:	0,001 %
Emission or Release Factor: Soil	:	0,001 %
Remarks	:	All release factors refer to release from wide dispersive use. Release factors for air and soil refer to regional use only. Release to water is release to wastewater.

Conditions and measures related to municipal sewage treatment plant

Flow rate of sewage treatment plant effluent	:	2.000 m3/d
Effectiveness (STP)	:	95,5 %
Remarks	:	Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).

Conditions and measures related to external treatment of waste for disposal

Waste treatment	:	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	:	This substance is consumed during use and no waste of the substance is generated.

2.2 Contributing scenario controlling consumer exposure for:

PC13 : Fuels

Product characteristics

Concentration of the Substance in Mixture/Article	:	Unless otherwise stated, cover concentrations up to 100%
Physical Form (at time of use)	:	Liquid
Vapour pressure	:	Vapour Pressure is given at STP. > 100 hPa
Remarks	:	Unless otherwise stated assumes use at ambient temperatures. Assumes use in a 20 m3 room. Assumes use with typical ventilation.

Amount used

Unless otherwise stated, covers use amounts up to	:	37.500 g

Frequency and duration of use

For each use event, covers exposure up to 2 hr/event.	:	2 h
Frequency of use	:	1 times per week

Human factors not influenced by risk management:

Exposed skin area	:	Covers skin contact area up to 420cm2.

Other given operational conditions affecting consumers exposure

Activity (outdoor/indoor)	:	PC13:Fuels--Liquid - subcategories added: Automotive Refuelling
Remarks	:	Unless otherwise stated, covers concentrations up to 100%., Covers use up to 52 days/year., Covers use up to 1 time/on day of use., Covers skin contact area up to 210 cm2., For each use event, covers use amounts up to 37500g., Covers outdoor use., covers use in room size of 100m3;, For each use event, covers exposure up to 0,05hr/event.
Activity (outdoor/indoor)	:	PC13:Fuels--Liquid - subcategories added: Scooter Refuelling
Remarks	:	Unless otherwise stated, covers concentrations up to 100%., Covers use up to 52 days/year., Covers use up to 1 time/on day of use., Covers skin contact area up to 210 cm2., For each use event, covers use amounts up to 3750g., Covers outdoor use., covers use in room size of 100m3;, For each use event, covers exposure up to 0,03hr/event.
Activity (outdoor/indoor)	:	PC13:Fuels--Liquid - subcategories added: Garden Equipment - Use
Remarks	:	Unless otherwise stated, covers concentrations up to 100%., Covers use up to 26 days/year., Covers use up to 1 time/on day of use., For each use event, covers use amounts up to 750g., Covers outdoor use., covers use in room size of 100m3;, For each use event, covers exposure up to 2 hr/event.
Activity (outdoor/indoor)	:	PC13:Fuels--Liquid (subcategories added): Garden Equipment - Refuelling
Remarks	:	Unless otherwise stated, covers concentrations up to 100%., Covers use up to 26 days/year., Covers use up to 1 time/on day of use., Covers skin contact area up to 420cm2., For each use event, covers use amounts up to 750g., Covers use in a one car garage (34m3) under typical ventilation., covers use in room size of 34m3;, For each use event, covers exposure up to 0,03hr/event.

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Application Route	:	PC13:Fuels--Liquid - subcategories added: Automotive Refuelling
Remarks	:	No specific RMMs developed beyond those OCs stated
Application Route	:	PC13:Fuels--Liquid - subcategories added: Scooter Refuelling
Remarks	:	No specific RMMs developed beyond those OCs stated
Application Route	:	PC13:Fuels--Liquid - subcategories added: Garden Equipment - Use
Remarks	:	No specific RMMs developed beyond those OCs stated
Application Route	:	PC13:Fuels--Liquid (subcategories added): Garden Equipment - Refuelling
Remarks	:	No specific RMMs developed beyond those OCs stated

3. Exposure estimation and reference to its source

3.1. 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.
3.2. Environment:
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

4.1. Health:
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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.
4.2. 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).