SAFETY DATA SHEET

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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

1.1. Product identifier

Product name Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

Product number ID 13866

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

Identified uses Use as a fuel (ES12a, ES12b, ES12c)

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

National emergency telephone number +358 800 147 111, +358 9 471 977, Poison Information Centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification EC 1272/2008 (SI 2019 No. 720)

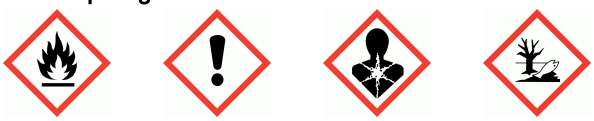
Physical hazards Flam. Liq. 1 - H224

Health hazards Skin Irrit. 2 - H315 Muta. 1B - H340 Carc. 1B - H350 Repr. 2 - H361fd 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.
H340 May cause genetic defects.
H350 May cause cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P261 Avoid breathing vapours.
Contains	Gasoline, 2-methoxy-2-methylbutane (TAME), Ethyl tert-butyl ether (ETBE), 2-ethoxy-2-methylbutane (TAEE)

2.3. Other hazards

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

Gasoline **≥ 78 %**

CAS number: 86290-81-5 EC number: 289-220-8

Classification
Flam. Liq. 1 - H224
Skin Irrit. 2 - H315
Muta. 1B - H340
Carc. 1B - H350
Repr. 2 - H361fd
STOT SE 3 - H336
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

2-methoxy-2-methylbutane (TAME) **≤ 22 %**

CAS number: 994-05-8 EC number: 213-611-4

Classification
Flam. Liq. 2 - H225
Acute Tox. 4 - H302
STOT SE 3 - H336

Ethyl tert-butyl ether (ETBE) **≤ 22 %**

CAS number: 637-92-3 EC number: 211-309-7

Classification
Flam. Liq. 2 - H225
STOT SE 3 - H336

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

Methyl tert-butyl ether (MTBE)	**≤ 22 %**
CAS number: 1634-04-4	EC number: 216-653-1

Classification
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315

Ethanol	**≤ 10 %**
CAS number: 64-17-5	EC number: 200-578-6

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319

2-ethoxy-2-methylbutane (TAEE)	**< 10 %**
CAS number: 919-94-8	EC number: 618-804-0

Classification
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
STOT SE 3 - H336

methanol	**< 3 %**
CAS number: 67-56-1	EC number: 200-659-6

Classification
Flam. Liq. 2 - H225
Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 3 - H331
STOT SE 1 - H370

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

Other information Mixture of a petroleum product, oxygenates and additives., Total aromatics at maximum:, 35 %, The gasoline component (86290-81-5) of the product contains:, Benzene (CAS 71-43-2) ≤ 1 %, toluene (CAS 108-88-3) ~ 5 - 15 %, n-hexane (CAS 110-54-3) < 5 %., In the 95 E10 grade total ethers max. 22 voil-%., The 98 E5 grade contains max. 5 vol-% ethanol. In the 98 E5 grade MTBE, ETBE and TAME max. 15 vol-%. Total ethers max. 15 vol-%.

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.

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.

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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 (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.

6.3. Methods and material for containment and cleaning up

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.

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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: Mild steel. 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

Ethyl tert-butyl ether, ETBE: 5 ppm (8h), 25 mg/m3 (8 h), HTP 2020/FIN.
Ethanol: 1000 ppm (8h), 1900 mg/m3 (8h), 1300 ppm (15min), 2500 mg/m3 (15min), HTP 2020/FIN.

2-methoxy-2-methylbutane (TAME)

Tert-amyl methyl ether, TAME: 20 ppm (8h), 84 mg/m3 (8h), HTP 2020/FIN.

Methyl tert-butyl ether (MTBE)

Methyl tert-butyl ether, MTBE: 50 ppm (8h), 180 mg/m3 (8h), 100 ppm (15 min), 360 mg/m3 (15min), HTP 2020/FIN, EU OELV (EC/2009/161).

Ethanol

Ethanol: 1000 ppm (8h), 1900 mg/m3 (8h), 1300 ppm (15min), 2500 mg/m3 (15min), HTP 2020/FIN.

methanol

Methanol: 200 ppm (8h), 270 mg/m3 (8h), 250 ppm (15 min), 330 mg/m3 (15 min), HTP 2020/FIN.
PEL (long term) 200ppm, 262 mg/m3; PEL (short term) 250 ppm, 328 mg/m3, Singapore WSH (2007).
May be absorbed through the skin.

Biological limit values Toluene in blood 500 nmol/l, BIOL 2011/FIN.

PNEC Not available.

Gasoline (CAS: 86290-81-5)

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

DNEL

Workers - Inhalation; Short term systemic effects: 1300 mg/m³
Workers - Inhalation; Short term local effects: 1100 mg/m³
Workers - Inhalation; Long term local effects: 840 mg/m³
Consumer - Inhalation; Short term systemic effects: 1200 mg/m³
Consumer - Inhalation; Short term local effects: 640 mg/m³
Consumer - Inhalation; Long term local effects: 180 mg/m³

2-methoxy-2-methylbutane (TAME) (CAS: 994-05-8)

DNEL

Workers - Inhalation; Short term systemic effects: 353,3 mg/m³
Workers - Inhalation; Long term systemic effects: 88,8 mg/m³
Workers - Dermal; Long term systemic effects: 1601 mg/kg/day
Consumer - Inhalation; Short term systemic effects: 212 mg/m³
Consumer - Inhalation; Long term systemic effects: 26,5 mg/m³
Consumer - Dermal; Long term systemic effects: 961 mg/kg/day
Consumer - Dermal; Long term systemic effects: 1 mg/kg/day

PNEC

- Fresh water; 0,51 mg/l
- marine water; 0,0339 mg/l
- Sediment (Freshwater); 2,99 mg/kg, dw
- Sediment (Marinewater); 0,199 mg/kg, dw
- Soil; 0,265 mg/kg, ww

Ethyl tert-butyl ether (ETBE) (CAS: 637-92-3)

DNEL

Workers - Inhalation; Short term systemic effects: 2800 mg/m³
Workers - Inhalation; Long term local effects: 105 mg/m³
Workers - Inhalation; Long term systemic effects: 352 mg/m³
Workers - Dermal; Long term systemic effects: 6767 mg/kg/day
Consumer - Inhalation; Short term systemic effects: 1680 mg/m³
Consumer - Inhalation; Long term local effects: 63 mg/m³
Consumer - Inhalation; Long term systemic effects: 105 mg/m³
Consumer - Dermal; Long term systemic effects: 4060 mg/kg/day
Consumer - Oral; Long term systemic effects: 12,5 mg/kg/day

PNEC

- Fresh water; 0,51 mg/l
- marine water; 0,017 mg/l
- Sediment (Freshwater); 28,5 mg/kg, dw
- Sediment (Marinewater); 1,45 mg/kg, dw
- Soil; 2,41 mg/kg, dw
- Effluent; 12,5 mg/l

Methyl tert-butyl ether (MTBE) (CAS: 1634-04-4)

DNEL

Workers - Dermal; Long term systemic effects: 5100 mg/kg/day
Workers - Inhalation; Short term local effects: 357 mg/m³
Workers - Inhalation; Long term systemic effects: 178,5 mg/m³
Consumer - Dermal; Long term systemic effects: 3570 mg/kg/day
Consumer - Inhalation; Short term local effects: 214 mg/m³
Consumer - Inhalation; Long term systemic effects: 53,6 mg/m³
Consumer - Oral; Long term systemic effects: 7,1 mg/kg/day

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

PNEC	- Fresh water; 5,1 mg/l - marine water; 0,26 mg/l - Sediment (Freshwater); 23 mg/kg, dw - Sediment (Marinewater); 1,17 mg/kg, dw - Soil; 1,56 mg/kg, dw - STP; 71 mg/l

Ethanol (CAS: 64-17-5)

DNEL	Workers - Inhalation; Long term systemic effects: 950 mg/m³ Workers - Inhalation; Short term local effects: 1900 mg/m³ Workers - Dermal; Long term systemic effects: 343 mg/kg/day Consumer - Inhalation; Short term local effects: 950 mg/m³ Consumer - Dermal; Long term systemic effects: 206 mg/kg/day Consumer - Inhalation; Long term systemic effects: 114 mg/m³ Consumer - Oral; Long term systemic effects: 87 mg/kg/day
PNEC	Fresh water; 0,96 mg/l marine water; 0,79 mg/l Intermittent release; 2,75 mg/l Sediment (Freshwater); 3,6 mg/kg, dw Sediment (Marinewater); 2,9 mg/kg, dw STP; 580 mg/l Soil; 0,63 mg/kg, dw Secondary poisoning.; 380 mg/kg

methanol (CAS: 67-56-1)

DNEL	Workers - Dermal; Short term, Long term systemic effects: 20 mg/kg/day Workers - Inhalation; Short term, Long term systemic effects, local effects: 130 mg/m³ Consumer - Dermal; Short term, Long term systemic effects: 4 mg/kg/day Consumer - Inhalation; Short term, Long term systemic effects, local effects: 26 mg/m³ Consumer - Oral; Short term, Long term systemic effects: 4 mg/kg/day
PNEC	Water, Fresh water; 20.8 mg/l Intermittent release, Fresh water; 1540 mg/l Water, marine water; 2.08 mg/l Sediment (Freshwater); 77 mg/kg, dw Sediment (Marinewater); 7.7 mg/kg, dw STP; 100 mg/l Soil; 100 mg/kg, dw

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	Spectacles. Face shield when needed.
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.

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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. Gas and combination filter cartridges suitable for intended use should be used. Filter must be changed often enough. At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus).
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.
Odour	Hydrocarbons. Ethers.
Odour threshold	-
pH	-
Melting point	< -20°C
Initial boiling point and range	20...210°C
Flash point	< 0°C
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1,4 % Upper flammable/explosive limit: 8,1 % (calculated)
Vapour pressure	45...90 kPa @ 38°C
Vapour density	> 3 (Air = 1.0)
Relative density	0,72...0,77 @ 15/4°C
Solubility(ies)	Slightly soluble in water. The product contains substances which are water-soluble and may spread in water systems. MTBE: 41.9 g/l, ETBE: 16.4 g/l, TAME: 10.4 g/l, TAEE: 3.9 g/l. Ethanol. Completely soluble in water. Methanol. Completely soluble in water.
Partition coefficient	Hydrocarbons: log Kow: ≥ 4 MTBE log Kow: 1.06, ETBE log Kow: 1.48, TAME log Kow: 1.55, TAEE log Kow: 2.95-3.35. ethanol log Kow: -0.35. methanol log Kow: -0.77.
Auto-ignition temperature	> 280°C Estimated value.
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

Other information	Not known.

SECTION 10: Stability and reactivity

10.1. Reactivity

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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.

Acute toxicity - oral

ATE oral (mg/kg) 3,335.0

Acute toxicity - dermal

ATE dermal (mg/kg) 10,344.83

Acute toxicity - inhalation

ATE inhalation (gases ppm) 24,137.93

ATE inhalation (vapours mg/l) 103.45

ATE inhalation (dusts/mists mg/l) 17.24

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin. 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.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. (OECD 406, 429, EU B.6, B.43, EPA OTS 798.4100)

Germ cell mutagenicity

Genotoxicity - in vitro Gasoline (CAS 86290-81-5): May cause genetic defects. (benzene > 0.1%)

Carcinogenicity

Carcinogenicity Gasoline (CAS 86290-81-5): May cause cancer. (benzene > 0.1%)

Reproductive toxicity

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

Reproductive toxicity - fertility Gasoline (CAS 86290-81-5): Suspected of damaging fertility. (n-hexane (CAS 110-54-3) > 3%)

Reproductive toxicity - development Gasoline (CAS 86290-81-5): Suspected of damaging the unborn child. (Toluene > 3%)

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 407, 408, 410, 412, 422, 453, EPA OTS 798.2450, EPA OPPTS 870.3465)

Aspiration hazard

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.

Gasoline

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} > 5000 mg/kg, Oral, Rat (OECD TG 401)

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} > 2000 mg/kg, Dermal, Rabbit (OECD TG 402)

Acute toxicity - inhalation

Notes (inhalation LC_{50}) LC_{50} > 5610 mg/m³, Inhalation, Rat (4h) (OECD TG 403)

2-methoxy-2-methylbutane (TAME)

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} 1602 - 2417 mg/kg, Oral, Rat (OECD 401)

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} > 2000 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC_{50}) LC_{50} > 5400 mg/m³, Inhalation, Rat (4h) (OECD 403)

methanol

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} 1187 - 2769 mg/kg, Oral, Rat

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} ~ 17100 mg/kg, Dermal, Rabbit

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

ATE dermal (mg/kg)	300.0
Acute toxicity - inhalation	
Notes (inhalation LC_{50})	LC_{50} 128 000 mg/m³, (4h), Inhalation, Rat

SECTION 12: Ecological information

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

Gasoline

Acute aquatic toxicity	
Acute toxicity - fish	LL_{50}, 96 hours: 8,2 mg/l, Pimephales promelas (Fat-head Minnow) LL_{50}, 96 hours: 10 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (EPA 66013-75-009, OECD 203)
Acute toxicity - aquatic invertebrates	EL50, 48 hours: 4,5 mg/l, Daphnia magna NOELR, 48 hours: 0,5 mg/l, Daphnia magna WAF (OECD 202)
Acute toxicity - aquatic plants	EL50, 72 hours: 3,1 mg/l, Pseudokirchneriella subcapitata NOELR, 72 hours: 0,5 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201)
Chronic aquatic toxicity	
Chronic toxicity - aquatic invertebrates	EL50, 21 days: 10 mg/l, Daphnia magna NOELR, 21 days: 2,6 mg/l, Daphnia magna (OECD 211)

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 Gasoline (CAS 86290-81-5):
Inherently biodegradable.
MTBE, ETBE, TAME, TAEE:
Non-rapidly degradable
(OECD 301D).
Ethanol.
Rapidly degradable
(OECD 301F).
Methanol.
Rapidly degradable

Ecological information on ingredients.

Gasoline

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

12.3. Bioaccumulative potential

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

Bioaccumulative potential Possibly bioaccumulative.

Partition coefficient Hydrocarbons: log Kow: ≥ 4 MTBE log Kow: 1.06, ETBE log Kow: 1.48, TAME log Kow: 1.55, TAEE log Kow: 2.95-3.35. ethanol log Kow: -0.35. methanol log Kow: -0.77.

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 ground water, where the most soluble components will spread. 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.

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

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of this material and its container to hazardous or special waste collection point.

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

Hazard Identification Number (ADR/RID) 33

Motor gasoline 95 E10, 98 E5, sulphur free, summer grade, winter grade; Neste Futura 95 E10, 98 E5 (BE95 E10, BE98 E5), BE95E5

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 No

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:
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).
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

Abbreviations and acronyms used in the safety data sheet ATE = Acute Toxicity Estimate
DNEL = Derived No-Effect Level
PNEC = Predicted No-Effect Concentration
WAF = Water Accommodated Fraction

General information USE AS MOTOR FUEL ONLY.

Key literature references and sources for data Regulations, databases, literature, own research. CONCAWE Report 13/17: Hazard classification and labelling of petroleum substances in the EEA - 2017. Chemical Safety Report (Gasoline, MTBE, ETBE, TAME, TAEE, ethanol, methanol, 2010-2020)

Revision comments Updated, sections: 2.3, 11.1, 12.6

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SDS number 5649

Hazard statements in full H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H370 Causes damage to organs .
H411 Toxic to aquatic life with long lasting effects.

Exposure scenario
Use as a fuel - Industrial

Identification

Product name	Gasoline (benzene 0 - 1 %)
CAS number	86290-81-5
Version number	2020
Es reference	ES12a (0-1%)

1. Title of exposure scenario

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

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 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 PROC28 Manual maintenance (cleaning and repair) of machinery (Closed systems - Level I)

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: 1000 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1000 000 tonnes
Maximum daily site tonnage: 3 300 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): 0.009

Use as a fuel - Industrial

Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00001
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

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: 3800 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 95%.
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 79.7 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	Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. 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	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). Percentage of risk driving substance contained in product: < 1% (benzene)

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	Covers use at ambient temperatures. (unless stated differently)

Organisational measures to prevent/limit releases, dispersion and exposure

Use as a fuel - Industrial

Organisational measures

General measures (skin irritants) Ensure there is no direct skin contact with product. Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN374. Clear spills immediately. Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS.

General measures (carcinogens) Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Access to work area only for authorized persons. Wear chemically-resistant gloves (tested to EN374) in combination with ‘basic’ employee training. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. For further specification, refer to section 8 of the SDS. Clear spills immediately. Dispose of this material and its container at hazardous or special waste collection point. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

Risk management measures

Use as a fuel - Industrial

Bulk transfers
Dedicated facility
(PROC 8b)
Ensure material transfers are under containment or extract ventilation.
.
Drum/batch transfers
Dedicated facility
(PROC 8b)
Ensure material transfers are under containment or extract ventilation.
.
General exposures (closed systems)
(PROC 1, PROC 2)
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Handle substance within a closed system.
Sample via a closed loop or other system to avoid exposure.
.
Use as a fuel
(closed systems)
(PROC 16)
Handle substance within a closed system.
.
Equipment cleaning and maintenance
(PROC 8a, PROC 28)
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Drain down and flush system prior to equipment break-in or maintenance.
-
Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.
Wear suitable coveralls to prevent exposure to the skin.
Clear spills immediately.
.
Storage
(PROC 1, PROC 2)
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.86
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.22

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

Use as a fuel - Industrial

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. Available hazard data do not enable the derivation of a DNEL for carcinogenic effects. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Exposure scenario
Use as a fuel - Professional

Identification

Product name Gasoline (benzene 0 - 1 %)

CAS number 86290-81-5

Version number 2020

Es reference ES12b (0-1%)

1. Title of exposure scenario

Main title Use as a fuel - Professional

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

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
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
PROC28 Manual maintenance (cleaning and repair) of machinery

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: 960 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 480 tonnes
Maximum daily site tonnage: 1.3 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 process (initial release prior to RMM): 0.01

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Use as a fuel - Professional

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

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: 33 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	Not applicable.
Water	No 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. 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	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). Percentage of risk driving substance contained in product: < 1% (benzene)

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	Covers use at ambient temperatures. (unless stated differently)

Organisational measures to prevent/limit releases, dispersion and exposure

Use as a fuel - Professional

Organisational measures

General measures (skin irritants) Ensure there is no direct skin contact with product. Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN374. Clear spills immediately. Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS.

General measures (carcinogens) Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Access to work area only for authorized persons. Wear chemically-resistant gloves (tested to EN374) in combination with ‘basic’ employee training. Wear suitable coveralls to prevent exposure to the skin. Wear respiratory protection when its use is identified for certain contributing scenarios. For further specification, refer to section 8 of the SDS. Clear spills immediately. Dispose of this material and its container at hazardous or special waste collection point. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

Risk management measures

Use as a fuel - Professional

Bulk transfers
Dedicated facility
(PROC 8b)
Ensure material transfers are under containment or extract ventilation.
.
Drum/batch transfers
Dedicated facility
(PROC 8b)
Ensure material transfers are under containment or extract ventilation.
.
Refuelling
(PROC 8b)
Ensure material transfers are under containment or extract ventilation.
.
General exposures (closed systems)
(PROC 1, PROC 2)
Handle substance within a closed system.
Sample via a closed loop or other system to avoid exposure.
.
Use as a fuel
(closed systems)
(PROC 16)
Handle substance within a closed system.
.
Equipment cleaning and maintenance
(PROC 8a, PROC 28)
Covers use up to 4 h/day.
Drain down and flush system prior to equipment break-in or maintenance.
Wear a respirator conforming to EN140.
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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.
Wear suitable coveralls to prevent exposure to the skin.
Clear spills immediately.
.
Storage
(PROC 1, PROC 2)
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.036
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.018

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).

Use as a fuel - Professional

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace 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. Available hazard data do not enable the derivation of a DNEL for carcinogenic effects. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Exposure scenario
Use as a fuel - Consumer

Identification

Product name	Gasoline (benzene 0 - 1 %)
CAS number	86290-81-5
Version number	2020
Es reference	ES12c (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 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 CONCAWE SCED 13.1.a PC13_2 Liquid: scooter refuelling ("recreational vehicles") CONCAWE SCED 13.7.a PC13_4 Liquid: Garden equipment - Refuelling CONCAWE SCED 13.4.a

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: 8 200 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 4 100 tonnes
Maximum daily site tonnage: 11 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: 0.00001
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.00001

Use as a fuel - Consumer

Environmental factors not influenced by risk management measures

Dilution

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

Risk management measures

STP details

Not applicable as there is no release to wastewater.
Estimated substance removal from wastewater via domestic sewage treatment: 95.5%
Maximum allowable site tonnage (Msafe): 280 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. 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

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

Concentration details

Covers concentrations up to 100 %.

PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling
Percentage of risk driving substance contained in product: < 1% (benzene)

PC13_4 Liquid: Garden equipment - Refuelling
Percentage of risk driving substance contained in product: < 0,1% (benzene)
Percentage of risk driving substance contained in product: < 3% (n-hexane)
Percentage of risk driving substance contained in product: < 3% (toluene)

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 7.5 kg.
.
PC13_4 Liquid: Garden equipment - Refuelling
For each use event, covers use amounts up to 750 g.

Frequency and duration of use

Covers use up to 1 time(s)/day.
.
PC13_1 Liquid: automotive refuelling
Covers exposure up to 0.05 hours per event.
.
PC13_2 Liquid: scooter refuelling
Covers exposure up to 0.017 hours per event.
.
PC13_4 Liquid: Garden equipment - Refuelling
Covers exposure up to 0.033 hours per event.

Use as a fuel - Consumer

Human factors not influenced by risk management

Potentially exposed body parts	PC13_1 Liquid: automotive refuelling , PC13_2 Liquid: scooter refuelling : Assumes that potential dermal contact is limited to palm of one hand. PC13_4 Liquid: Garden equipment - Refuelling : Assumes that potential dermal contact is limited to inside hands/one hand/palm of hands.

Other given operational conditions affecting Non-industrial exposure

Setting	PC13_1 Liquid: automotive refuelling , PC13_2 Liquid: scooter refuelling : Covers outdoor use.

Other given operational conditions affecting Non-industrial exposure

General measures (skin irritants) Ensure there is no direct skin contact with product. Wash off any skin contamination immediately.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.036 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.018

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.

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. Available hazard data do not enable the derivation of a DNEL for carcinogenic effects. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.