



## SAFETY DATA SHEET

### Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

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

##### 1.1. Product identifier

<b>Product name</b>	Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke
<b>Product number</b>	ID 13012
<b>Internal identification</b>	130580, 130140, 130090

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

<b>Identified uses</b>	Special and small engine fuel.
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##### 1.3. Details of the supplier of the safety data sheet

<b>Supplier</b>	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)
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##### 1.4. Emergency telephone number

<b>National emergency telephone number</b>	+358-9-471 977, +358-9-4711, Poison Information Centre
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#### SECTION 2: Hazards identification

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

###### Classification (EC 1272/2008)

<b>Physical hazards</b>	Flam. Liq. 1 - H224
<b>Health hazards</b>	Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304
<b>Environmental hazards</b>	Aquatic Chronic 4 - H413

##### 2.2. Label elements

###### Pictogram



###### 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.  
H413 May cause long lasting harmful effects to aquatic life.

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P331 Do NOT induce vomiting.  
 P102 Keep out of reach of children.  
 P501 Dispose of contents/ container in accordance with local regulations.

**Contains** Naphtha (petroleum), full-range alkylate, butane-contg., Hydrocarbons, C<sub>≥</sub>5, C5-6-rich

### 2.3. Other hazards

**Other hazards** Volatile. Vapours may form explosive mixtures with air. Risk of soil and ground water contamination.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>Naphtha (petroleum), full-range alkylate, butane-contg.</b>	<b>67 - 74 %</b>
CAS number: 68527-27-5	EC number: 271-267-0
	REACH registration number: 01-2119471477-29-0018

**Classification**  
 Flam. Liq. 1 - H224  
 Skin Irrit. 2 - H315  
 STOT SE 3 - H336  
 Asp. Tox. 1 - H304  
 Aquatic Chronic 2 - H411

<b>Hydrocarbons, C<sub>≥</sub>5, C5-6-rich</b>	<b>26 - 33 %</b>
CAS number: 68476-50-6	EC number: 270-690-8
	REACH registration number: 01-2119489866-14-0003

**Classification**  
 Flam. Liq. 1 - H224  
 Skin Irrit. 2 - H315  
 STOT SE 3 - H336  
 Asp. Tox. 1 - H304  
 Aquatic Chronic 2 - H411

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**Composition comments** Mixture of a petroleum product and additives. Total aromatics at maximum: 0,5 %. Benzene (CAS 71-43-2) < 0,1 %. n-hexane (CAS 110-54-3) < 0,5 %.

**Other information** Approx. 2 vol-% lubricant can be added to the product used as a fuel in 2-stroke motors., Tests performed on the mixture do not support the environmental classifications of the components.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation** Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.

**Ingestion** Do not induce vomiting. Get medical attention immediately.

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Skin contact** Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

**Eye contact** Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

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

**General information** Irritating to skin. May irritate eyes. Vapours in high concentrations are narcotic. May cause nausea, headache, dizziness and intoxication. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

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

**Notes for the doctor** Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

**Specific hazards** Extremely flammable liquid and vapour. Risk of explosion. Vapours may accumulate on the floor and in low-lying areas. Containers can burst violently or explode when heated, due to excessive pressure build-up.

**Hazardous combustion products** Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

### 5.3. Advice for firefighters

**Protective actions during firefighting** Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## SECTION 6: Accidental release measures

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

**Personal precautions** Avoid inhalation of vapours and contact with skin and eyes. Wear adequate protective equipment at all operations.

**For non-emergency personnel** Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.

**For emergency responders** Prevent unauthorized access. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Use only in well-ventilated areas. Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharge.

### 6.2. Environmental precautions

**Environmental precautions** Avoid release to the environment. Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). Risk of soil and ground water contamination.

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

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Methods for cleaning up** Immediately start clean-up of the liquid and contaminated soil. Small Spillages: Absorb spillage with sand or other inert absorbent. Pay attention to the fire and health hazards caused by the product.

### 6.4. Reference to other sections

**Reference to other sections** For personal protection, see Section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** The product contains volatile substances which may spread in the atmosphere. Vapours may accumulate on the floor and in low-lying areas. Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharges. Use explosion-proof electrical equipment. All handling should only take place in well-ventilated areas. Try to avoid product volatilization during handling and transferring. Avoid inhalation of vapours and contact with skin and eyes. Use personal protective equipment and/or local ventilation when needed. Do not eat, drink or smoke when using this product. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

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

**Storage precautions** Flammable liquid storage. Store in accordance with local regulations. Protect from sunlight. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations. Only store in correctly labelled containers. Use containers made of the following materials: Stainless steel.

### 7.3. Specific end use(s)

**Specific end use(s)** Not known.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

Solvent naphtha, group 1: 500 mg/m<sup>3</sup> (8h), HTP 2016/FIN.

The individual limit values can be applied for the hydrocarbons.

**PNEC** Not available.

#### Category: Low boiling point naphthas (Gasolines)

**DNEL** Workers - Inhalation; Short term systemic effects: 1300 mg/m<sup>3</sup>, (15 min)  
 Workers - Inhalation; Short term local effects: 1100 mg/m<sup>3</sup>, (15 min)  
 Workers - Inhalation; Long term local effects: 840 mg/m<sup>3</sup>, (8h)  
 Consumer - Inhalation; Short term systemic effects: 1200 mg/m<sup>3</sup>, (15 min)  
 Consumer - Inhalation; Short term local effects: 640 mg/m<sup>3</sup>, (15 min)  
 Consumer - Inhalation; Long term local effects: 180 mg/m<sup>3</sup>, (24h)

### 8.2. Exposure controls

**Appropriate engineering controls** All handling should only take place in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed. Handle in accordance with good industrial hygiene and safety practice. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

**Eye/face protection** Tight-fitting safety glasses. Face shield when needed.

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

<b>Hand protection</b>	Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. The selected gloves should have a breakthrough time of at least 8 hours. Protection class 6. Protective gloves according to standards EN 420 and EN 374. Change protective gloves regularly.
<b>Other skin and body protection</b>	Protective clothing when needed. Wear anti-static protective clothing if there is a risk of ignition from static electricity.
<b>Respiratory protection</b>	Filter device/half mask Gas filter, type AX. Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 19 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirators according to standards EN 140 and EN 141.
<b>Environmental exposure controls</b>	Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations.

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Mobile liquid.
<b>Colour</b>	Clear. Bluish when lubricant has been added.
<b>Odour</b>	Hydrocarbons. Mild.
<b>Odour threshold</b>	-
<b>pH</b>	-
<b>Melting point</b>	-
<b>Initial boiling point and range</b>	30 - 200°C
<b>Flash point</b>	< 0°C
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 1,4 % Upper flammable/explosive limit: 7,6 %
<b>Vapour pressure</b>	50 - 65 kPa @ 38°C , 84.1 kPa @ 50°C
<b>Vapour density</b>	> 3 (Air = 1.0)
<b>Relative density</b>	0,68 - 0,72 @ 15/4°C
<b>Solubility(ies)</b>	The product has poor water-solubility. < 50 mg/l @ 20°C
<b>Partition coefficient</b>	log Kow: > 3
<b>Auto-ignition temperature</b>	~ 400°C
<b>Decomposition Temperature</b>	-
<b>Viscosity</b>	Kinematic viscosity < 1 mm <sup>2</sup> /s @ 38°C
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.

#### 9.2. Other information

<b>Other information</b>	Not known.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Reactivity** There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No potentially hazardous reactions known.

### 10.4. Conditions to avoid

**Conditions to avoid** Keep away from heat, sparks and open flame.

### 10.5. Incompatible materials

**Materials to avoid** Oxidising agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicological effects** Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Skin corrosion/irritation** Irritating to skin. (OECD 404) The product irritates mucous membranes and may cause abdominal discomfort if swallowed. May cause respiratory irritation.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met. (OECD 405).

#### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met. (OECD 406).

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met. (OECD 471, 476).

**Genotoxicity - in vivo** Based on available data the classification criteria are not met. (OECD 475, EPA OPPTS 870.5395).

#### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met. (OECD 451)

#### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met. (OECD 416, 421)

**Reproductive toxicity - development** Based on available data the classification criteria are not met. (OECD 414)

#### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause nausea, headache, dizziness and intoxication. Anaesthetic in high concentrations.

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Based on available data the classification criteria are not met. (OECD 410, 412, 453, EPA OPPTS 870.3465).

#### Aspiration hazard

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Aspiration hazard** May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

### Toxicological information on ingredients.

#### Category: Low boiling point naphthas (Gasolines)

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> > 5000 mg/kg, Oral, Rat (OECD 401).

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> > 2000 mg/kg, bw, Dermal, Rabbit (OECD 402).

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> > 5610 mg/m<sup>3</sup>, Inhalation, Rat (OECD 403).

## SECTION 12: Ecological Information

### 12.1. Toxicity

**Toxicity** May cause long lasting harmful effects to aquatic life.

#### Acute aquatic toxicity

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: > 100 mg/l,  
NOEC, 48 hours: 100 mg/l, Daphnia magna  
WAF (OECD 202, ref. report 086/15).

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: > 100 mg/l,  
NOEC, 72 hours: 100 mg/l, Pseudokirchneriella subcapitata  
WAF (OECD 201, ref. report 081/15)

### 12.2. Persistence and degradability

**Phototransformation** The product contains volatile substances which may spread in the atmosphere.  
Can be photodegraded in the atmosphere.

**Stability (hydrolysis)** No significant reaction in water.

**Biodegradation** Inherently biodegradable.  
(OECD 301F, ISO/DIS 14593)

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Possibly bioaccumulative.

**Partition coefficient** log Kow: > 3

### 12.4. Mobility in soil

**Mobility** Volatile. Volatilization is the fastest and most dominant elimination process in surface water and soil. Product can penetrate soil until reaching the surface of ground water. The product contains substances which are bound to particulate matter and are retained in soil.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### 12.6. Other adverse effects

**Other adverse effects** None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Product residues retained in emptied containers can be hazardous. Waste packaging should be collected for reuse or recycling.

### SECTION 14: Transport information

#### 14.1. UN number

UN No. (ADR/RID) 1203

#### 14.2. UN proper shipping name

Proper shipping name (ADR/RID) UN 1203, GASOLINE

#### 14.3. Transport hazard class(es)

ADR/RID class 3

#### 14.4. Packing group

ADR/RID packing group II

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

#### 14.6. Special precautions for user

EmS F-E, S-E

Hazard Identification Number (ADR/RID) 33

Tunnel restriction code (D/E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Noxious liquid, F, (6) n.o.s., (BE 95 SE, contains mineral oil). Pollution category: Cat Y Ship type: 2

### SECTION 15: Regulatory information

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

**EU legislation** Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

### SECTION 16: Other information



## Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke

<b>Abbreviations and acronyms used in the safety data sheet</b>	DNEL = Derived No-Effect Level PNEC = Predicted No-Effect Concentration
<b>Key literature references and sources for data</b>	Regulations, databases, literature, own research. CONCAWE Report 10/14: Hazard classification and labelling of petroleum substances in the EEA - 2014. Chemical Safety Report Low Boiling Point Naphthas (Gasolines) 2010. Test report 081/15. Neste Alkylate Gasoline, freshwater algae and cyanobacteria, growth inhibition test. Toxicon AB (2015). Test report 086/15. Neste Alkylate Gasoline, Daphnia magna, acute immobilisation test. Toxicon AB (2015).
<b>Training advice</b>	DO NOT SIPHON PRODUCT BY MOUTH SUCTION.
<b>Revision comments</b>	Updated, sections: 1, 9. Product name change. NOTE: Lines within the margin indicate significant changes from the previous revision.
<b>Revision date</b>	13/02/2018
<b>Supersedes date</b>	01/03/2016
<b>SDS number</b>	5621
<b>Hazard statements in full</b>	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. H411 Toxic to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life.

## Exposure scenario

### Distribution of Substance - Industrial

#### Identification

**Product name** Low Boiling Point Naphthas (Gasolines); Benzene < 0,1 %

#### 1. Title of exposure scenario

**Main title** Distribution of Substance - Industrial

**Process scope** Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

#### Environment

**Environmental release category** ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.  
 ERC5 Industrial use resulting in inclusion into or onto a matrix.  
 ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).  
 ERC6b Industrial use of reactive processing aids.  
 ERC6c Industrial use of monomers for manufacture of thermoplastics.  
 ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.  
 ERC7 Industrial use of substances in closed systems.

**SPERC** ESVOC SpERC 1.1b.v1

#### Worker

**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).  
 PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.  
 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.  
 PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).  
 PROC15 Use as laboratory reagent.

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

Fraction of EU tonnage used in region: 0.1  
 Regional use tonnage: 18,700,000 tonnes/year  
 Fraction of Regional tonnage used locally: 2.0E-03  
 Annual site tonnage: 37,500 tonnes  
 Maximum daily site tonnage: 120 tonnes

##### Frequency and duration of use

Continuous release.  
 Emission days: 300 days/year

##### Other given operational conditions affecting environmental exposure

## Distribution of Substance - Industrial

<b>Emission factor - air</b>	Release fraction to air from process (initial release prior to RMM): 1.0E-03
<b>Emission factor - water</b>	Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
<b>Emission factor - soil</b>	Release fraction to soil from process (initial release prior to RMM): 1.0E-05

### Environmental factors not influenced by risk management measures

<b>Dilution</b>	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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### Risk management measures

<b>Good practice</b>	Common practices vary across sites, thus conservative process release estimates used.  Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).
<b>STP details</b>	Estimated substance removal from wastewater via domestic sewage treatment: 95.5% Removal efficiency (total): 95,5% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1100 tonne/day Assumed domestic sewage treatment plant flow (m <sup>3</sup> /day): 2000.

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

<b>Air</b>	Treat air emission to provide a typical removal efficiency of 90%.
<b>Water</b>	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 12. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
<b>Soil</b>	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

<b>Waste treatment</b>	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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### Conditions and measures related to external recovery of waste

<b>Recovery method</b>	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

<b>Physical state</b>	Liquid
<b>Vapour pressure</b>	Vapour pressure > 10 kPa at STP.
<b>Concentration details</b>	Covers percentage substance in the product up to 100% (unless stated differently).

### Frequency and duration of use

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

### Other given operational conditions affecting workers exposure

<b>Setting</b>	Assumes a good basic standard of occupational hygiene is implemented.
<b>Temperature</b>	Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

## Distribution of Substance - Industrial

### Organisational measures

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 any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

### Risk management measures

General exposures (closed systems)

No other specific measures identified.

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General exposures (closed systems)

With sample collection

No other specific measures identified.

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General exposures (open systems)

Provide extract ventilation to points where emissions occur.

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Process sampling

No other specific measures identified.

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Laboratory activities

Handle in a fume cupboard or under extract ventilation.

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Bulk closed loading and unloading

No other specific measures identified.

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Drum and small package filling

Fill containers/cans at dedicated fill points supplied with local extract ventilation.

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Equipment cleaning and maintenance

No other specific measures identified.

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Storage

No other specific measures identified.

### 3. Exposure estimation (Environment 1)

#### Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

### 4. Guidance to check compliance with the exposure scenario (Environment 1)

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>).

### 3. Exposure estimation (Health 1)

#### Assessment method

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

Qualitative approach used to conclude safe use.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

## **Distribution of Substance - Industrial**

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.

## Exposure scenario

### Formulation & (Re)packing of Substances and Mixtures - Industrial

#### Identification

**Product name** Low Boiling Point Naphthas (Gasolines); Benzene < 0,1 %

#### 1. Title of exposure scenario

**Main title** Formulation & (Re)packing of Substances and Mixtures - Industrial

**Process scope** Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

#### Environment

**Environmental release category** ERC2 Formulation of preparations.

**SPERC** ESVOC SpERC 2.2.v1

#### Worker

**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).  
 PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.  
 PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).  
 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.  
 PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).  
 PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation.  
 PROC15 Use as laboratory reagent.

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

Fraction of EU tonnage used in region: 0.1  
 Regional use tonnage: 16,500,000 tonnes/year  
 Fraction of Regional tonnage used locally: 1.8E-03  
 Annual site tonnage: 30,000 tonnes  
 Maximum daily site tonnage: 100 tonnes

##### Frequency and duration of use

Continuous release.  
 Emission days: 300 days/year

##### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from process (initial release prior to RMM): 2.5E-02

## Formulation & (Re)packing of Substances and Mixtures - Industrial

**Emission factor - water** Release fraction to wastewater from process (initial release prior to RMM): 2.0E-03

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 1.0E-04

### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

### Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 95.5%  
Removal efficiency (total): 95,5%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 100 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day): 2000.

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

**Air** Treat air emission to provide a typical removal efficiency of 56.5%.

**Water** Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94.7. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

**Soil** 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 method** External recovery and recycling of waste should comply with applicable local and/or national regulations.

## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

**Physical state** Liquid

**Vapour pressure** Vapour pressure > 10 kPa at STP.

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

### Frequency and duration of use

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

### Other given operational conditions affecting workers exposure

**Setting** Assumes a good basic standard of occupational hygiene is implemented.

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

## Formulation & (Re)packing of Substances and Mixtures - Industrial

**Organisational measures**      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 any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

### Risk management measures

General exposures (closed systems)  
No other specific measures identified.

.  
General exposures (closed systems)  
With sample collection  
No other specific measures identified.

.  
General exposures (open systems)  
Provide extract ventilation to points where emissions occur.

.  
Process sampling  
No other specific measures identified.

.  
Mixing operations  
(closed systems)  
Provide extract ventilation to points where emissions occur.

.  
Laboratory activities  
Handle in a fume cupboard or under extract ventilation.

.  
Bulk transfers  
Ensure material transfers are under containment or extract ventilation.

.  
Transfer from/pouring from containers  
Manual  
Ensure material transfers are under containment or extract ventilation.

.  
Drum/batch transfers  
Ensure material transfers are under containment or extract ventilation.

.  
Drum and small package filling  
Fill containers/cans at dedicated fill points supplied with local extract ventilation.

.  
Equipment cleaning and maintenance  
No other specific measures identified.

.  
Storage  
No other specific measures identified.

### 3. Exposure estimation (Environment 1)

**Assessment method**      Used Petrorisk model. (Hydrocarbon Block Method)

### 4. Guidance to check compliance with the exposure scenario (Environment 1)



## Formulation & (Re)packing of Substances and Mixtures - Industrial

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>).

### 3. Exposure estimation (Health 1)

#### Assessment method

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

Qualitative approach used to conclude safe use.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

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.

## Exposure scenario

### Use as a Fuel - Industrial

#### Identification

**Product name** Low Boiling Point Naphthas (Gasolines); Benzene < 0,1 %

#### 1. Title of exposure scenario

**Main title** Use as a Fuel - Industrial

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

#### Environment

**Environmental release category** ERC7 Industrial use of substances in closed systems.

**SPERC** ESVOC SpERC 7.12a.v1

#### Worker

**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.

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

Fraction of EU tonnage used in region: 0.1  
 Regional use tonnage: 1,400,000 tonnes/year  
 Fraction of Regional tonnage used locally: 1  
 Annual site tonnage: 1,400,000 tonnes  
 Maximum daily site tonnage: 4600 tonnes

#### Frequency and duration of use

Continuous release.  
 Emission days: 300 days/year

#### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from process (initial release prior to RMM): 2.5E-03

**Emission factor - water** Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 0

#### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
 Local marine water dilution factor: 100

#### Risk management measures

## Use as a Fuel - Industrial

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 95.5%  
Removal efficiency (total): 95,5%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4600 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day): 2000.

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

**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 of (%): ≥ 76.9. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.  
**Soil** 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 method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

**Physical state** Liquid  
**Vapour pressure** Vapour pressure > 10 kPa at STP.  
**Concentration details** Covers percentage substance in the product up to 100% (unless stated differently).

### Frequency and duration of use

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

### Other given operational conditions affecting workers exposure

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

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

**Organisational measures** 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 any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

### Risk management measures

## Use as a Fuel - Industrial

General exposures (closed systems)

No specific measures identified.

.

Bulk closed unloading

No specific measures identified.

.

Drum/batch transfers

No specific measures identified.

.

Refuelling

No specific measures identified.

.

Refuelling aircraft

Ensure material transfers are under containment or extract ventilation.

.

Use as a fuel

(closed systems)

No specific measures identified.

.

Equipment maintenance

No other specific measures identified.

.

Storage

No specific measures identified.

### 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)

### 4. Guidance to check compliance with the exposure scenario (Environment 1)

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>).

### 3. Exposure estimation (Health 1)

**Assessment method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

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.

## Exposure scenario

### Use as a Fuel - Professional

#### Identification

**Product name** Low Boiling Point Naphthas (Gasolines); Benzene < 0,1 %

#### 1. Title of exposure scenario

**Main title** Use as a Fuel - Professional

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

#### Environment

**Environmental release category** ERC9a Wide dispersive indoor use of substances in closed systems.  
ERC9b Wide dispersive outdoor use of substances in closed systems.

**SPERC** ESVOC SpERC 9.12b.v1

#### Worker

**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.

#### 2. Conditions of use affecting exposure (Industrial - Environment 1)

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 1,190,000 tonnes/year  
Fraction of Regional tonnage used locally: 5.0E-04  
Annual site tonnage: 590 tonnes  
Maximum daily site tonnage: 1.6 tonnes

#### Frequency and duration of use

Continuous release.  
Emission days: 365 days/year

#### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from wide dispersive use (regional only): 0.01

**Emission factor - water** Release fraction to wastewater from wide dispersive use: 1.0E-05

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 1.0E-05

#### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

#### Risk management measures

## Use as a Fuel - Professional

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 95.5%  
Removal efficiency (total): 95,5%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 15 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day): 2000.

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

**Water** Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 3.4. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

**Soil** 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 method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

**Physical state** Liquid

**Vapour pressure** Vapour pressure > 10 kPa at STP.

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

### Frequency and duration of use

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

### Other given operational conditions affecting workers exposure

**Setting** Assumes a good basic standard of occupational hygiene is implemented.

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

**Organisational measures** 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 any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

### Risk management measures

## Use as a Fuel - Professional

General exposures (closed systems)  
No other specific measures identified.

.

Preparation of material for application  
Mixing operations  
(closed systems)  
No other specific measures identified.

.

Bulk closed unloading  
No other specific measures identified.

.

Drum/batch transfers  
No other specific measures identified.

.

Refuelling  
No other specific measures identified.

.

Use as a fuel  
(closed systems)  
No other specific measures identified.

.

Equipment cleaning and maintenance  
Drain down and flush system prior to equipment break-in or maintenance.  
Wear chemically-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

.

Storage  
No other specific measures identified.

### 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)

### 4. Guidance to check compliance with the exposure scenario (Environment 1)

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>).

### 3. Exposure estimation (Health 1)

**Assessment method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

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.

## Exposure scenario

### Use as a Fuel - Consumer

#### Identification

**Product name** Low Boiling Point Naphthas (Gasolines); Benzene < 0,1 %

#### 1. Title of exposure scenario

**Main title** Use as a Fuel - Consumer

**Process scope** Covers consumer uses in liquid fuels.

**Product category** PC13 Fuels.

#### Environment

**Environmental release category** ERC9a Wide dispersive indoor use of substances in closed systems.  
ERC9b Wide dispersive outdoor use of substances in closed systems.

**SPERC** ESVOC SpERC 9.12c.v1

#### Non-industrial

**Product sub-category** PC13\_1 Liquid: automotive refuelling  
PC13\_2 Liquid: scooter refuelling  
PC13\_3 Liquid: garden equipment - use  
PC13\_4 Liquid: garden equipment - refuelling

#### 2. Conditions of use affecting exposure (Non-industrial - Environment 1)

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 13,900,000 tonnes/year  
Fraction of Regional tonnage used locally: 5.0E-04  
Annual site tonnage: 7000 tonnes  
Maximum daily site tonnage: 19 tonnes

#### Frequency and duration of use

Continuous release.  
Emission days: 365 days/year

#### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from wide dispersive use (regional only): 0.01

**Emission factor - water** Release fraction to wastewater from wide dispersive use: 1.0E-05

**Emission factor - soil** Release fraction to soil from wide dispersive use (regional only): 1.0E-05

#### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

#### Risk management measures

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



## Use as a Fuel - Consumer

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 95.5%  
 Maximum allowable site tonnage (Msafe): 180 tonne/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
 2000.

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

**Disposal method** 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 method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Non-industrial - Health 1)

### Product characteristics

**Physical state** Liquid

**Vapour pressure** Vapour pressure > 10 kPa at STP.

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

### Amounts used

PC13\_1 Liquid: automotive refuelling  
 For each use event, covers use amounts up to 37.5 kg.

PC13\_2 Liquid: scooter refuelling  
 For each use event, covers use amounts up to 3.75 kg.

PC13\_3 Liquid: garden equipment - use  
 For each use event, covers use amounts up to 750 g.

PC13\_4 Liquid: garden equipment - refuelling  
 For each use event, covers use amounts up to 750 g.

### Frequency and duration of use

PC13\_1 Liquid: automotive refuelling  
 Covers use up to 52 days/year.  
 Covers use up to 1 time(s)/day.  
 Covers exposure up to 0.05 hours per event.

PC13\_2 Liquid: scooter refuelling  
 Covers use up to 52 days/year.  
 Covers use up to 1 time(s)/day.  
 Covers exposure up to 0.03 hours per event.

PC13\_3 Liquid: garden equipment - use  
 Covers use up to 26 days/year.  
 Covers use up to 1 time(s)/day.  
 Covers exposure up to 2.00 hours per event.

PC13\_4 Liquid: garden equipment - refuelling  
 Covers use up to 26 days/year.  
 Covers use up to 1 time(s)/day.  
 Covers exposure up to 0.03 hours per event.

### Human factors not influenced by risk management

## Use as a Fuel - Consumer

**Potentially exposed body parts** PC13\_1 Liquid: automotive refuelling . PC13\_2 Liquid: scooter refuelling : Covers skin contact area up to 210.00 cm<sup>2</sup>. PC13\_4 Liquid: garden equipment - refuelling : Covers skin contact area up to 420.00 cm<sup>2</sup>.

### Other given operational conditions affecting Non-industrial exposure

**Setting** PC13\_1 Liquid: automotive refuelling . PC13\_2 Liquid: scooter refuelling . PC13\_3 Liquid: garden equipment - use : Covers outdoor use. . PC13\_4 Liquid: garden equipment - refuelling : Covers use in a one car garage (34 m<sup>3</sup>) under typical ventilation.

**Temperature** Assumes activities are at ambient temperature (unless stated differently).

**Room size** PC13\_1 Liquid: automotive refuelling . PC13\_2 Liquid: scooter refuelling . PC13\_3 Liquid: garden equipment - use : Covers use in room size of 100 m<sup>3</sup>. PC13\_4 Liquid: garden equipment - refuelling : Covers use in room size of 34 m<sup>3</sup>.

### Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

### 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)

### 4. Guidance to check compliance with the exposure scenario (Environment 1)

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>).

### 3. Exposure estimation (Health 1)

**Assessment method** The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

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.