SECTION 1. IdentifiCATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

- Trade name: Virgin naphtha
- Chemical name: Low boiling point petrolic fraction - unspecified
- Other names: Chemical petrol, straight-run gasoline, Eth. Unit petrol; Virgin Naphtha (VN and HVN)
- REACH Registration number: 01-2119471335-39-0090
- Index number: 649-378-00-4
- CAS number: 86290-81-5
- EC number: 289-220-8
- UFI code: not relevant

1.2. The uses the substance is intended for, and uses advised against

1.2.1. Identified uses

Intermediate product for further refinery processing.

1.2.2. Uses advised against

No uses advised against have been determined for registration; at the same time, the product may not be used in any way other than that specified in clause 1.2.1 or subsection 7.3.

1.3. Details on MSDS Supplier

1.3.1. Business Name and Identification No.

ORLEN Unipetrol RPA s.r.o., Záluží 1, 436 70 Litvínov, Czech Republic

CID: 275 97 075
☎: +420 476 161 111
Fax: +420 476 619 553
unipetrolrpa@orlenunipetrol.cz
www.orlenunipetrolrpa.cz

1.3.2. Place of business

	Litvínov Refinery	**Kralupy Refinery**
	Záluží 1	O. Wichterleho 809
	436 01 Litvínov	278 01 Kralupy n/Vlt.
Tel.:	+420 476 163 567	+420 315 718 500
Fax:	+420 476 165 086	+420 315 718 640

1.3.3. Electronic post address of person responsible for the Material Safety Data Sheet:

reach.unirpa@orlenunipetrol.cz

1.4. Emergency telephone number

- ORLEN Unipetrol RPA s.r.o. dispatching Centre ☎:+420 476 163 111 (NON STOP)
- Toxicological Information Centre (TIS) ☎:+420 224 919 293 (NON STOP)
  Na bojišti 1, 120 00 Praha 2, Czech Republic ☎:+420 224 915 402 (NON STOP)
  e-mail: tis@vfn.cz
- Transport Information & Accident System (TRINS) ☎:+420 476 163 111 (NON STOP)

Note: Emergency telephone numbers for EU countries are listed in section 16.

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to CLP Regulation (EC) No. 1272/2008 CLP (CLP 04):

EXTREMELY FLAMMABLE LIQUID, CATEGORY 1; H224	**Flam. liq. 1, H224**
CORROSION/IRRITATION, CATEGORY 2; H315	**Skin irit. 2, H315**
ASPIRATION HAZARD, CATEGORY 1; H304	**Asp. Tox. 1, H304**
REPRODUCTIVE TOXICITY, CATEGORY 2; H361	**Repr. 2, H361**
GERM CELL MUTAGENICITY, CATEGORY 1B; H340	**Muta. 1B, H340**
CARCINOGENICITY, CATEGORY 1B; H350	**Carc. 1B, H 350**
SPECIFIC ASPIRATION HAZARD, CATEGORY 3; H336	**STOT Single Exp. 3, H336**
HAZARDOUS FOR WATER ENVIRONMENTS, CATEGORY 2; H411	**Aquatic Chronic 2, H411**

Notice: The full text of the H-statements marked with a code is given in Section 2.2.

2.2. Label elements

Product identifiers		**VIRGIN NAPHTHA** PETROLIC FRACTION (CRUDE OIL) CAS No.: 86290-81-5
Warning hazard symbol		
Signal word		HAZARD!
H-phrases (standard hazard phrases)	H224 H304 H315 H336 H340 H350 H361 H411	Extremely flammable liquid and vapour. May be fatal if swallowed and enters airways Causes skin irritation May cause drowsiness or dizziness May cause genetic defects May cause cancer Suspected of damaging fertility or the unborn child Toxic to aquatic life with long lasting effects.
P-statements precautionary statements)	P201 P210 P273 P280 P301+310 P331 P403+233	Obtain special instructions before use Keep away from open flames and hot surfaces. – No smoking Avoid release to the environment Wear protective gloves/protective clothing/eye protection/face protection IF SWALLOWED: Immediately call TOXICOLOGICAL INFORMATION CENTRE or doctor/physician. DO NOT INDUCE vomiting. Store in a well ventilated place. Keep container tightly closed.

Additional information	For professional users only
	ORLEN Unipetrol RPA s.r.o. Záluží 1, 436 70 Litvínov, Czech Republic ☎: +420 476 161 111, +420 476 163 111

2.3. Other hazards

Virgin naphtha is a complex mixture of hydrocarbons boiling within the range of 30°C to 210°C. It is harmful - due to its low viscosity, it may cause lung damage if ingested. Naphtha degreases and irritates skin locally. Its vapours can have narcotic effects, cause headache, nausea, and eye and respiratory tract irritation. Petrol vapours form an explosive mixture with air. The product can accumulate static electric charge. The product exhibits long-term adverse environmental effects.

The substance is not included in the Candidate List according to Article 59 (1) of the REACH Regulation due to endocrine disrupting properties.

The meaning of abbreviations used in this section is given in Section 16.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substance

Substance name:	VIRGIN NAPHTHA	
Index Number:	649-378-00-4	
CAS Number:	86290-81-5	
EC Number:	289-220-8	
Components contained in this UVCB substance • *At a concentration ≥ 10% or* • *Affecting the classification of this substance:*	*NAME:*	*IDENTIFICATOR:*
	Benzene (<2,0)	*benzene (index 601-020-00-8, CAS 71-43-2, ES 200-753-7)*
	Toluene (<5,0)	*toluene (index 601-021-00-3, CAS 108-88-3, ES 203-625-9)*
	n-hexane (<2,0)	*hexane (index 601-037-00-0, CAS 110-54-3, ES 203-777-6)*

NOTE: The substance does not contain nanoform

3.2. Mixtures

Not applicable, the product is a substance.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. General instructions

When providing first aid pay attention to self-protection.

Call emergency medical services (☎155 CR, ☎120 EU) and follow their instructions until their arrival. Secure the vital body functions. If the affected person is not breathing normally even after the head has been tilted back (just so that the head is back into the normal, resting position

and no longer tucked down on to the chest) perform resuscitation by compressing the chest to a depth of about 5 cm at a frequency of 100-120 per minute. If you are trained in artificial respiration do 2 insufflations (known as rescue breaths) after every 30 chest compressions. Do not stop the heart massage until the rescue service arrives.
If the person is in unconscious or if he/she has spasms, do not put anything in his/her mouth, just put him/her into a stabilised position.

4.1.2. When inhaled

Move the victim to fresh air, do not let him /her get cold and seek medical advice.

4.1.3. Skin contact

Remove contaminated clothing and shoes. Wash off affected areas thoroughly with water (preferably lukewarm) and soap. In the case of persistent irritation symptoms seek medical advice. In case of burns, do not remove the product, cover the affected area with sterile gauze (or a clean cloth) and immediately seek medical advice.

4.1.4. Contact with eyes

Immediately flush the eyes with wide open lids under running warm water for at least 15 minutes. If the victim wears contact lenses, remove them before flushing. Seek medical advice.

4.1.5. When ingested

NEVER INDUCE VOMITING! Rinse mouth with water only. If vomiting occurs spontaneously, keep the victim's head below its hips to prevent aspiration. Seek medical help as quickly s possible.

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

Depending on the size of the exposure, the substance may cause headache, nausea, dizziness, difficulty with breathing, apneusis, convulsions and unconsciousness. If swallowed, spontaneous vomiting may occur, with the risk of lung penetration (aspiration) and pulmonary edema (chemical pneumonia), which may cause death. Direct eye or skin contact may cause transient irritation. The skin's longer exposure to the substance can result in dry skin and subsequent dermatitis.

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

In case of contact with eyes or if swallowed seek medical attention promptly.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: heavy foam, spray or water mist.

Unsuitable extinguishing media: Direct water jet.

Extinguishing small fires: extinguishing powder or snow, dry sand or extinguishing foam.

5.2. Special hazards arising from the substance or mixture

Vapours are heavier than air, therefore they accumulate and spread over and close to the ground, and may, at a greater distance from the source of leakage, cause a rebound after initiation and subsequent explosion and/or fire. This risk is particularly threatening in areas below ground level or in confined spaces. Combustion may result in toxic and irritating smoke containing carbon monoxide and unburned hydrocarbons.

5.3. Advice for fire-fighters

Minimize the penetration of the extinguishing liquid polluted with substance into sewage, surface water, groundwater and soil.
Use water spray to keep the containers cool in order to prevent an explosion caused by the heat.

Do not use foam and water at the same time because water dissolves the foam.
Protective equipment for fire fighters: full protective gear and self-contained close-circuit breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Close the scene of the accident and prevent access to the danger area. Stay upwind. In the event of leakage of this product there is a risk of fire and therefore remove all possible ignition sources, do not smoke or handle open fire. If possible, ensure adequate ventilation of enclosed spaces. Avoid formation of dust from solid product. Avoid contact with the substance, its dust and with its vapours. In the aftermath of an incident / accident use all recommended personal protective equipment (see subsection 8.2). In the event of major accidents evacuate people from around the danger area. In areas below ground level and enclosed areas (including sewerage) there is a risk of explosion of vapour in case of initiation.

6.2. Environmental precautions

Prevent further spillage of the substance and fence off the leakage point. Prevent substance entering drains, surface and ground water by covering back-inlet gulleys. Do not allow the substance to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

The leakage of the product creates the risk of fire, therefore use explosion-proof lamps and electrical equipment and non-sparking tools. Absorb scattered material mechanically (e.g. sand, earth, kieselguhr, vermiculite) and put it into suitable dry sealed container for further treatment or later disposal. Dispose in accordance with applicable waste legislation (see section 13).

In the event of a large leakage of the product into the water, use the retaining walls and collect the substance from the surface using level pickers (strainers) or cover the leaked substance with a sorbent and remove the saturated sorbent from the surface by scraping or suction. Consult specialist before using any dispersants.

6.4. Reference to other sections

For recommended personal protective aids - see Subsection 8.2 (“Exposure controls”). For recommended manner of removing waste - see Section 13 (“Disposal considerations”).

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep the substance and empty containers (may contain product residues) in well-ventilated areas and observe all fire precautions (smoking bans, prohibition of open flame, removal of all possible sources of ignition). Do not carry out activities such as welding, cutting, grinding, etc. in the vicinity of packaging (even empty). Do not use compressed air to fill, empty or other handling. Prevent creation of static discharges.

General hygiene measures: Observe personal hygiene rules. Immediately remove the contaminated clothing. Do not eat, drink or smoke at work! After work and before eating or drinking, thoroughly wash your hands and uncovered parts of the body with water and soap, or treat with a suitable repairing cream. Do not place contaminated clothing, footwear, and protective equipment in the eating area.

7.2. Conditions for safe storage, including any incompatibilities

Warehouses must meet the fire safety requirements of buildings and electrical equipment to comply with applicable regulations. Store in a cool, well-ventilated place with efficient suction away from sources of heat and ignition sources. Storage containers must be sealed and properly labelled and grounded. We recommend soft or stainless steel as suitable materials for packaging. Do not store near incompatible materials such as oxidizing agents (oxygen, air, etc.) or other flammable materials

7.3. Specific end use(s)

Virgin naphtha is mainly used as a raw material for further refinery processing. The virgin naphtha may only be used in accordance with the relevant operating documentation. It shall not be used as fuel, cleaning agent, for lighting, heating or kindling. Never drain into sewers..

SECTION 8. SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

The following Permissible Exposure Limits (PELs) and Maximum Allowable Concentrations (NPK-P) of Chemicals in the Atmosphere of Workplaces within the Czech Republic are set by the Government Regulation No. 361/2007 Coll., determining conditions of occupational health protection, as amended:

Name	CAS number	PEL [mg.m^{-3}]	NPK-P [mg.m^{-3}]	Note
Petrol (technical mixture of hydrocarbons)	86290-81-5	400	1000	

Components contained in the substance	*NAME / CAS NUMBER:*	*PEL [mg.m^{-3}]*	*NPK-P [mg.m^{-3}]*
	Benzene / 71-43-2	*3*	*10*
	Toluene /108-88-3	*200*	*500*
	n-hexane /110-54-3	*70*	*200*

Note: 1: See section 16 for the explanation of the meaning of the PEL and NPK-P abbreviations
Note: 2: Occupational exposure limit values for EU countries are listed in section 2. 16.

8.1.2. DNEL/DMEL values

DNEL values used for the assessment:

DNEL (dermal route of exposure): 100 µg/kg/day
DNEL (inhalation route of exposure): 928 µg/kg/day or 3.25 mg/m3

Note: See section 16 for the explanation of the meaning of the DNEL/DMEL abbreviations.

8.1.3. PNEC values

PNEC (secondary exposure, oral): 8.77 mg/kg

Note: See section 16 for the explanation of the meaning of the DNEL/DMEL abbreviations

The derivation of specific PNECs based on experimental data obtained by testing the modified aqueous fraction containing WAF ("Water accommodated Fraction") is not suitable for UVCBs of the hydrocarbon type. The environmental product risk characterization was therefore determined by the statistical carbon block method of extrapolation of HC5 using the PETROTOX v.3.05 model.
The environmental product risk characterization was therefore determined by the statistical carbon block method of extrapolation of HC5 using the PETROTOX v.3.05 model.

8.1.4. Recommended procedure for monitoring the concentrations in the working environment: gas chromatography (GC) with a flame ionisation detector (FID) or mass spectrometer (MS) according to the technical standards ČSN EN 689 and ČSN EN 482.

8.2. Exposure control

8.2.1. Technical protective measures for limiting the exposure of people and the environment

Exposure control of unwanted exposure of humans and the environment shall be secured by keeping the substance under strict control using technical aids and procedural and control technologies, which reduce emissions and consequent exposure, with the objective to prevent releases of the substance vapours in the air, penetration of the substance to water and soil and possible exposure of people. Areas, where the substance is handled and stored, shall be furnished with impermeable floors and catchment basins for the cases of emergency leaks of the substance. It is necessary to secure general and local ventilation and an efficient exhaust system

8.2.2. Individual protective measures

If there is a risk of increased exposure or if an accident or extraordinary event causes increased exposure in the course of handling the product, employees must have access to personal protective measures (PPM) for the protection of airways, eyes, hands and skin, depending on the nature of the performed activities. Suitable protection for airways must also be available where it is not technically possible to ensure the adherence of exposition limits identified for the work environment or to ensure that exposure via airways will not affect the health of people. During a continuous use of these measures during permanent work it is necessary to include safety breaks if the nature of the PPM requires them. All PPM need to be kept in usable condition and damaged or contaminated ones need to be immediately replaced**.**

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE) :
(the specific type of protective equipment must be chosen according to the type of activity being carried out while taking into account the quantity and concentration of the dangerous substance / mixture at the workplace)

- ***Respiratory protection:*** protective mask compliant with EN 143 with a combined filter against organic vapours in case of insufficient ventilation and/or local exhaustion and product leakage; use insulation breathing apparatus in addressing the consequences of an emergency /breakdown;
- ***Eye/face protection:*** protective chemical goggles compliant with EN 166;
- ***Hand protection:*** chemically resistant gloves tested according to EN 374, e.g. the following materials are suitable:

	Glove material	*Material thickness*	*Penetration time*
Regular work activities (staining risk)	Natural latex	1 mm	120 minutes
Leak / accident liquidation	Nitrile	0.4 mm	480 minutes

- ***Protection of other body parts:*** Antistatic, inflammable protective clothes, antistatic shoes;
- ***Thermal risk:*** Not relevant for the intended use.

- ***Other measures:*** We recommend that the workplace is equipped with a safety shower and eye rinse facilities.

8.2.3. Environmental exposure controls

Avoid product leakage to the environment with all available means. See section 6.2.

SECTION 9. SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

The in

attribute	unit	value	source/method	note
state of matter		liquid	CSR	at 20°C
colour		colorless		
odour		typically gasoline		
melting point / freezing point	[°C]	<-20	CSR	
initial boiling point / boiling point range	[°C]	<20	CSR	influence of variable composition of UVCB
flammability		flammable substance	CSR	Flammability classification
upper explosive limit	%	7,6	CSR	
lower explosive limit	%	1,4	CSR	
flash point	[°C]	<0	CSR	
spontaneous ignition temperature	[°C]	280-470	CSR	
decomposition temperature		does not decompose at normal operating temperatures		CSR does not state
pH		not relevant (non-polar substances)		CSR does not state
viscosity kinematic	[$mm^2.s^{-1}$]	<1,0	CSR	at 40°C

attribute	unit	value	source/method	note
solubility in water	[mg.l^{-1}]	slight		CSR does not state
relative density	water=1	0,62-0,88	CSR	at 15°C
distributive coefficient: n-octanol/water	[log Koc]	1,99-5,74	CSR	
vapour pressure	[Pa]	0,4-240	CSR	at 40°C
relative vapour density	air=1	3-4	North Carolina Department of Insurance	CSR does not state
particle characteristics		-		not applicable - it is a liquid

formation is taken from the registration dossier (RD) unless otherwise stated.

9.2. Other information

9.2.1 Information concerning physical hazard classes
Flammable liquid
9.2.2 Other safety characteristics
Not available.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable under normal conditions.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

When burning in the absence of air, carbon monoxide may be released.

10.4. Conditions to avoid

Creation of concentrations within limits of explosivity, presence of ignition sources, contact with open fire.

10.5. Incompatible materials

Oxidizers.

10.6. Hazardous decomposition products

Under normal conditions none; when burning in the absence of air, carbon monoxide and carbon black can be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

11.1.1. Toxicological effects of the substance / mixture

HAZARD CLASS	DATA FROM REGISTRATION DOCUMENTATION		EVALUATION
	DESCRIPTION	RESULT	
Acute toxicity	Oral (OECD 401): Inhalation (OECD 403): Dermal (OECD 402):	LD_{50} > 5000 mg/kg LC_{50} > 5610 mg/m^3 LD_{50} > 2000 mg/kg	Does not meet the classification criteria
Skin corrosion/irritation	Product and contained component tests (OECD 404)	Irritates the skin	Meets the classification criteria
Serious eye damage/irritation	Product and contained component tests (OECD 405)	The product does not irritate the eyes	Does not meet the classification criteria
Sensitisation	Product and contained component tests (OECD 406)	Product or its components do not cause allergic reactions	Does not meet the classification criteria
Germ cell mutagenicity	OECD 476	Components exhibit mutagenic properties	Meets the classification criteria
Carcinogenicity	Tests	Based on ingredients, the substance is evaluated as a carcinogen (benzene content above 0.1%)	Meets the classification criteria
Reproductive toxicity	1 / Fertility: 2 / prenatal developmental toxicity:	Based on the ingredients content, the substance is evaluated as suspected of reproductive toxicity (toluene content above 3%)	Meets the classification criteria
STOT-single exposure	Acute toxicity tests (oral, dermal, inhalation) 1 / oral: 2 / dermal 3 / inhalation:	Toluene exhibits neurotoxic effects	Meets the classification criteria
STOT-repeated exposure	1 / oral: 2 / dermal 3 / inhalation:	No undesirable effects were observed.	Does not meet the classification criteria
Aspiration hazard		The product caused damage to lungs and could result in death when ingested or when it enters respiratory tract at the kinematic viscosity below 20.5 mm^2/s (40°C)	Meets the classification criteria

11.1.2. Information on likely routes of exposure

There is no danger of exposure for identified use as an intermediate product and when stored and handled in compliance with strictly controlled conditions. Inhalation might be a significant way of exposure during emergency events and accidents.

11.1.3. Symptoms and effects (acute, delayed and chronic after short-term and long-term exposure)

Depending on the size of the exposure, the substance may cause headache, nausea, sleepiness, dizziness, irritation of the airways associated with cough or even difficulty in breathing, cramping and unconsciousness. If swallowed, spontaneous vomiting may occur with the risk of penetration of the substance into the lungs (aspiration) and the development of lung inflammation (chemical pneumonia), which can cause death. Direct contact with eyes or skin may cause irritation. Prolonged skin contact can result in dry and cracked skin. The substance may induce heritable genetic changes and cause or contribute towards the onset of cancer in human beings.

11.1.4. Interactive effects

There are no interactions for identified use.

11.1.5. Toxicokinetics

Benzene easily penetrates into the body through the unprotected skin. At low doses, it is rapidly metabolised and excreted in the form of its metabolites in the urine. At higher exposure levels, much of the absorbed dose of benzene is excreted in exhaled air.

Toluene and xylenes penetrate the body primarily by inhaling their vapours. Most vapours are metabolised and excreted in the urine.

11.2. Information on other hazards

The Substance is not included in the Candidate List under Article 59 (1) of the REACH (due to endocrine disrupting properties or for any other reason).

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Water environment	Fish	LL_{50} (96 h, invertebrates) = 8.2 mg/l	Pimephales promelas.
	Invertebrates	EL_{50} (48 h, invertebrates) = 4.5 mg/l	Daphnia magna
	Algae	EL_{50} (72 h, algae) = 3.1 mg/l	Pseudokirchnerella subcapitata
Microbiological activity (STP)	Activated sludge	LL_{50} (72 h, Tetrahymena pyriformis) = 15.41 mg/l	

Note: See Section 16 for the explanation of LC_{50}, EL_{50} and LL_{50} abbreviations.

12.2. Persistence and degradability

The product is not readily biodegradable.

12.3. Bioaccumulative potential

Due to the fact that the value of the n-octanol / water partition coefficient (log Kow) is in the range of 1.99 - 5.74 (partly greater than 3), a strong bioaccumulation of the product is assumed.

12.4. Mobility in soil

The calculated log Koc = 1.71 to 4.75 means that it is possible to assume a strong sorption of the product in the soil.

12.5. Results of PBT and vPvB assessment

It is not appropriate to compare this UVCB hydrocarbon substance with the criteria in Annex XIII to REACH Regulation (EC) No 1907/2006 as a whole. Consequently, it was concluded in the

assessment of the components that the product fulfils the T (toxic) criterion but does not meet the criteria of persistence and bioaccumulation nor the high persistence and high bioaccumulation according to Annex XIII of REACH Regulation (EC) No 1907/2006 and is therefore not identified as a substance PBT (P-persistent, B-bioaccumulative and T-toxic) and as vPvB (vP-very persistent, vB-very bioaccumulative).

12.6. Endocrine disrupting properties

The Substance is not included in the Candidate List under Article 59 (1) of the REACH due to endocrine disrupting properties.

12.7. Other adverse effects

It forms a coherent layer on the surface of the water preventing access to oxygen. The product is within the meaning of Annex 1 of the Water Act No. 254/2001 Coll. considered to be a hazardous substance. It does not contain ozone-depleting substances under the Montreal Protocol and the Copenhagen Amendment to it.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

If a residue of the product (e.g. unused or escaped product) has to be removed, the applicable European Union legislation and national and local regulations must be observed. Hand over the waste to a qualified entity with the appropriate authorization.

Recommended waste classification pursuant Decision 2000/532 / EC on the list of wastes covered by Directive of the European Parliament and of the Council (Waste Catalogue)

Catalogue number for products that have become waste:

13 07 02* Motor petrol

05 01 05* Leaked (spilled) petroleum substances
16 03 05* Organic waste containing dangerous substances

Catalogue number for leaked product absorbed into an absorption agent (e.g. vapex):

15 02 02* Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances.

Catalogue number for soil contaminated by leaked product:

17 05 03* Soil and stones containing dangerous substances.

13.1.1. Recommended waste removal method

Deliver the unusable remainder of the product for disposal to a professionally qualified person with the appropriate authorization. Recommended removal method: Energy utilization (incineration).

13.1.2. Disposal methods

The disposal of waste and unused residues is carried out in accordance with valid waste legislation, usually by incineration in incinerators designated for that purpose. Land-filling is inappropriate.

13.1.3. Recommended methods of contaminated containers disposal

Virgin naphtha is usually delivered in rail or road tankers. Decontamination and disposal of these packages are governed by the applicable ADR/RID regulations.

ADVICE: This information relates to the supplied, unused material. In the event that the waste becomes a material already used, it is the waste producer to assign it the code according to the sector and the process of the use and determine the method of disposal.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number or ID-number

1203

14.2. UN proper shipping name

NAPHTHA

14.3. Transport hazard class(es)

3

14.4. Packing group

II

14.5. Environmental hazards

HARMFUL TO THE ENVIRONMENT

14.6. Special precautions for user:

None

14.7. Maritime bulk transport according to IMO instruments

Not applicable. The product is transported by pipeline or in railway tank wagons and road tankers

14.8. Other information

Hazard identification number: 33
Classification code: F1
Safety labels: 3

SECTION 15. REGULATORY INFORMATION

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

15.1.1. European Union

Regulation of the European Parliament and Council (EC) No. 1907/2006 (REACH), as amended

REGISTRATION (TITLE II OF THE REACH REGULATION):
The product has been registered as a substance
AUTORISATION (TITLE VII OF THE REACH REGULATION)
the product is not on the list of substances in Annex XIV to Regulation (EC) No 1907/2006 REACH and is therefore not subject to authorization
RESTRICTION (TITLE VIII OF THE REACH REGULATION)
the product may not be placed on the market for sale to the public, with the exception of cosmetic products, pharmaceuticals and fuels as defined in Record No 28 of Annex XVII to Regulation (EC) No 1907/2006 REACH

Regulation of the European Parliament and Council (EC) No. 1272/2008 (CLP), as amended

The product has been classified in compliance with the stated regulation, packaging and labelling obligations of dangerous chemicals only apply to the product if it is marketed in packaging subject to its labelling according to CLP regulation Regulation of the European Parliament and Council (EC) No. 649/2012 on the export and import of dangerous chemicals, as amended

The product is not subject to special import or export restrictions

Decision 2000/532 / EC on the list of wastes covered by Directive of the European Parliament and of the Council

15.1.2. Czech Republic

Act No. 350/2011 Coll. on Chemical Substances and Chemical Mixtures, as amended

The product is not subject to the obligation of notification to CHLAP ("Chemical Substances and Preparations") information system, Act No. 258/2000 Coll. on the Protection of Public Health, as amended;

The product is not subject to the obligation to prepare the Rules for safe handling

Act No. 254/2001 Coll., on Water, as amended

Act No. 201/2012 Coll., on Air Protection, as amended

Act No. 541/2020 Coll., on Waste, as amended

Decree of Ministry of Environment No. 93/2016 Coll. on Waste Catalogue, as amended

Governmental decree No. 361/2007 Coll., laying down occupational health and safety conditions

Act No. 224/2015 Coll., on prevention of serious accidents caused by selected dangerous chemical substances or mixtures

15.2. Chemical safety assessment

The chemical safety assessment was carried out when the substance was registered. Substance meets the criteria for classification as hazardous according to Regulation (EC) No 1272/2008 CLP. The exposure assessment followed by the risk characterization has been performed.

SECTION 16. OTHER INFORMATION

Changes adopted as a part of the revision process

Changes in this version of the safety data sheet are indicated by a black and red vertical line to the left of the text.

20.4.2023 In section 9, the term "ignition point" was replaced by the term "flash point".

Acronyms and abbreviations used in the text

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Registration number assigned to the substance by the Chemical Abstracts Service of the American Chemical Society
CLP	EU Directive No. 1272/2008 on Classification, Labelling and Packaging of chemical substances and mixtures, which is implemented into the European legislature by means of GHS (United Nations´ Globally harmonized System) for classifying and labelling chemical substances
CMR	Carcinogenic, mutagenic or toxic for reproduction
ČSN EN (ISO)	European standard incorporated into the Czech technical standards
CSR	Chemical Safety Report
DMEL	Derived Minimal-Effect Level - an exposure level that corresponds to a low and possibly theoretical risk, which should be considered as an acceptable risk (for thresh-holdless effects, i.e. there is no exposure level without effect)

DNEL	Derived No-Effect Level - level of exposure derived from toxicological data that does not produce any adverse effects on human health
DW	Data waiving
EC_{50}	Effective concentration EC_{50} is the concentration of substance that causes immobilization of 50% of individuals
ErC_{50}	Effective concentration EC_{50} is the concentration of substance that causes 50 % decrease of Algae growth
ECHA	European Chemicals Agency
EL_{50}	Effective Loading Rate of the test substance which would cause 50% immobilisation in a population of test organisms over a specified exposure period
ES	Official number of the chemical substance in the European Union: EINECS from the European Inventory of Existing Commercial Substances, or ELINCS from the European List of Notified Chemical Substances, or NLP from the No Longer Polymer list
HSDB	Hazardous Substances Data Bank
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
IC_{50}	Inhibition concentration IC_{50} that causes inhibition of 50% of individuals
ICAO	International Civil Aviation Organization
ICE	"Intervention in Chemical Transport Emergencies" system providing both professional and practical assistance in dealing with emergency situations related to the transport and storage of hazardous chemicals
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organisation
ISO	International Organization for Standardization
LC_{50}/LD_{50}	Lethal concentration/level is the concentration/level of substance that causes mortality of 50 % individuals
LL_{50}	Loading rate of test substance resulting in 50% mortality
LOEC/LOEL	Lowest Observed Effect Concentration/Level

log Koc	Logarithmic values of the organic carbon/water partition coefficient
log Kow	Logarithm of distribution coefficient n-octanol/water
MARPOL	International convention on preventing boat pollution, as amended by the 1978 protocol
nf	Not feasible
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
NPK-P	The highest permitted concentration of the chemical substance in the air (the concentration of the substance that a worker may be exposed to for a maximum of 15 minutes but which must never be exceeded)
OECD	Organization for Economic Co-operation and Development
OOP/PPE	Personal protective equipment
OSN/UN	United Nations
(Q)SAR	Quantitative Structure-Activity Relationship
PBT, vPvB	Persistent, bioaccumulative and toxic; very persistent and very bioaccumulative
PEL	The Permissible Exposure Limit is the maximum amount of concentration of a chemical in the air that an employee may be exposed to during the entire working shift (8 hours), without incurring the risk of adverse health effects during the lifetime of the occupational exposure)
PNEC	Predicted No Effect Concentration
REACH	EU Directive No. 1907/2006 on Registration, Evaluation and Authorization of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet(s)
STOT	Specific Target Organ Toxicity
su	Scientifically Unjustified

TRINS	Transport Information and Accident System of the Czech Republic, providing professional and practical assistance in dealing with emergency situations related to transport and storage of hazardous chemical substances, included in ICE
UACRON	Chemical database (The University of Akron).
UN number	The four-digit identification number of the substance or object identifying hazardous material in international transport
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials)

Data sources used for preparing the material safety sheet

Annexes I, IV, VI and VII to Regulation (EC) No. 1272/2008 CLP, as amended
Principles for providing first aid upon being exposed to chemical substances (doc. MUDr. Daniela Pelclová and team)
Substance registration documentation pursuant to Regulation (EC) No. 1907/2006 REACH. Decision of the European Chemicals Agency (ECHA) No. SUB-D-2114324145-60-01/F on registration pursuant to Directive (EC) No. 1907/2006 REACH
CONCAWE_Naphtha_Chemical_Safety_Report_part B

Training instructions

Persons handling the product must be advised of the risks involved in handling the product and the health and environmental protection requirements (see applicable provisions of the Labour Code).

Access to information

Pursuant to Article 35 of Directive (EC) No. 1907/2006 REACH, every employer is obliged to allow access to the information stated on the given material safety sheet to all workers who use this product or are exposed to its impacts during work; the same applies to representatives of the workers.

Occupational exposure limit values for EU countries (see point 8.1.1)

Data for Virgin Naphtha (CAS number 86290-81-5)

Name	Country	8-hour limit [mg.m^{-3}]	Short-term limit [mg.m^{-3}]
Virgin Naphtha	European Union (Regulation No. 2000/39/EC)	**The limit values for the substance as such are not specified**	
	Hungary		
	Germany		
	Poland		

8-hour limit: the measured or calculated value in relation to the eight-hour reference period as the time-weighted average

Short-term limit: The limit value above which exposure should not occur and which corresponds to 15 minutes

Emergency telephone number for EU countries (see subsection 1.4)

National Centres (NON-STOP)		**TOXICOLOGY (First aid information)**	**ICE (Information from SDS)**	
Belgium		☎+32/70245245	Belintra	☎+32/35699232
Bulgaria		☎+359/29154378		
Croatia		☎+385/12348342		
Czech Republic		☎+420/224-919293; 915402	TRINS	☎+420/47 6163111; 6163267
Denmark		☎+45/82121212	PIBF/RVK	☎+45/45906000
Estonia		☎+372/6269379		
Finland		☎+358/9471977		
France		☎+33/(0)140054848	Transaid	☎+33/298331010
Ireland		☎+353/18092566		
Italy		☎+39/063054343	SET	☎+39/0362512868
Cyprus		☎+357/1401		
Lithuania		☎+370/52362052		
Latvia		☎+371/67042473		
Luxemburg		☎+32/70245245 (see Belgium)		
Hungary		☎+36/80201199	VERIK	☎+36/23552205
Malta		☎+356/21450000		
Germany		☎+49/3019240	TUIS	☎+49/6216043333

National Centres (NON-STOP)		TOXICOLOGY (First aid information)	ICE (Information from SDS)	
The Netherlands		☎+31/302748888	TRC	☎+31/102468642
Poland		☎+48/226196654	SPOT	☎+48/243657032
Portugal		☎+351/808250143		
Austria		☎+43/14064343	TUIS	☎+49/6216043333
Greece		☎+30/2107793777		
Romania		☎+40/212106282		
Slovakia		☎+421/254774166	DINS	☎+421/317754112; 2771
Slovenia		☎+386/41635500		
Spain		☎+34/915620420	CERET	☎+34 915373 248; 238
Sweden		☎+46/(0)104566700	KEMIAKUTEN	☎+46/8337043; 170970
Great Britain		☎ 8448920111	Chemsafe	☎+44/123 5836002; 5753363

Declaration: The material safety sheet has been prepared in compliance with Directive (EC) No. 1907/2006 REACH. It includes data that are necessary for securing occupational health and safety and the protection of the environment. These data have been provided in good faith, correspond to the current state of knowledge and experience and are in accordance with our valid legal regulations The data provided does not replace the quality specification and cannot be considered as a guarantee of the suitability and usability of this product for a specific application. It is the responsibility of the product user to assess the accuracy of the information in a particular application where the product's properties can influence different factors. The consumer is responsible for compliance with the appropriate, regionally valid legal regulations.

ANNEX TO SAFETY DATA SHEET

EXPOSURE SCENARIOS REFERRED TO IN ARTICLE 31 OF REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH)

The annex contains the exposure scenarios applied from chapter 9 of the Chemical Safety Report submitted at the registration of Virgin Naphtha that are processed for the production and identified uses of Virgin Naphtha

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1. Manufacture

Section 1	
Title	
01 - Manufacture of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they

	occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems). + CS54 Continuous process.	Handle substance within a closed system. E47.
CS15 General exposures (closed systems). + CS55 Batch process.	Handle substance within a closed system. E47. Ensure operation is undertaken outdoors. E69.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending

	disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.

Section 3 Exposure Estimation

3.1. Health

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. 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. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.

Section 1

Title

01 - Manufacture of substance

Use Descriptor

Sector(s) of Use	
Process Categories	
Environmental Release Categories	1
Specific Environmental Release Category	ESVOC SpERC 1.1.v1

Processes, tasks, activities covered

Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

Assessment Method

See Section 3.

Section 2 Operational conditions and risk management measures

Section 2.2 Control of environmental exposure

Product characteristics

Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]

Amounts used	
Fraction of EU tonnage used in region	0,1
Regional use tonnage (tonnes/year)	1,1E+07
Fraction of Regional tonnage used locally	4,4E-01
Annual site tonnage (tonnes/year)	5,0E+06
Maximum daily site tonnage (kg/day)	1,7E+07
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5,0E-03
Release fraction to wastewater from process (initial release prior to RMM)	1,9E-05
Release fraction to soil from process (initial release prior to RMM)	0.0001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment. [TCR1b]	
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]	
If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9]	
Treat air emission to provide a typical removal efficiency of (%)	9,0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	95,7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0,0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,1
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,8E+07
Assumed domestic sewage treatment plant flow (m3/d)	1,0E+04
Conditions and measures related to external treatment of waste for disposal	
During manufacturing no waste of the substance is generated. [ETW4]	
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated. [ERW2]	
Section 3 Exposure Estimation	
3.2. Environment	

The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. 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. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2] Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	5,9E-01
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9,1E-01

2. Intermediate

Section 1	
Title	
01b - Use of substance as intermediate (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	8, 9
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of substance as an intermediate. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid

Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.

CS15 General exposures (closed systems).	Handle substance within a closed system. E47. Ensure operation is undertaken outdoors. E69.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.

Section 3 Exposure Estimation

3.1. Health

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. 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. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.

Section 1

Title

01b - Use of substance as intermediate

Use Descriptor

Sector(s) of Use	
Process Categories	
Environmental Release Categories	6a
Specific Environmental Release Category	ESVOC SpERC

	6.1a.v1
Processes, tasks, activities covered	
Use of substance as an intermediate. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0,1
Regional use tonnage (tonnes/year)	6,3E+05
Fraction of Regional tonnage used locally	2,4E-02
Annual site tonnage (tonnes/year)	1,5E+04
Maximum daily site tonnage (kg/day)	5,0E+04
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	2,5E-02
Release fraction to wastewater from process (initial release prior to RMM)	1,3E-03
Release fraction to soil from process (initial release prior to RMM)	0.001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment. [TCR1b]	
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]	
If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9]	
Treat air emission to provide a typical removal efficiency of (%)	8,0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	95,7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0,0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,1

Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,1
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5,5E+04
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and measures related to external treatment of waste for disposal	
This substance is consumed during use and no waste of the substance is generated. [ETW5]	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of the substance is generated. [ERW3]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. 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. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2] Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	7,7E-02
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9,1E-01

3. Distribution

Section 1	
Title	
01a - Distribution of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk 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, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear

	respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems). OC9 Outdoor.	Handle substance within closed systems. E47.
CS2 Process sampling	Sample via a closed loop or other system to avoid exposure. E8.
CS36 Laboratory activities.	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS501 Bulk closed loading and unloading.	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. 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. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks	

are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not enable the derivation of a DNEL for carcinogenic effects. G33. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	
Section 1	
Title	
01a - Distribution of substance	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	4, 5, 6a, 6b, 6c, 6d, 7
Specific Environmental Release Category	ESVOC SpERC 1.1b.v1
Processes, tasks, activities covered	
Bulk 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, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0,1
Regional use tonnage (tonnes/year)	1,1E+07
Fraction of Regional tonnage used locally	2,0E-03
Annual site tonnage (tonnes/year)	2,1E+04
Maximum daily site tonnage (kg/day)	7,1E+04
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1,0E-03
Release fraction to wastewater from process (initial release prior to RMM)	1,0E-05
Release fraction to soil from process (initial release prior to RMM)	0.00001

Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater. [TCR1a]	
No wastewater treatment required [TCR6]	
Treat air emission to provide a typical removal efficiency of (%)	9,0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	0,0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0,0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,1
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	2,6E+06
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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. [ETW3]	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. 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. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2] Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	6,1E-03
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	2,7E-02