SAFETY DATA SHEET
Neste Renewable Naphtha

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

1.1. Product identifier

Product name	Neste Renewable Naphtha
Chemical name	Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich
Product number	ID 14689
Internal identification	BEBIO1, NExBE-1
REACH registration number	01-2119497828-14-0000

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

Identified uses	Manufacture of substance Distribution of substance, Formulation & (re)packing of substances and mixtures, Use as a fuel, Use in laboratories

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	+358-9-471 977, +358-9-4711, Poison Information Centre/HUS, P.O.B 340 (Tukholmankatu 17) 00029 HUS (Helsinki, Finland)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Skin Irrit. 2 - H315 Repr. 2 - H361 STOT SE 3 - H336 STOT RE 2 - H373 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram

Signal word Danger

Neste Renewable Naphtha

Hazard statements

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P370+P378 In case of fire: Use foam, carbon dioxide or dry powder to extinguish.

Contains

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich

2.3. Other hazards

Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich **100 %**

CAS number: — REACH registration number: 01-2119497828-14-0000

Classification
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315
Repr. 2 - H361
STOT SE 3 - H336
STOT RE 2 - H373
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

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

Composition comments

Benzene (CAS 71-43-2) and toluene (CAS 108-88-3) < 0,1 %, n-hexane (CAS 110-54-3) > 5 %.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Ingestion

Do not induce vomiting. Get medical attention immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact

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

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

Neste Renewable Naphtha

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

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

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

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

Neste Renewable Naphtha

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Specific end use(s) Not known.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Solvent naphtha, group 4: 100 mg/m3 (8h), HTP 2014/FIN.
n-Hexane: 20 ppm (8h), 72 mg/m3 (8h), HTP 2014/FIN, EU OELV (EC/2006/15).
The individual limit values can be applied for the hydrocarbons.

PNEC Not available.

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich

DNEL

Workers - Inhalation; Long term systemic effects: 93 mg/m³
Workers - Dermal; Long term systemic effects: 13 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 20 mg/m³
Consumer - Dermal; Long term systemic effects: 7 mg/kg/day
Consumer - Oral; Long term systemic effects: 6 mg/kg/day

8.2. Exposure controls

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

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

Hand protection Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). The selected gloves should have a breakthrough time of at least 8 hours. Protection class 6. Protective gloves according to standards EN 420 and EN 374. Change protective gloves regularly.

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

Neste Renewable Naphtha

Respiratory protection	Filter device/half mask Gas filter, type AX. Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 19 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirators according to standards EN 140 and EN 141.
Environmental exposure controls	Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Mobile liquid.
Colour	Clear.
Odour	Hydrocarbons.
Odour threshold	-
pH	-
Melting point	< - 60°C (EEC A1/A2)
Initial boiling point and range	> 40 - 170°C (EN ISO 3405)
Flash point	< 0°C (EEC A9)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 1,2 % Lower flammable/explosive limit: 8,0 % (ASTM E681)
Vapour pressure	18,5 kPa @ 20°C (EEC A4)
Vapour density	-
Relative density	~ 0,67 (EEC A3 & OECD 109)
Solubility(ies)	0,58 mg/l (EEC A6 & OECD 105)
Partition coefficient	log Pow: 5,8 (EEC A8 & OECD 107)
Auto-ignition temperature	~ 255°C (EC A15)
Decomposition Temperature	-
Viscosity	Kinematic viscosity ~ 0,5 mm2/s @ 25°C (OECD 114). Dynamic viscosity 0,36 mPa s @ 20°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

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

10.2. Chemical stability

Stability	Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Neste Renewable Naphtha

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 None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Skin corrosion/irritation

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

Serious eye damage/irritation

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

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. (OECD 429).

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met. (OECD 471, 473, 476).

Genotoxicity - in vivo Based on available data the classification criteria are not met. (OECD 475).

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility Suspected of damaging fertility or the unborn child. (OECD 414, 416).

Specific target organ toxicity - single exposure

STOT - single exposure May cause nausea, headache, dizziness and intoxication. Anaesthetic in high concentrations. (OECD 424)

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs (Nervous system) through prolonged or repeated exposure. (OECD 414)

Aspiration hazard

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

Toxicological information on ingredients.

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} 16750 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Neste Renewable Naphtha

Notes (dermal LD_{50})	LD_{50} 3350 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC_{50})	LC_{50} 259400 mg/m³, Inhalation, Rat (4h) (OECD 403)

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich

Acute toxicity - fish	LL_{50}, 96 hours: 13,3 mg/l, Fish (QSAR)
Acute toxicity - aquatic invertebrates	EL50, 48 hours: 23,2 mg/l, (QSAR)
Acute toxicity - aquatic plants	EL50, 72 hours: 9,9 mg/l, Algae NOELR, 72 hours: 2,2 mg/l, Algae (QSAR)
Chronic toxicity - fish early life stage	NOELR, 28 days: 3,0 mg/l, Fish (QSAR)
Chronic toxicity - aquatic invertebrates	NOELR, 21 days: 5,2 mg/l, (QSAR)

12.2. Persistence and degradability

Stability (hydrolysis) No significant reaction in water.

Biodegradation Rapidly degradable
(OECD 301 F).

Ecological information on ingredients.

Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich

Biodegradation	Rapidly degradable (OECD 301 F)

12.3. Bioaccumulative potential

Bioaccumulative potential Possibly bioaccumulative.

Partition coefficient log Pow: 5,8 (EEC A8 & OECD 107)

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.

Adsorption/desorption coefficient Log Koc 3,3 Estimated value.

Surface tension ~ 19 mN/m @ 25°C (ASTM D 971M).

12.5. Results of PBT and vPvB assessment

Neste Renewable Naphtha

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

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of as hazardous waste. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3295

14.2. UN proper shipping name

Proper shipping name (ADR/RID) UN 3295, HYDROCARBONS, LIQUID, N.O.S.

Proper shipping name (ADN) UN 3295, HYDROCARBONS, LIQUID, N.O.S. (Alkanes (C5-C7), linear and branched)

14.3. Transport hazard class(es)

ADR/RID class 3

ADN subsidiary risk N2

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

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 Product name: Alkanes (C5-C7), linear and branched. Pollution category: Cat Y Ship type: 2

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Commission Regulation (EU) No 453/2010 of 20 May 2010.
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).

Neste Renewable Naphtha

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	DNEL = Derived No-Effect Level PNEC = Predicted No-Effect Concentration
Key literature references and sources for data	Regulations, databases, literature, own research. Chemical Safety Report Hydrocarbons, C5-C7, n-alkanes, isoalkanes, n-hexane rich, 2012.
Revision comments	Product name change.
Revision date	15/08/2016
Supersedes date	12/02/2016
SDS number	5572
Hazard statements in full	H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.

Exposure scenario
Manufacture of Substance - Industrial

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Manufacture of Substance - Industrial
Process scope	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of substances. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 1.1.v1

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15 Use as laboratory reagent.

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

Frequency and duration of use

Continuous release.
Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Manufacture of Substance - Industrial

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 5.0E-02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-03
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 340 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 10 000.

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

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	Provide onsite wastewater removal efficiency of ≥ 31.5%. 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. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	During manufacturing no waste of the substance is generated.

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Manufacture of Substance - Industrial

General exposures (closed systems)
No specific measures identified.
.
General exposures (closed systems)
Continuous process
Handle substance within a closed system.
.
General exposures (closed systems)
Batch process
Ensure material transfers are under containment or extract ventilation.
.
General exposures (open systems)
Batch process
Ensure material transfers are under containment or extract ventilation.
.
Process sampling
Dedicated facility
Ensure material transfers are under containment or extract ventilation.
.
Laboratory activities
Handle in a fume cupboard or under extract ventilation.
.
Bulk transfers
(open systems)
Dedicated facility
Provide extract ventilation to points where emissions occur.
.
Bulk transfers
(closed systems)
Dedicated facility
Ensure material transfers are under containment or extract ventilation.
.
Equipment cleaning and maintenance
Non-dedicated facility
Provide enhanced general ventilation by mechanical means.
Drain down and flush system prior to equipment break-in or maintenance.
.
Storage
General exposures (closed systems)
No specific measures identified.
.
Storage
General exposures (closed systems)
Continuous process
Provide extract ventilation to material transfer points and other openings.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Manufacture of Substance - Industrial

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

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.

Exposure scenario
Distribution of Substance - Industrial

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Distribution of Substance - Industrial
Process scope	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of substances. ERC2 Formulation of preparations. ERC3 Formulation in materials. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC5 Industrial use resulting in inclusion into or onto a matrix. ERC6a Industrial use resulting in manufacture of another substance (use of intermediates). ERC6b Industrial use of reactive processing aids. ERC6c Industrial use of monomers for manufacture of thermoplastics. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers. ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 1.1b.v1

Worker

Distribution of Substance - Industrial

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

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

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 21,000 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

Distribution of Substance - Industrial

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

Product characteristics

Physical state Liquid

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Distribution of Substance - Industrial

General exposures (closed systems)
No specific measures identified.
.
General exposures (closed systems)
Continuous process
Batch process
Ensure material transfers are under containment or extract ventilation.
.
General exposures (open systems)
Batch process
Ensure material transfers are under containment or extract ventilation.
.
Process sampling
Batch process
Ensure material transfers are under containment or extract ventilation.
.
Laboratory activities
Handle in a fume cupboard or under extract ventilation.
.
Bulk transfers
(closed systems)
Dedicated facility
Ensure material transfers are under containment or extract ventilation.
.
Bulk transfers
(open systems)
Dedicated facility
Wear a respirator conforming to EN140 with Type A filter or better.
.
Drum and small package filling
Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
.
Equipment cleaning and maintenance
Non-dedicated facility
Provide enhanced general ventilation by mechanical means.
Transfer via enclosed lines.
Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
.
Storage
General exposures (closed systems)
No specific measures identified.
.
Storage
General exposures (closed systems)
Continuous process
Ensure material transfers are under containment or extract ventilation.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Distribution of Substance - Industrial

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

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.

Exposure scenario
Formulation & (Re)packing of Substance and Mixtures - Industrial

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Formulation & (Re)packing of Substance and Mixtures - Industrial
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC2 Formulation of preparations.
SPERC	ESVOC SpERC 2.2.v1

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation. PROC15 Use as laboratory reagent.

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

Formulation & (Re)packing of Substance and Mixtures - Industrial

Frequency and duration of use

Continuous release.
Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 2.5E-02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 2.0E-03
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 100 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	Provide onsite wastewater removal efficiency of ≥ 79.5%. 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. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

Formulation & (Re)packing of Substance and Mixtures - Industrial

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Formulation & (Re)packing of Substance and Mixtures - Industrial

General exposures (closed systems)
No specific measures identified.
.
General exposures (closed systems)
Continuous process
Batch process
Ensure material transfers are under containment or extract ventilation.
.
General exposures (open systems)
Batch process
Provide extract ventilation to points where emissions occur.
.
Batch processes at elevated temperatures
(closed systems)
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
Ensure material transfers are under containment or extract ventilation.
.
Process sampling
Batch process
Ensure material transfers are under containment or extract ventilation.
.
Laboratory activities
Handle in a fume cupboard or under extract ventilation.
.
Bulk transfers
Dedicated facility
Ensure material transfers are under containment or extract ventilation.
.
Mixing operations
(open systems)
Batch process
Provide extract ventilation to points where emissions occur.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
.
Manual
Transfer from/pouring from containers
Non-dedicated facility
Provide extract ventilation to points where emissions occur.
Avoid carrying out activities involving exposure for more than 4 hours.
.
Drum/batch transfers
Dedicated facility
Provide extract ventilation to points where emissions occur.
.
Production of preparations or articles by tabletting, compression, extrusion, pelletisation
Handle substance within a predominantly closed system provided with extract ventilation.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
.
Drum and small package filling
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
.
Equipment cleaning and maintenance
Non-dedicated facility

Formulation & (Re)packing of Substance and Mixtures - Industrial

Provide enhanced general ventilation by mechanical means.
Drain down and flush system prior to equipment break-in or maintenance.
.
Storage
General exposures (closed systems)
No specific measures identified.
.
Storage
General exposures (closed systems)
Continuous process
Ensure material transfers are under containment or extract ventilation.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

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.

Exposure scenario
Use as a Fuel - Industrial

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use as a Fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 7.12a.v1

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Frequency and duration of use

Continuous release.
Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 5.0E-02

Use as a Fuel - Industrial

Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 21,000 tonne/day Assumed domestic sewage treatment plant flow (m^3/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	Prevent leaks and prevent soil/water pollution caused by leaks. No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Use as a Fuel - Industrial

Bulk transfers
Dedicated facility
Provide extract ventilation to points where emissions occur.
Handle substance within a closed system.
.
Drum/batch transfers
Dedicated facility
Provide enhanced general ventilation by mechanical means.
Use drum pumps or carefully pour from container.
.
General exposures (closed systems)
Handle substance within a closed system.
.
General exposures (closed systems)
Continuous process
Ensure material transfers are under containment or extract ventilation.
Handle substance within a closed system.
.
General exposures (closed systems)
Use in contained batch processes
Ensure material transfers are under containment or extract ventilation.
.
General exposures (closed systems)
Use as a fuel
Provide enhanced general ventilation by mechanical means.
Handle substance within a closed system.
.
General exposures (closed systems)
Batch process
Ensure material transfers are under containment or extract ventilation.
Handle substance within a closed system.
.
Equipment cleaning and maintenance
Non-dedicated facility
Limit the substance content in the product to 25%.
Drain down and flush system prior to equipment break-in or maintenance.
Apply vessel entry procedures, including use of forced supplied air.
Wear suitable coveralls to prevent exposure to the skin.
.
Vessel and container cleaning
Non-dedicated facility
Provide extract ventilation to points where emissions occur.
Apply vessel entry procedures, including use of forced supplied air.
Drain down and flush system prior to equipment break-in or maintenance.
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable gloves tested to EN374.
.
Storage
General exposures (closed systems)
Store substance within a closed system.
.
Storage
General exposures (closed systems)
Continuous process
Provide extract ventilation to material transfer points and other openings.

Use as a Fuel - Industrial

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

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.

Exposure scenario
Use as a Fuel - Professional

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use as a Fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12b.v1

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

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): 1.0E-02

Use as a Fuel - Professional

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

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 380 tonne/day Assumed domestic sewage treatment plant flow (m^3/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 0%.
Water	Prevent leaks and prevent soil/water pollution caused by leaks. No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Use as a Fuel - Professional

Bulk transfers
Dedicated facility
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hours.
Wear a respirator conforming to EN140 with Type A filter or better.
Handle substance within a closed system.
Clear transfer lines prior to de-coupling.
.
Drum/batch transfers
Dedicated facility
Avoid carrying out activities involving exposure for more than 1 hour.
Use drum pumps or carefully pour from container.
.
General exposures (closed systems)
Avoid carrying out activities involving exposure for more than 1 hour.
Use drum pumps or carefully pour from container.
.
General exposures (closed systems)
Dedicated facility
Handle substance within a closed system.
.
General exposures (closed systems)
Continuous process
Ensure material transfers are under containment or extract ventilation.
Handle substance within a closed system.
.
General exposures (closed systems)
Batch process
Ensure material transfers are under containment or extract ventilation.
Provide enhanced general ventilation by mechanical means.
Limit the substance content in the product to 25%.
Handle substance within a closed system.
.
General exposures (closed systems)
Use as a fuel
Ensure material transfers are under containment or extract ventilation.
Handle substance within a closed system.
.
Equipment cleaning and maintenance
Non-dedicated facility
Wear a respirator conforming to EN140 with Type A filter or better.
Drain down system prior to equipment break-in or maintenance.
Wear suitable coveralls to prevent exposure to the skin.
.
Vessel and container cleaning
Non-dedicated facility
Provide extract ventilation to points where emissions occur.
Apply vessel entry procedures, including use of forced supplied air.
Drain down system prior to equipment break-in or maintenance.
Wear suitable coveralls to prevent exposure to the skin.
.
Storage
General exposures (closed systems)
Store substance within a closed system.

Use as a Fuel - Professional

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

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.

Exposure scenario
Use as a Fuel - Consumer

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use as a Fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12c.v1

Non-industrial

Product sub-category	PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use PC13_4 Liquid: garden equipment - refuelling PC13_5 Liquid: lamp oil PC13_6 Liquid: home space heater fuel

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

Product characteristics

Predominantly hydrophobic. Substance is complex UVCB.

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): 1.0E-02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-05

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

Technical measures

Treat air emission to provide a typical removal efficiency of 0%. Prevent leaks and prevent soil/water pollution caused by leaks. No wastewater treatment required. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Risk from environmental exposure is driven by fresh water.

STP type

Municipal STP.

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 96.0%
Removal efficiency (total): 96.0%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 380 tonne/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

Recovery method

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

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

Product characteristics

Physical state

Liquid

Vapour pressure

30 kPa

Concentration details

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

Amounts used

PC13_1 Liquid: automotive refuelling
For each use event, covers use amounts up to 37.5 kg.
.
PC13_2 Liquid: scooter refuelling
For each use event, covers use amounts up to 3.75 kg.
.
PC13_3 Liquid: garden equipment - use
PC13_4 Liquid: garden equipment - refuelling
For each use event, covers use amounts up to 750 g.
.
PC13_5 Liquid: lamp oil
For each use event, covers use amounts up to 100 g.
.
PC13_6 Liquid: home space heater fuel
For each use event, covers use amounts up to 3000 g.

Frequency and duration of use

Use as a Fuel - Consumer

PC13_1 Liquid: automotive refuelling
Covers use up to 52 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 0.05 hours per event.
.
PC13_2 Liquid: scooter refuelling
Covers use up to 52 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 0.03 hours per event.
.
PC13_3 Liquid: garden equipment - use
Covers use up to 26 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 2.00 hours per event.
.
PC13_4 Liquid: garden equipment - refuelling
Covers use up to 26 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 0.03 hours per event.
.
PC13_5 Liquid: lamp oil
Covers use up to 52 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 0.01 hours per event.
.
PC13_6 Liquid: home space heater fuel
Covers use up to 365 days/year.
Covers use up to 1 time(s)/day.
Covers exposure up to 0.03 hours per event.

Human factors not influenced by risk management

Potentially exposed body parts	PC13_1 Liquid: automotive refuelling . PC13_2 Liquid: scooter refuelling . PC13_6 Liquid: home space heater fuel . PC13_5 Liquid: lamp oil : Covers skin contact area up to 210.00 cm². PC13_4 Liquid: garden equipment - refuelling : Covers skin contact area up to 420.00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting	PC13_1 Liquid: automotive refuelling . PC13_2 Liquid: scooter refuelling . PC13_3 Liquid: garden equipment - use : Covers outdoor use.
Room size	PC13_1 Liquid: automotive refuelling . PC13_2 Liquid: scooter refuelling . PC13_3 Liquid: garden equipment - use : Covers use in room size of 100 m³. PC13_4 Liquid: garden equipment - refuelling : Covers use in room size of 34 m³. PC13_5 Liquid: lamp oil . PC13_6 Liquid: home space heater fuel : Covers use in room size of 20 m³.
Ventilation rate	PC13_4 Liquid: garden equipment - refuelling : Covers use in a one car garage (34 m³) under typical ventilation. PC13_5 Liquid: lamp oil . PC13_6 Liquid: home space heater fuel : Covers use under typical household ventilation.

Other given operational conditions affecting Non-industrial exposure

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

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)

Use as a Fuel - Consumer

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.

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.

Exposure scenario
Use in Laboratories - Industrial

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use in Laboratories - Industrial
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation of preparations. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.

Worker

Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

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

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2.5E-02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 2.5E-02
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

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

Risk management measures

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

Use in Laboratories - Industrial

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 10 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 0%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Laboratory activities
Provide enhanced general ventilation by mechanical means.
.
Cleaning
Brush or roller
Application
Handle in a fume cupboard.
Avoid carrying out activities involving exposure for more than 4 hours.
Wear suitable gloves tested to EN374.

3. Exposure estimation (Environment 1)

Use in Laboratories - Industrial

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination.

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.

Exposure scenario
Use in Laboratories - Professional

Identification

Product name	NEXBTL Renewable Naphtha
REACH registration number	01-2119497828-14-XXXX
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use in Laboratories - Professional
Process scope	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.17.v1

Worker

Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

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

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): 0.5
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.5
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.

Use in Laboratories - Professional

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96.0% Removal efficiency (total): 96.0% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.9 kg/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 0%.
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	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Amounts used

Not applicable.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Laboratory activities
Ensure doors and windows are opened.
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Cleaning
Brush or roller
Application
Handle in a fume cupboard or under extract ventilation.
Ensure doors and windows are opened.
Avoid carrying out activities involving exposure for more than 4 hours.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)

Use in Laboratories - Professional

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.

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.