

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Supersedes date
03/05/2023

Revision date
21/01/2026

Revision Number
2
Country-Language: FIN-EN

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

1.1. Product identifier

Product Name NESTE PRO 4T ALKYLATE GASOLINE
Synonyms 130130
Product Code(s) 16476
PR No. 7960
Safety data sheet number 16476

Unique Formula Identifier (UFI) 3Q1N-YAVV-VY0S-FHKQ

Contains: Naphtha (petroleum), full-range alkylate, butane-contg.; Isopentane

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

Recommended use Special and small engine fuel.
Uses advised against Supported uses are listed above. Other uses are not recommended.

1.3. Details of the supplier of the safety data sheet

Supplier

Neste Markkinointi Oy
Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND
Tel. +358 10 45811
lubetec@neste.com

1.4. Emergency telephone number

Emergency Telephone

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Estonia	Poison information telephone number: 16662, calling from abroad: (+372) 7943 794
Finland	+358 800 147 111, +358 9 471 977, Poison Information Centre
Latvia	Valsts toksikoloģijas centrs: (+371) 6704 2473
Lithuania	Farmakologinio budrumo ir apsinuodijimų informacijos skyrius (visa para): +370 5 236 2052.
Sweden	När det är akut: 112, begär giftinformation. I mindre akuta fall 010-456 6700, Giftinformationscentralens direktnummer

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids	Category 1 - (H224)
Skin corrosion/irritation	Category 2 - (H315)

Specific target organ toxicity (single exposure)	Category 3 - (H336)
Category 3 Narcotic effects	
Aspiration hazard	Category 1 - (H304)
Hazardous to the aquatic environment - chronic	Category 2 - (H411)

2.2. Label elements

Contains: Naphtha (petroleum), full-range alkylate, butane-contg.; Isopentane

**Signal word**

Danger

Hazard statements

H224 - Extremely flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P102 - Keep out of reach of children
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 or doctor
P331 - Do NOT induce vomiting
P501 - Dispose of contents/containers in accordance with local regulations

2.3. Other hazards

Volatile. Vapours may form explosive mixture with air. Risk of soil and ground water contamination.

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

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**3.1. Substances**

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No. (Index No.)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
Naphtha (petroleum), full-range alkylate, butane-contg.	65-80	01-2119471477-29	271-267-0	Flam. Liq. 1 (H224) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315)	-	-	-	-

68527-27-5				STOT SE 3 (H336) Aq. Chronic 2 (H411)				
Isopentane 78-78-4	20-35	01-2119475602-38	201-142-8	Flam. Liq. 1 (H224) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aq. Chronic 2 (H411)	-	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Additional information

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. Get immediate medical attention.

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

Symptoms	May irritate eyes and skin. 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.
Effects of Exposure	No information available.

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

Note to doctors	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical H224 - Extremely flammable liquid and vapour. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Containers may explode when heated.

Hazardous combustion products Carbon dioxide (CO₂) Carbon monoxide

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters 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.

Wear positive pressure self-contained breathing apparatus (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid breathing vapours or mists. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

For emergency responders Prevent unauthorized access. Keep people away from and upwind of spill/leak.

Vapours may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Vapours can form explosive mixtures with air. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. 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 containment Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up with sand, earth or other non-combustible absorbent material. Immediately start clean-up of the liquid and contaminated soil. Large spills should be collected mechanically (remove by pumping) for disposal. Pay attention to the fire and health hazards caused by the product.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See Section 7 and 8 for more information,

SECTION 7: Handling and storage

7.1. Precautions for safe handling**Advice on safe handling**

The product contains volatile substances which may spread in the atmosphere. Vapours may accumulate on the floor and in low-lying areas. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use explosion-proof electrical equipment.

Avoid breathing vapours or mists. Use only outdoors or in a well-ventilated area. Try to avoid product volatilization during handling and transferring. Avoid contact with skin, eyes or clothing. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Clear up spills immediately and dispose of waste safely.

7.2. Conditions for safe storage, including any incompatibilities**Storage Conditions**

Flammable liquid storage. Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Store in a demarcated bunded area to prevent release to drains and/or watercourses.

7.3. Specific end use(s)

Risk Management Methods (RMM) Not applicable.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Solvent naphtha, group 1: 500 mg/m³ (8h), HTP 2020/FIN.
The individual limit values can be applied for the hydrocarbons.

Chemical name	European Union			
Isopentane 78-78-4	TWA: 1000 ppm TWA: 3000 mg/m ³			
Chemical name	Austria	Belgium	Bulgaria	Croatia
Isopentane 78-78-4	TWA: 600 ppm TWA: 1800 mg/m ³ STEL 1200 ppm STEL 3600 mg/m ³	TWA: 600 ppm TWA: 1800 mg/m ³ STEL: 750 ppm STEL: 2250 mg/m ³	TWA: 1000 ppm TWA: 3000.0 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia
Isopentane 78-78-4	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 3000 mg/m ³ Ceiling: 4500 mg/m ³	TWA: 500 ppm TWA: 1500 mg/m ³ STEL: 1000 ppm STEL: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³
Chemical name	Finland	France	Germany TRGS	Germany DFG
Isopentane 78-78-4	TWA: 500 ppm TWA: 1500 mg/m ³ STEL: 630 ppm STEL: 1900 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³ Peak: 2000 ppm Peak: 6000 mg/m ³
Chemical name	Greece	Hungary	Italy MDLPS	Italy AIDII
Isopentane 78-78-4	TWA: 1000 ppm TWA: 2950 mg/m ³	TWA: 3000 mg/m ³ TWA: 1000 ppm	TWA: 667 ppm TWA: 2000 mg/m ³	TWA: 1000 ppm TWA: 2951 mg/m ³
Chemical name	Ireland	Latvia	Lithuania	Luxembourg
Isopentane 78-78-4	TWA: 1000 ppm STEL: 3000 ppm	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³

Chemical name	Malta	Netherlands	Norway	Poland
Isopentane 78-78-4	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 600 ppm TWA: 1800 mg/m ³	TWA: 250 ppm TWA: 750 mg/m ³ STEL: 312.5 ppm STEL: 937.5 mg/m ³	TWA: 3000 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia
Isopentane 78-78-4	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³ STEL: 1000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³	TWA: 1000 ppm TWA: 3000 mg/m ³ STEL: 6000 mg/m ³ STEL: 2000 ppm
Chemical name	Spain	Sweden	Switzerland	United Kingdom
Isopentane 78-78-4	TWA: 1000 ppm TWA: 3000 mg/m ³	Vägledande KGV: 750 ppm Vägledande KGV: 2000 mg/m ³ NGV: 600 ppm NGV: 1800 mg/m ³	TWA: 600 ppm TWA: 1800 mg/m ³ STEL: 1200 ppm STEL: 3600 mg/m ³	TWA: 600 ppm TWA: 1800 mg/m ³ STEL: 1800 ppm STEL: 5400 mg/m ³

Biological occupational exposure limits

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Naphtha (petroleum), full-range alkylate, butane-contg. 68527-27-5	-	-	837 mg/m ³ [5] [6] 1067 mg/m ³ [5] [7] 1286 mg/m ³ [4] [7]
Isopentane 78-78-4	-	432 mg/kg bw/day [4] [6]	3000 mg/m ³ [4] [6]

[1]

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Naphtha (petroleum), full-range alkylate, butane-contg. 68527-27-5	-	-	179 mg/m ³ [5] [6] 640 mg/m ³ [5] [7] 1152 mg/m ³ [4] [7]
Isopentane 78-78-4	214 mg/kg bw/day [4] [6]	214 mg/kg bw/day [4] [6]	643 mg/m ³ [4] [6]

[4] Systemic health effects.

[5] Local health effects.

[6] Long term.

[7] Short term.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls

Provide adequate ventilation. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

Personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Wear suitable gloves tested to EN 374. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Change protective gloves regularly.
Skin and body protection	Wear suitable protective clothing. 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. AX. Filter must be changed often enough. Gas and combination filter cartridges must comply with EN 14387. Organic gases and vapours filter conforming to EN 14387.
Thermal hazards	None under normal processing.
General advice	Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Clear up spills immediately and dispose of waste safely.
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**

Physical state	Liquid	
Colour	clear. Bluish when lubricant has been added	
Odour	Hydrocarbons, Mild	
Odour threshold	-	
Property	Values	Remarks • Method
Melting point / freezing point	-	Not applicable
Boiling point or initial boiling point and boiling range	30 - 200 °C	-
Flammability	H224	-
Lower and upper explosion limit/flammability limit		-
Lower explosion limit	1.4 %	
Upper explosion limit	7.6 %	
Flash point	-45°C ... -25°C	-
Autoignition temperature	~ 400 °C	-
Decomposition temperature	-	-
SADT (°C)	-	-
pH	No data available	Not applicable
pH (as aqueous solution)	No data available	
Kinematic viscosity	< 1 mm ² /s @ 40 °C	EN ISO 3104
Dynamic viscosity	No data available	-
Solubility	-	-
Water solubility	< 50 mg/L @ 20 °C	-
Partition coefficient n-octanol/water (log value)	≥ 4	log Kow
Vapour pressure	50 - 65 kPa @ 38 °C 84.1 kPa @ 50 °C	-
Density and/or relative density	0.68 - 0.72 @ 15 °C	-
Bulk density	-	
Liquid Density	-	

Relative vapour density	> 3	. (air = 1)
Particle characteristics		Not applicable
Particle Size	n/a	
Particle Size Distribution	n/a	

9.2. Other information**9.2.1. Information with regards to physical hazard classes**

Explosive properties	Not considered to be explosive
H224 -	
Oxidising properties	Does not meet the criteria for classification as oxidising

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None known.
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10.4. Conditions to avoid

Conditions to avoid	Keep away from heat, sparks and open flame.
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10.5. Incompatible materials

Incompatible materials	Oxidising agent.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal use conditions.
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SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Numerical measures of toxicity**

Based on available data, the classification criteria are not met

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Naphtha (petroleum), full-range alkylate, butane-contg.	> 5000 mg/kg (Rat) (OECD 401)	> 2000 mg/kg bw (rabbit) (OECD 402)	> 5.61 mg/L (rat) (OECD 403)
Isopentane	> 2000 mg/kg, Oral, Rat (OECD TG 401, EU Method B.1) > 5000 mg/kg, Oral, Rat (OECD TG 423)	-	> 25.3 mg/l, Inhalation, Rat (4h) (OECD TG 403)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	May cause eye and respiratory irritation. Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	May cause drowsiness or dizziness.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

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

Other adverse effects	No information available.
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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	Toxic to aquatic life with long lasting effects.
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Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
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Naphtha (petroleum), full-range alkylate, butane-contg.	EL50 (96h): 3.7 mg/L NOELR (72h): 0.5 mg/L (OECD 201)	LL50 (96h): 8.2 mg/L (OECD 203, EPA 66013-75-009) EL50 (21d): 10 mg/L NOELR (21d): 2.6 mg/L (OECD 211)	-	EL50 (48h): 4.5 mg/L NOELR (48h): 0.5 mg/L (OECD 202)
Isopentane	EL50 (72h): 25.1 mg/L NOELR (72h): 5.62 mg/L (Selenastrum Capricornutum, QSAR)	LL50 (96h): 34.05 mg/L NOELR (28d): 7.62 mg/L (Oncorhynchus Mykiss, QSAR)	-	EL50 (48h): 59.4 mg/L NOELR (21d): 13.3 mg/L (Daphnia Magna, QSAR)

12.2. Persistence and degradability

Persistence and degradability Inherently biodegradable. (OECD 301F, ISO/DIS 14593, CAS 68572-27-5 .

The product contains volatile substances which may spread in the atmosphere. Can be photodegraded in the atmosphere. No significant reaction in water.

Isopentane (78-78-4)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)			Rapidly biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Possibly bioaccumulative.

Chemical name	Partition coefficient
Isopentane	log Kow: 4 @ 25°C (isopentane)

12.4. Mobility in soil

Mobility in soil 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**12.6. Endocrine disrupting properties**

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

12.7. Other adverse effects None known.

Other adverse effects

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of in accordance with local regulations. When handling waste, the safety precautions applying to handling of the product should be considered. Do not allow into any sewer, on the ground or into any body of water.

Contaminated packaging

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**IATA**

14.1 UN number or ID number	1203
14.2 UN proper shipping name	Gasoline
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazards	Marine pollutant
14.6	

IMDG

14.1 UN number or ID number	UN1203
14.2 UN proper shipping name	Gasoline
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazard	Marine pollutant
14.6	
14.7 Maritime transport in bulk according to IMO instruments	. MARPOL Annex I cargo

RID

14.1 UN number or ID number	UN1202
14.2 UN proper shipping name	Gasoline
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazard	Yes
14.6	

ADR

14.1 UN number or ID number	UN1203
14.2 UN proper shipping name	Gasoline
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazard	Yes
14.6 Special precautions for user	
Classification code	33
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 2024/590

Not applicable

Other Regulations

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) as amended by Regulation (EU) No. 2020/878.

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

15.2. Chemical safety assessment

Chemical Safety Report

Chemical Safety Assessments have been carried out for these substances

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of any hazard and/or precautionary statements referred to under Sections 2-15

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

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)

Ceiling Maximum limit value

+ Sensitisers

STEL

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STEL (Short Term Exposure Limit)

Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Supersedes date 03/05/2023

Revision date 21/01/2026

Reason for revision Updated, sections: 1-16, ES (new SDS software has been introduced)

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name Naphtha (petroleum), full-range alkylate, butane-contg.
 REACH registration number 01-2119471477-29
 EC No. (Index No.) 271-267-0
 CAS No. 68527-27-5

Section 1 - Title

Title ES 02 - Formulation & (re)packing of substances and mixtures
 Environmental release category(ies) ERC2 - Formulation into mixture
 Specific Environmental Release Category ESVOC SPERC 2.2.v3
 Process category(ies) PROC 1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 PROC 2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 PROC 4 Chemical production where opportunity for exposure arises
 PROC5 Mixing or blending in batch processes
 PROC 8a Transfer of substance or mixture (charging and discharging) at nondedicated facilities
 PROC 8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 Tableting, compression, extrusion, pelletisation, granulation
 PROC15 - Use as laboratory reagent
 PROC 28 Manual maintenance (cleaning and repair) of machinery

Revision Number 2025_1
 Product Name Naphtha (petroleum), full-range alkylate, butane-contg.
 Processes, tasks, activities covered Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Amounts used
 Type Fraction of EU tonnage used in region
 Value 1,0

Type Regional use tonnage
 Value 284 700
 Units t(ons)/year

Type Fraction of regional tonnage used locally
 Value 0,1

Type	Annual site tonnage
Value	30 000
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	100
Units	t(ons)/day

Product characteristics

Remarks Substance is complex UVCB Predominantly hydrophobic

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

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	300 d/y
Release fraction to wastewater from process (initial release prior to RMM)	0,02
Release fraction to soil from process (initial release prior to RMM)	0,03
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements)	2,5

Conditions and measures related to municipal sewage treatment plant

Type	Not applicable as there is no release to wastewater
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	0 %
Removal efficiency (total)	97,6 %
Remarks	Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal: 116000 kg/d.

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

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

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment Prevent discharge of undissolved substance to or recover from onsite wastewater If discharging to domestic sewage treatment plant, no onsite wastewater treatment required
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Waste management

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 >= 97,6 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= 97,6 %.
Soil	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Conditions and measures related to external recovery of waste

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

Conditions and measures related to external treatment of waste for disposal

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

Section 2.2 - Control of worker exposure

Control of worker exposure	
Covers concentrations up to	<= 100 %
Remarks	Covers percentage benzene in the substance up to < 0.1 %. Covers percentage n-hexane in the substance up to < 3 % Covers percentage toluene in the substance up to < 3 %
Physical form of product	Liquid
Vapour pressure	> 10 kPa
Temperature associated to vapour pressure	STP
Use frequency	Covers exposure up to 8 h/d. (unless stated differently)
Operational conditions	Assumes a good basic standard of occupational hygiene is implemented Covers use at ambient temperatures (unless stated differently) General measures (skin irritants) Ensure that direct skin contact is avoided Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN 374 Clear spills immediately Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS 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
Process category(ies)	General exposures; Closed systems (PROC_2, PROC_1, PROC_3)
Operational conditions	Handle substance within a closed system Sample via a closed loop or other system to avoid exposure
Process category(ies)	General exposures; Open systems (PROC_4)
Operational conditions	Provide extract ventilation to points where emissions occur
Process category(ies)	Batch process; Elevated temperature; Use in contained systems (PROC_3)
Operational conditions	Handle substance within a closed system Assumes process temperature up to 60 °C.
Process category(ies)	Process sampling (PROC_9)
Operational conditions	Provide extract ventilation to points where emissions occur
Process category(ies)	Laboratory activities (PROC_15)
Operational conditions	No other specific measures identified Additional good practice advice Obligations according to Article 37(4) of REACH do not apply. Put lids on containers immediately after use
Process category(ies)	Bulk transfers; Dedicated facility (PROC_8b)
Operational conditions	Ensure material transfers are under containment or extract ventilation Additional good practice advice Obligations according to Article 37(4) of REACH do not apply. Ensure no splashing occurs during transfer.
Process category(ies)	Mixing operations; Open systems (PROC_5)
Operational conditions	Provide extract ventilation to points where emissions occur
Process category(ies)	Manual; Transfer from/pouring from containers; Non-dedicated facility (PROC_8a)
Operational conditions	Ensure material transfers are under containment or extract ventilation

Process category(ies)	Drum/batch transfers; Dedicated facility (PROC_8b)
Operational conditions	Use drum pumps Additional good practice advice Obligations according to Article 37(4) of REACH do not apply. Ensure no splashing occurs during transfer.
Process category(ies)	Tabletting, compression, extrusion or pelletisation (PROC_14)
Operational conditions	Handle substance within a predominantly closed system provided with extract ventilation
Process category(ies)	Drum and small package filling (PROC_9)
Operational conditions	Fill containers/cans at dedicated fill points supplied with local extract ventilation
Process category(ies)	Equipment cleaning and maintenance (PROC_8a, PROC_28)
Operational conditions	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
Process category(ies)	Storage (PROC_2, PROC_1)
Operational conditions	Store substance within a closed system

Section 3 - Exposure estimation

Calculation method

Environment

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

Health

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

Section 4 - Guidance to check compliance with the exposure scenario

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures
 Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination
 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination
 Further details on scaling and control technologies are provided in SpERC factsheet (<https://www.esig.org/reach-ges/environment/#factsheets>).

Health

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented
 Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels
 Available hazard data do not enable the derivation of a DNEL for aspiration effects.
 Available hazard data does not enable the derivation of a DNEL for dermal irritant effects.

Risk management measures are based on qualitative risk characterization.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
REACH registration number	01-2119471477-29
EC No. (Index No.)	271-267-0
CAS No.	68527-27-5

Section 1 - Title

Title	ES 12a - Use as a fuel ; Industrial
Environmental release category(ies)	ERC7 - Use of functional fluid at industrial site
Specific Environmental Release Category	ESVOC SPERC 7.12a.v4
Process category(ies)	PROC 1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC 2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC 8a Transfer of substance or mixture (charging and discharging) at nondedicated facilities PROC 8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels PROC 28 Manual maintenance (cleaning and repair) of machinery

Revision Number	2025_1
Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
Processes, tasks, activities covered	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Amounts used

Type	Fraction of EU tonnage used in region
Value	1,0

Type	Regional use tonnage
Value	175 600
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	175 560
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	585
Units	t(ons)/day

Product characteristics

Remarks Substance is complex UVCB Predominantly hydrophobic
Common practices vary across sites thus conservative process release estimates used.

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	300 d/y
Release fraction to air from process (initial release prior to RMM)	1
Release fraction to wastewater from process (initial release prior to RMM)	0,0002
Release fraction to soil from process (initial release prior to RMM)	0,001

Conditions and measures related to municipal sewage treatment plant

Type	Not applicable as there is no release to wastewater
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	0 %
Removal efficiency (total)	57,4 %
Remarks	Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal: 683000 kg/d.

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

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

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No wastewater treatment required
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Waste management

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 >= 57,4 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= 57,4 %.
Soil	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Conditions and measures related to external recovery of waste

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

Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations

Section 2.2 - Control of worker exposure

Control of worker exposure	
Covers concentrations up to	<= 100 %
Remarks	Covers percentage benzene in the final product up to < 0.1 %. Covers percentage n-hexane in the final product up to < 3 %. Covers percentage toluene in the final product up to < 3 %.
Physical form of product	Liquid
Vapour pressure	> 10 kPa
Temperature associated to vapour pressure	STP
Use frequency	Covers exposure up to 8 h/d. (unless stated differently)
Operational conditions	Assumes a good basic standard of occupational hygiene is implemented

	Covers use at ambient temperatures (unless stated differently) General measures (skin irritants) Ensure that direct skin contact is avoided Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN 374 Clear spills immediately Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS 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
Process category(ies)	Bulk transfers; Dedicated facility (PROC_8b)
Operational conditions	Ensure material transfers are under containment or extract ventilation
Process category(ies)	Drum/batch transfers; Dedicated facility (PROC_8b)
Operational conditions	Use drum pumps
Process category(ies)	General exposures; Closed systems (PROC_2, PROC_1)
Operational conditions	Handle substance within a closed system Sample via a closed loop or other system to avoid exposure
Process category(ies)	Use of fuels; Closed systems (PROC_16)
Operational conditions	Handle substance within a closed system
Process category(ies)	Equipment cleaning and maintenance (PROC_8a, PROC_28)
Operational conditions	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
Process category(ies)	Storage (PROC_2, PROC_1)
Operational conditions	Store substance within a closed system

Section 3 - Exposure estimation

Calculation method

Environment

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

Health

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

Section 4 - Guidance to check compliance with the exposure scenario

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination

Further details on scaling and control technologies are provided in SpERC factsheet

(<https://www.esig.org/reach-ges/environment/#factsheets>).

Health

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels

Available hazard data do not enable the derivation of a DNEL for aspiration effects.

Available hazard data does not enable the derivation of a DNEL for dermal irritant effects.

Risk management measures are based on qualitative risk characterization.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
REACH registration number	01-2119471477-29
EC No. (Index No.)	271-267-0
CAS No.	68527-27-5

Section 1 - Title

Title	ES 12b - Use as a fuel ; Professional
Environmental release category(ies)	ERC 9a Widespread use of functional fluid (indoor) ERC 9b Widespread use of functional fluid (outdoor)
Specific Environmental Release Category	ESVOC SPERC 9.12b.v3
Process category(ies)	PROC 1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC 2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC 8a Transfer of substance or mixture (charging and discharging) at nondedicated facilities PROC 8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels PROC 28 Manual maintenance (cleaning and repair) of machinery
Revision Number	2025_1
Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
Processes, tasks, activities covered	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Amounts used	
Type	Fraction of EU tonnage used in region
Value	0,1
Type	Regional use tonnage
Value	3393
Units	t(ons)/year
Type	Fraction of regional tonnage used locally
Value	0,0005
Type	Annual site tonnage
Value	1,7
Units	t(ons)/year
Type	Maximum daily site tonnage
Value	4,6
Units	kg/d

Product characteristics

Remarks Substance is complex UVCB Predominantly hydrophobic

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

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365 d/y
Release fraction to air from wide dispersive use (regional only)	0,5
Release fraction to wastewater from wide dispersive use	0,0001
Release fraction to soil from wide dispersive use (regional only)	0,025

Conditions and measures related to municipal sewage treatment plant

Type	Not applicable as there is no release to wastewater
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	98,1 %
Removal efficiency (total)	98,1 %
Remarks	Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal: 1890 kg/d.

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

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

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No wastewater treatment required
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Waste management

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 >= 0 %. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= 0 %.
Soil	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Conditions and measures related to external recovery of waste

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

Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations

Section 2.2 - Control of worker exposure

Control of worker exposure	
Covers concentrations up to	<= 100 %
Remarks	Covers percentage benzene in the final product up to < 0.1 %. Covers percentage n-hexane in the final product up to < 3 %. Covers percentage toluene in the final product up to < 3 %.
Physical form of product	Liquid
Vapour pressure	> 10 kPa
Temperature associated to vapour pressure	STP
Use frequency	Covers exposure up to 8 h/d. (unless stated differently)

Operational conditions	Assumes a good basic standard of occupational hygiene is implemented Covers use at ambient temperatures (unless stated differently) General measures (skin irritants) Ensure that direct skin contact is avoided Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN 374 Clear spills immediately Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS 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
Process category(ies)	Bulk transfers; Dedicated facility (PROC_8b)
Operational conditions	Ensure material transfers are under containment or extract ventilation
Process category(ies)	Drum/batch transfers; Dedicated facility (PROC_8b)
Operational conditions	Use drum pumps Additional good practice advice Obligations according to Article 37(4) of REACH do not apply. Ensure no splashing occurs during transfer.
Process category(ies)	Refuelling (PROC_8b)
Operational conditions	Use drum pumps Additional good practice advice Obligations according to Article 37(4) of REACH do not apply. Ensure no splashing occurs during transfer.
Process category(ies)	General exposures; Closed systems (PROC_2, PROC_1)
Operational conditions	Handle substance within a closed system Sample via a closed loop or other system to avoid exposure
Process category(ies)	Use of fuels; Closed systems (PROC_16)
Operational conditions	Handle substance within a closed system
Process category(ies)	Equipment cleaning and maintenance (PROC_8a, PROC_28)
Operational conditions	Covers use up to 4 h/d. Drain down and flush system prior to equipment break-in or maintenance Wear a respirator conforming to EN140. 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
Process category(ies)	Storage (PROC_2, PROC_1)
Operational conditions	Store substance within a closed system

Section 3 - Exposure estimation

Calculation method

Environment

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

Health

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

indicated

Section 4 - Guidance to check compliance with the exposure scenario

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination

Further details on scaling and control technologies are provided in SpERC factsheet

(<https://www.esig.org/reach-ges/environment/#factsheets>).

Health

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels

Available hazard data do not enable the derivation of a DNEL for aspiration effects.

Available hazard data does not enable the derivation of a DNEL for dermal irritant effects.

Risk management measures are based on qualitative risk characterization.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
REACH registration number	01-2119471477-29
EC No. (Index No.)	271-267-0
CAS No.	68527-27-5

Section 1 - Title

Title	ES 12c - Use as a fuel ; Consumer
Environmental release category(ies)	ERC 9a Widespread use of functional fluid (indoor) ERC 9b Widespread use of functional fluid (outdoor)
Specific Environmental Release Category	ESVOC SPERC 9.12c.v3
Product category(ies)	PC13 - Fuels
Revision Number	2025_1
Product Name	Naphtha (petroleum), full-range alkylate, butane-contg.
Processes, tasks, activities covered	Covers consumer uses in liquid fuels

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Amounts used

Type	Fraction of EU tonnage used in region
Value	0,1
Type	Regional use tonnage
Value	7523
Units	t(ons)/year
Type	Fraction of regional tonnage used locally
Value	0,0005
Type	Annual site tonnage
Value	3,8
Units	t(ons)/year
Type	Maximum daily site tonnage
Value	10,3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB Predominantly hydrophobic
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Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365 d/y
Release fraction to air from wide dispersive use (regional only)	0,4
Release fraction to wastewater from wide dispersive use	0,00002
Release fraction to soil from wide dispersive use (regional only)	0,005

Conditions and measures related to municipal sewage treatment plant

Type	Not applicable as there is no release to wastewater
Assumed domestic sewage treatment plant flow	0 m3/d
Removal efficiency fraction (offsite; STP)	0 %
Remarks	Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal: 0 kg/d.

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Conditions and measures related to external recovery of waste

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

Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Physical form of product	Liquid
Use frequency	Covers use up to 1,0 events per day
Operational conditions	General measures (skin irritants) Ensure there is no direct skin contact with product. Remove accidental skin contamination. 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
Product (sub) category(ies)	Fuels Liquid: automotive refuelling Gasoline (PC_13) Concawe_SCED_13_1_a
Covers concentrations up to	100 %
Remarks	Covers percentage benzene in the final product up to < 1 %.
Amounts used	37500 g/event
Exposure duration	0,05 hours
Use frequency	Covers use up to 1 events per day
Indoor/Outdoor use	Outdoor use
Operational conditions	Assumes that potential dermal contact is limited to palm of one hand
Product (sub) category(ies)	Fuels Liquid: Recreational vehicles (Quad bikes or similar) (PC_13) Concawe_SCED_13_7_a
Covers concentrations up to	100 %
Remarks	Covers percentage benzene in the final product up to < 1 %.
Amounts used	7500 g/event
Exposure duration	0,017 hours
Use frequency	Covers use up to 1 events per day
Indoor/Outdoor use	Outdoor use
Operational conditions	Assumes that potential dermal contact is limited to palm of one hand
Product (sub) category(ies)	Fuels Liquid: garden equipment - refuelling (PC_13) Concawe_SCED_13_4_a

Covers concentrations up to	100 %
Remarks	Covers percentage benzene in the final product up to < 0,1 %. Covers percentage n-hexane in the final product up to < 3 %. Covers percentage toluene in the final product up to < 3 %.
Amounts used	750 g/event
Exposure duration	0,033 hours
Use frequency	Covers use up to 1 events per day
Operational conditions	Assumes that potential dermal contact is limited to inside hands / one hand / palm of hands.

Section 3 - Exposure estimation

Calculation method

Environment

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

Health

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

Section 4 - Guidance to check compliance with the exposure scenario

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures

Health

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Available hazard data does 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 does not enable the derivation of a DNEL for dermal irritant effects.

Risk management measures are based on qualitative risk characterization.