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

Product name: Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke
Product number: ID 13012
Internal identification: 130580, 130140, 130090
UFI: UFI: XAQF-DGQR-D61P-US28

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

Identified uses: Special and small engine fuel.

1.3. Details of the supplier of the safety data sheet

Supplier: Neste Oyj
Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND
Tel. +358 10 45811
SDS@neste.com (chemical safety)

1.4. Emergency telephone number

Emergency telephone: +61 2 9186 1132, Chemwatch: International Emergency Response Phone Number
National emergency telephone: +358 800 147 111, +358 9 471 977, Poison Information Centre number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)
Physical hazards: Flam. Liq. 1 - H224
Health hazards: Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304
Environmental hazards: Aquatic Chronic 2 - H411

2.2. Label elements

Hazard pictograms:

Signal word: Danger
Hazard statements:
H224 Extremely flammable liquid and vapour.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.
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.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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., Isopentane

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

This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Naphtha (petroleum), full-range alkylate, butane-contg.</th>
<th>65 - 80 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 68527-27-5</td>
<td>EC number: 271-267-0</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 1 - H224</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td></td>
</tr>
<tr>
<td>Asp. Tox. 1 - H304</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Isopentane</th>
<th>20 - 35 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 78-78-4</td>
<td>EC number: 201-142-8</td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 1 - H224</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td></td>
</tr>
<tr>
<td>Asp. Tox. 1 - H304</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td></td>
</tr>
</tbody>
</table>

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 %.

Approx. 2 vol-% lubricant can be added to the product used as a fuel in 2-stroke motors.

Other information
REACH registration number:
Naphtha (petroleum), full-range alkylate, butane-contg: REACH 01-2119471477-29-XXXX.
Isopentane: 01-2119475602-38-XXXX.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air and keep comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention if symptoms are severe or persist.
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

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

**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 are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Containers can burst violently or explode when heated, due to excessive pressure build-up.

**Hazardous combustion products**
Carbon dioxide (CO2). 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**
Approach the spillage from upwind. Avoid inhalation of vapours and contact with skin and eyes. Wear adequate protective equipment at all operations.

**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. Avoid the accumulation of vapours in low or confined areas. 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.
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Immediately start clean-up of the liquid and contaminated soil. 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.

Use only outdoors or in a well-ventilated area. 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. Clear up spills immediately and dispose of waste safely. 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. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Keep container tightly closed. Only store in correctly labelled containers. Use containers made of the following materials: Stainless steel. Mild 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/m³ (8h), HTP 2020/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/m³, (15 min)
Workers - Inhalation; Short term local effects: 1100 mg/m³, (15 min)
Workers - Inhalation; Long term local effects: 840 mg/m³, (8h)
Consumer - Inhalation; Short term systemic effects: 1200 mg/m³, (15 min)
Consumer - Inhalation; Short term local effects: 640 mg/m³, (15 min)
Consumer - Inhalation; Long term local effects: 180 mg/m³, (24h)

8.2. Exposure controls
**Neste alkylate gasoline 2,0%, 2,4 %, 2,5%; 2-stroke**

**Appropriate engineering controls**
Handle product within a predominantly closed system provided with extract ventilation. 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**
Spectacles.

**Hand protection**
Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. The breakthrough time for any glove material may be different for different glove manufacturers. Protective gloves according to standard EN 374. Change protective gloves regularly.

**Other skin and body protection**
Protective clothing when needed. Wear anti-static protective clothing if there is a risk of ignition from static electricity.

**Respiratory protection**
Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Gas filter, type AX. Filter must be changed often enough. Gas and combination filter cartridges suitable for intended use should be used.

**Environmental exposure controls**
Store in a demarcated bunded area to prevent release to drains and/or watercourses.

### SECTION 9: Physical and chemical properties

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

**Appearance**
Mobile liquid.

**Colour**
Clear. Bluish when lubricant has been added.

**Odour**
Hydrocarbons. Mild.

**Odour threshold**
-

**pH**
-

**Melting point**
-

**Initial boiling point and range**
30 - 200°C

**Flash point**
< 0°C

**Upper/lower flammability or explosive limits**
Lower flammable/explosive limit: 1,4 % Upper flammable/explosive limit: 7,6 %

**Vapour pressure**
50 - 65 kPa @ 38°C , 84.1 kPa @ 50°C

**Vapour density**
> 3 (Air = 1.0)

**Relative density**
0,68 - 0,72 @ 15/4°C

**Solubility(ies)**
The product has poor water-solubility. < 50 mg/l @ 20°C

**Partition coefficient**
log Kow: ≥ 4

**Auto-ignition temperature**
~ 400°C

**Decomposition Temperature**
-

**Viscosity**
Kinematic viscosity < 1 mm2/s @ 38°C

**Explosive properties**
Not considered to be explosive.

**Oxidising properties**
Does not meet the criteria for classification as oxidising.

#### 9.2. Other information
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

Other information
Not known.

SECTION 10: Stability and reactivity

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

10.2. Chemical stability
Stability
Stable at normal ambient temperatures and when used as recommended.

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 TG 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 TG 405)

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

Germ cell mutagenicity
Genotoxicity - in vitro
Based on available data the classification criteria are not met. (OECD TG 471, 476, 479).

Genotoxicity - in vivo
(OECD 474, 475)

Carcinogenicity
Carcinogenicity
Based on available data the classification criteria are not met. (OECD TG 453)

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

Reproductive toxicity - development
Based on available data the classification criteria are not met. (OECD TG 414, 416)

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 TG 410, 412, 413, 453)
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.

General information
This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

Toxicological information on ingredients.

Naphtha (petroleum), full-range alkylate, butane-contg.

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th>Notes (oral LD₅₀)</th>
<th>LD₅₀ &gt; 5000 mg/kg, Oral, Rat (OECD 401).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - dermal</td>
<td>Notes (dermal LD₅₀)</td>
<td>LD₅₀ &gt; 2000 mg/kg, bw, Dermal, Rabbit (OECD 402).</td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td>Notes (inhalation LC₅₀)</td>
<td>LC₅₀ &gt; 5610 mg/m³, Inhalation, Rat (OECD 403).</td>
</tr>
</tbody>
</table>

Isopentane

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th>Notes (oral LD₅₀)</th>
<th>LD₅₀ &gt; 2000 mg/kg, Oral, Rat (OECD TG 401, EU Method B.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - inhalation</td>
<td>Notes (inhalation LC₅₀)</td>
<td>LC₅₀ &gt; 25.3 mg/l, Inhalation, Rat (4h) (OECD TG 403)</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological Information

12.1. Toxicity
Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

<table>
<thead>
<tr>
<th>Acute toxicity - aquatic</th>
<th>Notes (aquatic EC₅₀)</th>
<th>EC₅₀, 48 hours: &gt; 100 mg/l, Daphnia magna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invertebrates</td>
<td>NOEC, 48 hours: 100 mg/l, WAF (OECD 202, ref. report 086/15).</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity - aquatic plants</td>
<td>Notes (aquatic EC₅₀)</td>
<td>EC₅₀, 72 hours: &gt; 100 mg/l, Pseudokirchneriella subcapitata</td>
</tr>
<tr>
<td></td>
<td>NOEC, 72 hours: 100 mg/l, WAF (OECD 201, ref. report 081/15)</td>
<td></td>
</tr>
</tbody>
</table>

Ecological information on ingredients.

Naphtha (petroleum), full-range alkylate, butane-contg.

<table>
<thead>
<tr>
<th>Acute aquatic toxicity</th>
<th>Notes (aquatic LL₅₀)</th>
<th>LL₅₀, 96 hours: 8.2 mg/l, (EPA 66013-75-009, OECD 203)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - aquatic invertebrates</td>
<td>Notes (aquatic EL₅₀)</td>
<td>EL₅₀, 48 hours: 4.5 mg/l, NOELR, 48 hours: 0.5 mg/l, (OECD 202).</td>
</tr>
</tbody>
</table>
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

Acute toxicity - aquatic plants
EL50, 96 hours: 3.7 mg/l,
NOELR, 72 hours: 0.5 mg/l,
(OECD 201)

Chronic aquatic toxicity
Chronic toxicity - fish early life stage
EL50, 21 days: 10 mg/l,
NOELR, 21 days: 2.6 mg/l,
(OECD 211).

Isopentane

Acute aquatic toxicity
Acute toxicity - fish
LL₅₀, 96 hours: 34.05 mg/l, Oncorhynchus mykiss (Rainbow trout)
(QSAR)

Acute toxicity - aquatic invertebrates
EL50, 48 hours: 59.4 mg/l, Daphnia magna
(QSAR)

Acute toxicity - aquatic plants
EL50, 72 hours: 25.1 mg/l, Selenastrum capricornutum
NOELR, 72 hours: 5.62 mg/l, Selenastrum capricornutum
(QSAR)

Chronic aquatic toxicity
Chronic toxicity - fish early life stage
NOELR, 28 days: 7.62 mg/l, Oncorhynchus mykiss (Rainbow trout)
(QSAR)

Chronic toxicity - aquatic invertebrates
NOELR, 21 days: 13.3 mg/l, Daphnia magna
(QSAR)

12.2. Persistence and degradability
Persistence and degradability
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.

Ecological information on ingredients.

Isopentane

Biodegradation
Rapidly degradable
(OECD TG 301 F)

12.3. Bioaccumulative potential
Bioaccumulative potential
Possibly bioaccumulative.

Partition coefficient
log Kow: ≥ 4

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
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

Other adverse effects
None known.

Endocrine-disrupting properties
This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1. Waste treatment 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.

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 MARINE POLLUTANT

14.6. Special precautions for user
EmS F-E, S-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
Not applicable. MARPOL Annex I cargo.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations EU regulatory references for the safety data sheet:
Neste alkylate gasoline 2.0%, 2.4%, 2.5%; 2-stroke

15.2. Chemical safety assessment
A chemical safety assessment has been carried out.

SECTION 16: Other information

| Revision comments | Updated, sections: 1-3, 11-12, 14.7. Revised formulation. NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Revision date | 01/01/2023 |
| Supersedes date | 13/06/2022 |
| SDS number | 5621 |
| Hazard statements in full | 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. |
## Exposure scenario

### Distribution of Substance - Industrial

### Identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>Low Boiling Point Naphthas (Gasolines); Benzene &lt; 0,1 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version number</td>
<td>2018</td>
</tr>
</tbody>
</table>

### 1. Title of exposure scenario

<table>
<thead>
<tr>
<th>Main title</th>
<th>Distribution of Substance - Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process scope</td>
<td>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.</td>
</tr>
<tr>
<td>Sector of use</td>
<td>SU3 Industrial uses</td>
</tr>
</tbody>
</table>

### Environment

<table>
<thead>
<tr>
<th>Environmental release category</th>
<th>ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ERC5 Use at industrial site leading to inclusion into/onto article</td>
</tr>
<tr>
<td></td>
<td>ERC6a Use of intermediate</td>
</tr>
<tr>
<td></td>
<td>ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)</td>
</tr>
<tr>
<td></td>
<td>ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)</td>
</tr>
<tr>
<td></td>
<td>ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)</td>
</tr>
<tr>
<td></td>
<td>ERC7 Use of functional fluid at industrial site</td>
</tr>
</tbody>
</table>

| SPERC                            | ESVOC SPERC 1.1b.v1                              |

### Worker

<table>
<thead>
<tr>
<th>Process category</th>
<th>PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions</td>
</tr>
<tr>
<td></td>
<td>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</td>
</tr>
<tr>
<td></td>
<td>PROC4 Chemical production where opportunity for exposure arises</td>
</tr>
<tr>
<td></td>
<td>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities</td>
</tr>
<tr>
<td></td>
<td>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities</td>
</tr>
<tr>
<td></td>
<td>PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</td>
</tr>
<tr>
<td></td>
<td>PROC15 Use as laboratory reagent.</td>
</tr>
</tbody>
</table>

### 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
Distribution of Substance - Industrial

**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): 1.0E-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): 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**

**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: 1100 tonne/day
- Assumed domestic sewage treatment plant flow (m³/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 90%.

**Water**
- 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.

**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**
Distribution of Substance - Industrial

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

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.

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

Bulk closed loading and unloading
No other specific measures identified.

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)

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)
Distribution of Substance - Industrial

**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

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

## Identification

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Low Boiling Point Naphthas (Gasolines); Benzene &lt; 0.1 %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Version number</strong></td>
<td>2018</td>
</tr>
</tbody>
</table>

## 1. Title of exposure scenario

<table>
<thead>
<tr>
<th><strong>Main title</strong></th>
<th>Formulation &amp; (Re)packing of Substances and Mixtures - Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process scope</strong></td>
<td>Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tablettion, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.</td>
</tr>
<tr>
<td><strong>Sector of use</strong></td>
<td>SU3 Industrial uses</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental release category</strong></td>
<td>ERC2 Formulation into mixture</td>
</tr>
<tr>
<td><strong>SPERC</strong></td>
<td>ESVOC SPERC 2.2.v1</td>
</tr>
</tbody>
</table>

## Worker

<table>
<thead>
<tr>
<th><strong>Process category</strong></th>
<th>PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment condition</td>
</tr>
<tr>
<td></td>
<td>PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</td>
</tr>
<tr>
<td></td>
<td>PROC4 Chemical production where opportunity for exposure arises</td>
</tr>
<tr>
<td></td>
<td>PROC5 Mixing or blending in batch processes</td>
</tr>
<tr>
<td></td>
<td>PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities</td>
</tr>
<tr>
<td></td>
<td>PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities</td>
</tr>
<tr>
<td></td>
<td>PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)</td>
</tr>
<tr>
<td></td>
<td>PROC14 Tablettion, compression, extrusion, pelletisation, granulation</td>
</tr>
<tr>
<td></td>
<td>PROC15 Use as laboratory reagent.</td>
</tr>
</tbody>
</table>

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

Other given operational conditions affecting environmental exposure

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

**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 (m³/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.
Formulation & (Re)packing of Substances and Mixtures - Industrial

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

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)
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

<table>
<thead>
<tr>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
</tr>
<tr>
<td><strong>Version number</strong></td>
</tr>
</tbody>
</table>

### 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. |
| Sector of use | SU3 Industrial uses |

### Environment

| Environmental release category | ERC7 Use of functional fluid at industrial site |
| SPERC | ESVOC SPERC 7.12a.v1 |

### Worker

| Process category |
| PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions |
| PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions |
| PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition |
| PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities |
| PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities |
| PROC16 Use of fuels |

### 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
Use as a Fuel - Industrial

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: 4600 tonne/day
Assumed domestic sewage treatment plant flow (m³/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%
Version number: 2018

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.
Sector of use: SU22 Professional uses

Environment

Environmental release category: ERC9a Widespread use of functional fluid (indoor)
ERC9b Widespread use of functional fluid (outdoor)
SPERC: ESVOC SPERC 9.12b.v1

Worker

Process category: PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC16 Use of fuels

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

22/28
Use as a Fuel - Professional

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: 15 tonne/day
Assumed domestic sewage treatment plant flow (m³/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 %
---|---
**Version number** | 2018

## 1. Title of exposure scenario

**Main title** | Use as a Fuel - Consumer
---|---
**Process scope** | Covers consumer uses in liquid fuels.
**Product category** | PC13 Fuels.
**Sector of use** | SU21 Consumer uses

## Environment

**Environmental release category**
- ERC9a Widespread use of functional fluid (indoor)
- ERC9b Widespread use of functional fluid (outdoor)
**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**
Use as a Fuel - Consumer

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%
Maximum allowable site tonnage (Msafe): 180 tonne/day
Assumed domestic sewage treatment plant flow (m³/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**
Use as a Fuel - Consumer

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

Potentially exposed body parts
PC13_1 Liquid: automotive refuelling, PC13_2 Liquid: scooter refuelling: Covers skin contact area up to 210.00 cm². PC13_4 Liquid: Garden equipment - Refuelling: Covers skin contact area up to 420.00 cm².

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 m³) 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 m³. PC13_4 Liquid: Garden equipment - Refuelling: Covers use in room size of 34 m³.

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)
Use as a Fuel - Consumer

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.