SIBUR-KHIMPROM JSC

SAFETY DATA SHEET

According to Regulations (EC) 1907/2006 (REACH), (EC) 1272/2008 (CLP) & (EU) 2015/830

NAPHTHA

Version: 3.0
Date created: 24/04/2018

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

1.1. Product identifier

Product form:	Substance
Substance name:	Solvent naphtha (petroleum), light aliph.
Chemical name:	Solvent naphtha (petroleum), light aliph.
EC index No.:	649-267-00-0
EC No.:	265-192-2
CAS-No.:	64742-89-8
REACH registration No:	01-2119471306-40-0001
Formula:	Not applicable
Synonyms:	Low boiling point naphtha, Gasoline
Trade names:	Naphtha, Gasoline

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

1.2.1. Relevant identified uses

Use of the substance/mixture:	Use of substance as intermediate Distribution of substance For the detailed identified uses of the product see Annex.

1.2.2. Uses advised against

Restrictions on use:	Uses other than those given in section 1.2.1 are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled

1.3. Details of the supplier of the safety data sheet

Only representative

Company name:	Gazprom Marketing and Trading France
Address:	68 avenue des Champs-Elysées, 75008, Paris, France
Contact Telephone:	+33 1 42 99 73 50
Fax:	+33 1 42 99 73 99
Email Address:	didier.lebout@gazprom-mt.com

Manufacturer

Company name:	Sibur-Khimprom JSC
Address:	98, Promishlennaya str., Perm, Perm region, 614055, Russian Federation
Contact phone:	+7 3422 90-89-01 (Moscow, 7.00 to 15.00) - Chief Engineer
Fax:	+7 3422 90-86-60
Email Address:	mail-shp@sibur.ru
Emergency Telephone:	+7 3422 90-87-05 (round the clock)
Importer:	List of importers is available with the Only Representative

1.4. Emergency telephone number

Emergency phone in the country of delivery	**112** (*Please note that emergency numbers may vary depending upon the country of delivery though 112 remains valid as universal number*

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Flam. Liquid 1	H224
Asp. Tox. 1	H304
Skin Irrit. 2	H315
STOT Single Exp. 3	H336
Muta. 1B	H340
Carc. 1B	H350
Repr. 2	H361f
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

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

Hazard pictograms (CLP):

GHS02 GHS07 GHS08 GHS09

Signal word (CLP): **Danger**

Hazard statements (CLP):
H224: Extremely flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
Affected organs: Central nervous system. Route of exposure: Inhalation
H340: May cause genetic defects.
H350: May cause cancer.
H361: Suspected of damaging fertility
H411: Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):
P201: Obtain special instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/…
P331: Do NOT induce vomiting.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

EUH-statements: None.

Additional labelling requirements:	Restricted to professional users due to classification as mutagenic Category 1B and carcinogenic Category 1B.

2.3. Other hazards

Other hazards not contributing to the classification:	No other hazards identified.
Assessment PBT / vPvB:	According to Annex XIII of Regulation (EC) No.1907/2006 (REACH): - not fulfilling PBT (persistent/bioaccumulative/toxic) criteria; - not fulfilling vPvB (very persistent/very bioaccummulative) criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Naphtha is a complex combination of hydrocarbons obtained from the distillation of crude oil or natural gasoline. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 35 °C to 160 °C.

Name	Product identifier	%	Classification [CLP]
Solvent naphtha (petroleum), light aliph.	(CAS-No.) 64742-89-8 (EC No.) 265-192-2 (EC index No.) 649-267-00-0 (REACH-no) 01-2119471306-40-0001	100	H224; H304; H315; H336; H340; H350; H361f; H411
Including substances affecting general product classification and labelling:			
Benzene	(CAS-No.) 71-43-2 (EC No.) 200-753-7 (EC index No.)	0.2-1.6	H225; H304; H315; H319; H340; H350; H372; H412
n-hexane	(CAS-No.) 110-54-3 (EC No.) 203-777-6 (EC index No.)	6.0-20.0	H225; H361f; H304; H373; H315; H336; H411
Toluene	(CAS-No.) 108-88-3 (EC No.) 203-625-9 (EC index No.)	0.16-1.1	H225; H304; H315; H336; H361; H361d; H373

3.2. Mixtures

Not applicable

SECTION 4. FIRST-AID MEASURES

4.1. Description of first aid measures

First-aid measures general

If high-pressure injuries or ingestion occur, obtain immediate medical attention.

Warning before intervention: Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity.

First-aid measures after inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for

breathing.
If the casualty is unconscious and not breathing: ensure that there is no obstruction to breathing and give artificial respiration by trained personnel. If necessary, give external cardiac massage and obtain medical assistance.
If the casualty is unconscious and breathing: place in the recovery position and keep the head below the level of the torso. Administer oxygen if necessary.
Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve.

First-aid measures after skin contact

Remove contaminated clothing and footwear, and dispose of safely. Wash affected area with soap and water. Seek medical attention if skin irritation, swelling or redness develops and persists.
When using high-pressure equipment, injection of product can occur. If high-pressure injuries occur, immediately seek professional medical attention. Do not wait for symptoms to develop.
For minor thermal burns: Cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. However, body hypothermia must be avoided.

First-aid measures after eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

First-aid measures after ingestion

In case of ingestion, always assume that aspiration has occurred .The casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Do not induce vomiting as there is high risk of aspiration. Do not give anything by mouth to an unconscious person.

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

Symptoms/effects after inhalation:	Inhalation of vapours may cause headache, nausea, vomiting and an altered state of consciousness.
Symptoms/effects after skin contact:	Reddening, irritation.
Symptoms/effects after eye contact:	Slight irritation (unspecific).
Symptoms/effects after ingestion:	Few or no symptoms expected. If any, nausea and diarrhoea might occur. Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination.

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

Advice to physician

No special requirements.

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	- Foam (Specifically trained personnel only) - Water fog (Specifically rained personnel only) - Dry chemical powder - Carbon dioxide - Other inert gases (subject to regulations) - Sand or earth
Unsuitable extinguishing media	Do not use direct water jets on the burning product; they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be

avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard:	Extremely flammable liquid and vapour.
Explosion hazard:	Vapour may create explosive atmosphere. Heating will cause pressure rise with risk of bursting and subsequent explosion.
Other hazard:	This substance will float and can be reignited on surface water.
Hazardous decomposition products in case of fire:	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.

5.3. Advice for fire-fighters

Firefighting instructions:	Evacuate unnecessary personnel. Fight fire from safe distance and protected location. Exercise caution when fighting any chemical fire. Move containers from fire area if you can do it without risk. Remove all sources of ignition. Do not allow run-off from fire fighting to enter drains or water courses.
Protection during firefighting:	In case of a large fire or in confined or poorly ventilated spaces wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For protective equipment in post-fire or non-fire clean-up situations, refer to Section 8.

SECTION 6. ACCIDENTAL RELEASE MEASURE

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate area. Remove ignition sources. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Emergency procedures	Stop or contain leak at the source if safe to do so. Avoid direct contact with released material. Stay upwind. In case of large spillages, alert occupants in downwind areas.The vapour is heavier than air; beware of pits and confined spaces. Wear suitable protective equipment (Refer to Section 8). Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares). If required, notify relevant authorities according to all applicable regulations.

6.2. Environmental precautions

Prevent product from entering sewers, rivers, waterways or other bodies of water. Protect ecologically sensitive areas and water supply systems from contact with spilled product. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Spillages onto land

Prevent product from entering sewers, rivers, waterways or other bodies of water
If necessary dike the product with dry earth, sand or similar non-combustible materials.
Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do not use direct jets
When inside buildings or confined spaces, ensure adequate ventilation.
Absorb spilled product with suitable non-combustible materials.
Collect free product with suitable means. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.
In case of soil contamination, remove contaminated soil and treat in accordance with local regulations.

Spillages on water or at sea

In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents
Large spillages in open waters should be contained with floating barriers or other mechanical means and recovered, only if this is strictly necessary and if fire/explosion risks can be adequately prevented. Otherwise control the spreading of the spillage, and let the substance evaporate naturally.
The use of dispersants should be advised by an expert, and, if required, approved by local authorities.
Collect all waste materials in suitable tanks or containers for recovery or safe disposal.

Personal protection equipment for emergency responders

Small spillages: normal antistatic working clothes are usually adequate.
Large spillages: full body suit of chemically resistant and antistatic material.
Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note: gloves made of PVA are not water-resistant, and are not suitable for emergency use.
Work helmet. Antistatic non-skid safety shoes or boots
Goggles or face shield, if splashes or contact with eyes is possible or anticipated.
Respiratory protection: A half or full-face respirator with filter(s) for organic vapours (and when applicable for H2S) or a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

6.5. Additional information:

Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safe handling	Obtain special instructions before use. Risk of explosive mixtures of vapour and air. Ensure that all relevant regulations regarding explosive atmospheres, and handling and storage facilities of flammable products, are followed. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use and store only outdoors or in a well-ventilated area. Avoid contact with the product. Avoid release to the environment.

	Take precautionary measures against static electricity. Ground/bond containers, tanks and transfer/receiving equipment. Use explosion-proof electrical/ ventilating/ lighting equipment. Use only non-sparking tools. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Use only bottom loading of tankers, in compliance with European legislation. Do not use compressed air for filling, discharging, or handling operations. Avoid contact with skin and eyes. Do not ingest. Do not breathe vapours. Use personal protective equipment as required. (see Section 8) For more information regarding protective equipment and operational conditions see Exposure scenarios.
Hygiene measures	Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplace and should never be kept inside the pockets. Keep away from food and beverages. Do not eat, drink or smoke when using this product. Wash the hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Cleaning, inspection and maintenance of the internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Before entering storage tanks and commencing any operation in a confined area check the atmosphere for oxygen content and flammability. If the product is supplied in containers: Keep only in the original container, or in an approved container for this kind of product. Keep containers tightly closed and properly labelled. Protect from the sunlight. Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazards. Open slowly in order to control possible pressure release. Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.
Incompatible materials	Store separately from oxidising agents.
Storage area	Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation.
Packaging materials	Recommended materials: For containers, or container linings use mild steel, stainless steel. Unsuitable materials: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

7.3. Specific end use(s)

Not applicable.
For more information please see the relevant exposure scenario in Annex of this SDS.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational Exposure Limits

Benzene (CAS 71-43-2)

	LTEL TWA		STEL		Note
	ppm	**mg/m^3**	**ppm**	**mg/m^3**	
European Union	**1**	**3,25**			
Austria	1	3,2	4	12,8	
Belgium	1	3,25			
Denmark	0,5	1,6	1,0	3,2	
Finland	1 (1)	3,25 (1)			(1) Binding limit value
France	1	3,25			
Germany (AGS)	0,6 (1)	1,9 (1)	4,8 (1)(3)	15,2 (1)(3)	(1) Workplace exposure concentration corresponding to the proposed tolerable cancer risk. (2) Workplace exposure concentration corresponding to the proposed preliminary acceptable cancer risk. (3) 15 minutes average value
	0,06 (2)	0,2 (2)			
Hungary				3	
Ireland	1	3			
Italy	1	3,25			
Latvia	1	3,25			
Poland		1,6			
Spain	1	3,25			
Sweden	0,5	1,5	3 (1)	9 (1)	(1) 15 minutes average value
Switzerland	0,5	1,6			
The Netherlands		3,25			
United Kingdom	1				

n-Hexane (CAS 110-54-3)

	LTEL TWA		STEL		Note
	ppm	**mg/m^3**	**ppm**	**mg/m^3**	
European Union	**20**	**72**			
Austria	20	72	80	288	
Belgium	20	72			
Denmark	25	90	50	180	
Finland	20	72			
France	20	72			Restrictive statutory limit values
Germany (AGS)	50	180	400 (1)	1440 (1)	(1) 15 minutes average value
Germany (DFG)	50	180	400 (1)	1440 (1)	(1) 15 minutes average value
Hungary		72			
Ireland	20	72			

Italy	20	72			
Latvia	20	72			
Poland		72			
Spain	20	72			
Sweden	25	90	50 (1)	180 (1)	(1) 15 minutes average value
Switzerland	50	180	400	1440	
The Netherlands		72		144	
United Kingdom	20	72			

Toluene (CAS 108-88-3)

	LTEL TWA		**STEL**		**Note**
	ppm	**mg/m^3**	**ppm**	**mg/m^3**	
European Union	**50**	**192**	**100**	**384**	
Austria	50	190	100	380	
Belgium	20	77	100	384	
Denmark	25	94	50	188	
Finland	25	81	100 (1)	380 (1)	(1) 15 minutes average value
France	20	76,8	100	384	Restrictive statutory limit values
Germany (AGS)	50	190	200 (1)	760 (1)	(1) 15 minutes average value
Germany (DFG)	50	190	200	760	
Hungary		190		380	
Ireland	50	192	100 (1)	384 (1)	(1) 15 minutes average value
Italy	50	192			
Latvia	14	50	40 (1)	150 (1)	(1) 15 minutes average value
Poland		100		200	
Spain	50	191	100	384	
Sweden	50	192	100 (1)	384 (1)	(1) 15 minutes average value
Switzerland	50	190	200	760	
The Netherlands		150		384	
United Kingdom	50	191	100	384	

8.1.2. DNEL/ PNEC values

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)

DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	No hazard identified
Acute - systemic effects, inhalation	1300 mg/m³
Acute - local effects, dermal	Low hazard (no threshold derived)
Acute – local effects, inhalation	1100 mg/m³
Long-term – systemic effects, dermal	No hazard identified
Long-term – systemic effects, inhalation	No hazard identified
Long-term – local effects, dermal	High hazard (no threshold derived)
Long-term – local effects, inhalation	840 mg/m³
Eyes, local effects	No hazard identified

DNEL/DMEL (General population)	
Acute - systemic effects, dermal	No hazard identified
Acute - systemic effects, inhalation	1 200 mg/m³
Acute - systemic effects, oral	No hazard identified
Acute - local effects, dermal	Low hazard (no threshold derived)
Acute - local effects, inhalation	640 mg/m³
Long-term - systemic effects, dermal	No hazard identified
Long-term - systemic effects, inhalation	No hazard identified
Long-term - systemic effects,oral	No hazard identified
Long-term - local effects, dermal	High hazard (no threshold derived)
Long-term - local effects, inhalation	180 mg/m³
Eyes, local effects	No hazard identified
PNEC (water)	
PNEC aqua (freshwater)	No data available: testing technically not feasible
PNEC aqua (marine water)	No data available: testing technically not feasible
PNEC aqua (intermittent, freshwater)	No data available: testing technically not feasible
PNEC (Sediment)	
PNEC sediment (freshwater)	No data available: testing technically not feasible
PNEC sediment (marine water)	No data available: testing technically not feasible
PNEC (Soil)	
PNEC soil	No data available: testing technically not feasible
PNEC (Oral)	
PNEC oral (secondary poisoning)	No or insufficient data available at present
PNEC (STP)	
PNEC sewage treatment plant	No data available: testing technically not feasible

8.2. Exposure controls

Appropriate engineering controls:

Read in conjunction with Exposure scenarios for the identified uses contained in the annex. Select controls based on a risk assessment of local circumstances. Appropriate measures include: closed system, dedicated facilities and suitable general/local exhaust ventilation system, explosion-proof electrical/ ventilating/ lighting equipment, only non-sparking tools, regular cleaning of equipment and work area, etc.

The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Recommended monitoring procedures:

This product contains ingredients with exposure limits, so personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Wear gloves (tested to EN 374) if hand contamination likely. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.

>8 hours (breakthrough time): Viton

1-4 hours (breakthrough time): butyl rubber

Note: gloves made of PVA are not water-resistant, and are not suitable for emergency use.

Eye protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: Goggles or full-face mask, if splashes or contact with eyes is possible or anticipated. (BS EN 166)

Skin and body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: Protective clothing. Antistatic non-skid safety shoes or boots. Normal antistatic working clothes are usually adequate.

Respiratory protection:

Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. (BS EN 14387:2004 or EN 140).
A half or full-face respirator with filter(s) for organic vapours or a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Other information:

For more information please see the relevant exposure scenario in Annex of this SDS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	Liquid
Melting / freezing point	less than -20°C
Boiling point	-88 to 260°C (EN ISO 3405 and ASTM D-86)
Relative density	0.62-0.88 kg/m3 (15°C)
Vapour pressure	4 - 240 kPa (37.8 °C)
Surface tension	Not applicable
Water solubility	Not applicable
Partition coefficient n-octanol/water (log value)	Not applicable
Flash point	<0°C to< 21 °C
Flammability	Extremely Flammable Upper/low flammability or Explosive limit ranges: 1.4% (LFL) - 7.6% (UFL).
Explosive properties	Non-explosive
Self-ignition temperature	280 to 470 °C
Oxidising properties	Not oxidising
Viscosity	Less than 7 mm2/sec @ 40 °C
Granulometry	Not applicable
Dissociation constant	Not applicable

9.2. Other information

Not available.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions. The substance is resistant to hydrolysis because it lacks a functional group that is hydrolytically reactive.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid exposure - obtain special instructions before use. Avoid release to the environment. Refer to special instructions/safety data sheet. Do not swallow.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Not expected to form during normal storage.
Incomplete combustion products: a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	
LD50, oral, rat	> 5000 mg/kg bw (OECD 401)
LC50, Inhalation, rat	> 5610 mg/m3 (OECD 403)*
LD50, dermal, rabbit	> 2000 mg/kg bw (OECD 402 under occlusive conditions)
Notes	*Warnings for aspiration hazard and potential narcotic effects at high concentrations should be considered.

Skin corrosion/irritation	Causes skin irritation.
Additional information	Irritating in rabbit. Mean erythema score (5 treated animals: 24, 48, 72 h average): 2.56 (OECD TG 404). No corrosion action of the substance is expected
Serious eye damage/irritation	Not irritant.
Additional information	Not irritating in rabbit. Mean conjunctival score (24, 48, 72 h average): 0.05 (OECD 405).
Respiratory or skin sensitisation	Not sensitising.
Additional information	Not sensitising in guinea pig (OECD 406).
Germ cell mutagenicity	May cause genetic defects. Contains more than 0.1 % w/w benzene (Note P, CLP).

Carcinogenicity	May cause cancer. Contains more than 0.1 % w/w benzene (Note P, CLP).

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	
NOEL, dermal, mouse	0.5 ml (OECD 451)
NOEL, Inhalation, rat	292 ppm (~1400 mg/m3)
NOAEL, Inhalation	2056 ppm (~10,000 mg/m3)

Toxicity for reproduction	Suspected of damaging fertility. Contains less than 3% toluene and more than 3% n-hexane (OIN 5, OIN 6)

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	
NOAEL, inhalation, rat	> 24700 mg/ m3 (OECD TG 421)
NOAEL, inhalation, rat (maternal and developmental)	> 23900 mg/ m3 (OECD TG 414)
NOAEL, inhalation, rat (reproductive/developmental)	> 20,000 mg/ m3 (half the lover explosive limit) (OECD TG 416)

STOT-single exposure	STOT Single Exp. 3 May cause drowsiness or dizziness
Repeated dose toxicity	Not classified.

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	
NOAEL, dermal, systemic, rat	3750 mg/kg – 28 days (OECD TG 410 under occlusive conditions)
NOAEC, inhalation, systemic , rat	2050 ppm, or approximately 9840 mg/3 -28 days(OECD TG 412)
NOAEC, inhalation, systemic, rat	>20000 mg/m3 – 90 days (OECD TG 413)
NOAEC, inhalation, local, rat	10000 mg/m3 – 90 days(OECD TG 413)
NOAEC, inhalation, systemic, rat	292 ppm, or approximately 1400 mg/m3 (OECD 453)

Aspiration hazard	Asp. Tox. 1. May be fatal if swallowed and enters airways.
Additional information	Few or no symptoms expected. If any, nausea and diarrhoea might occur. Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8)	
Fish (Short-term toxicity)	
LL50 (96h)	8.2 mg/l – Pimephales promelas (equivalent or similar to EPA 66013-75-009)
Fish (Long-term toxicity)	
LL50 (14 d)	5.2 mg/l - Pimephales promelas (OECD 204)
Aquatic invertebrates (Short-term toxicity)	
EL50 (48 h)	4.5 mg/l - Daphnia magna (OECD 202)
Aquatic invertebrates (Long-term toxicity)	
NOELR (21 d)	2.6 mg/l - Daphnia magna (OECD 211)

Algae and aquatic plants	
EL50 (72 h)	3.1 mg/l - Pseudokirchnerella subcapitata
NOELR (72 h)	0.5 mg/l - Pseudokirchnerella subcapitata (OECD 201)
Toxicity to aquatic micro-organisms	
EC50 (40 h)	15.41 mg/l - Tetrahymena pyriformis (QSAR)

12.2. Persistence and degradability

Abiotic degradation:	The chemical constituents that comprise this substance consist entirely of carbon and hydrogen and do not contain hydrolysable groups. As such they have very low potential to hydrolyse.
Biodegradation	Readily biodegradable in water: 77.05% in a 28 day test. (OECD Guidelines 301). An evaluation of representative hydrocarbon structures indicate some structures meet the Persistent (P) or very Persistent (vP) criteria
Persistence and degradability	Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

12.3. Bioaccumulative potential

Aquatic bioaccumulation:	No data available. Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance. An evaluation of representative hydrocarbon structures indicate no structures meet the very Bioaccumulative (vB) criterion but some structures meet the Bioaccumulative (B) criterion.
Secondary poisoning:	Not available.

12.4. Mobility in soil

Biodegradation in soil:	Not applicable.

12.5. Results of PBT and vPvB assessment

Regarding all available data on biotic and abiotic degradation, bioaccumulation and toxicity it can be stated that the substance does not fulfill the PBT criteria (not PBT) and not the vPvB criteria (not vPvB).

12.6. Other adverse effects

Not available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste disposal recommendations	Recycle, recovery or safe disposal. To be disposed of as hazardous waste. Do not dispose into the environment, in drains or in water courses. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS EVEN WHEN EMPTY. External treatment and disposal of waste should comply with applicable regulations. Dispose of contents/container in accordance with local, state or national legislation.
European List of Waste (LoW) code	13 07 02* – Gasoline 15 01 10* – packaging containing residues of or contaminated by dangerous substances

SECTION 14. TRANSPORT INFORMATION

14.1. Land transport (ADR/ RID)

UN-No.	1203
Proper Shipping Name:	MOTOR SPIRIT or GASOLINE or PETROL
Hazard class:	3 (Flammable liquids. Environmentally hazardous substance mark)
Packing group:	I
Hazard label:	
Classification Code:	F1
Hazard identification number (HIN):	33
EAC code:	3YE
Tunnel restriction code (ADR)	D/E
Environmental hazard:	Yes

14.2. Inland waterway transport (ADN)

UN-No.	1203
Proper Shipping Name:	MOTOR SPIRIT or GASOLINE or PETROL
Hazard class:	3 (Flammable liquids. Environmentally hazardous substance mark)
Packing group:	I
Hazard label:	
Classification Code:	F1
Hazard identification number (HIN):	33
Environmental hazard:	Yes

14.3. Sea transport (IMDG)

UN-No.	1203
Proper Shipping Name:	MOTOR SPIRIT or GASOLINE or PETROL
Hazard class:	3 (Flammable liquids. Marine pollutant mark)
Packing group:	I
Hazard label:	
EmS-No. (Fire)	F-E
EmS-No. (Spillage)	S-E
Marine pollutant:	Yes

14.4. Air transport (IATA/ICAO)

UN-No.	1203
Proper Shipping Name:	MOTOR SPIRIT or GASOLINE or PETROL
Hazard class:	3 (Flammable liquids. Environmentally hazardous substance mark)
Packing group:	I
Hazard label:	
Environmental hazard:	Yes

14.5. Special precautions for user

Always transport in closed containers. Ensure that persons transporting the product know what to do in the event of an accident or spillage. For information regarding Exposure Controls/Personal Protection see Section 8 of the SDS

14.6. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

SECTION 15. REGULATORY INFORMATION

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

15.1.1. EU-Regulations

Authorisations and/or restrictions on use (Annex XVII): Not applicable.
Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8) is not on the REACH Candidate List.
Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8) is not on the REACH Annex XIV List.

Other information, restriction and prohibition regulations	Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer. Annex II - Not listed. Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances- (SEVESO III): Physical Hazard – P5b - Flammable liquids. Environmental Hazard - category E2 (Hazardous to the Aquatic Environment in Category Chronic 2). Directive 2013/39/EU priority substances in the field of water policy (amending Directive 2006/60/EC – Water Framework Directive and Directive 2008/105/EC on environmental quality standards in the field of water policy): Not listed. Regulation (EC) No 850/2004 on persistent organic pollutants: Annex III – Not listed. Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals: Not listed.

15.1.2. National regulations

No information available.

15.2. Chemical safety assessment

Chemical Safety Report has been performed for Solvent naphtha (petroleum), light aliph. (CAS 64742-89-8).

SECTION 16. OTHER INFORMATION

16.1. Indication of changes

Version	Date of change	Section	Description of changes
1	17/03/2010		HS&E Manager
2.1	08/02/2011		Version was created according to Regulation (EC) No 1272/2008 (Regulation CLP) & 453/2010.
3.0	24/04/2018	1-16, Annex	SDS has been corrected in according to new contact information, data of Registration dossier, Chemical Safety Report, and new Transport information.

16.2. Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS	The German Committee on Hazardous Substances (Ausschuss für Gefahrstoffe – AGS)
BCF	Bioconcentration factor
DFG	Germany Research Foundation
DNEL	Derived No Effect Level
IMDG	International Maritime Dangerous Goods
ICAO-TI	Technical Instructions for the Safe Transport of Dangerous Goods by Air
K_{oc}	Adsorption coefficient
Kow	octanol-water partition coefficient
LC50	Lethal Concentration to 50 % of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LOAEC	Lowest Observable Adverse Effect Concentration
LTEL	Long Term Exposure Limit
NOEC	No Observed Effect Concentration
NOAEL	No Observed Adverse Effect Level
OECD	Organization for Economic Co-operation and Development
PNEC	Predicted No Effect Concentration
PBT	Persistent, bioaccumulative, toxic chemical
vPvB	Very Persistent, Very Bioaccumulative
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SCOEL	Scientific Committee on Occupational Exposure Limits
STEL	Short Term Exposure Limit
STP	sewage treatment plant
STOT	Specific Target Organ Toxicity
(STOT) RE	Repeated Exposure
(STOT) SE	Single Exposure
TWA	Time Weighted Average
UN	United Nations

16.3. Full text of H- and EUH-statements:

H224	Flammable liquids, Category 1	Extremely flammable liquid and vapour.
H225	Flammable liquids, Category 2	Highly flammable liquid and vapour.
H304	Aspiration hazard, Category 1	May be fatal if swallowed and enters airways.
H315	Skin corrosion/irritation, Category 2	Causes skin irritation.
H319	Serious eye damage/eye irritation, Category 2	Causes serious eye irritation.
H336	Specific target organ toxicity, single exposure, Category 3	May cause drowsiness or dizziness. Affected organs: Central nervous system. Route of exposure: Inhalation
H340	Germ cell mutagenicity, Category 1B	May cause genetic defects.
H350	Carcinogenicity, Category 1B	May cause cancer.
H361	Reproductive toxicity, Category 2	Suspected of damaging fertility or the unborn child.

H372	Specific target organ toxicity, repeated exposure, Category 1	Causes damage to organs through prolonged or repeated exposure
H373	Specific target organ toxicity, repeated exposure, Category 2	May cause damage to organs through prolonged or repeated exposure.
H411	Hazardous to the aquatic environment, long-term hazard, Category 2	Toxic to aquatic life with long lasting effects.
H412	Hazardous to the aquatic environment, long-term hazard, Category 3	Harmful to aquatic life with long lasting effects.

16.4. List of ES (exposure scenario) given in Annex to the extended SDS

ES1	01b – Use of substance as intermediate (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene)), p.20
ES2	01a – Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene)), p.23

16.5. Key literature references and sources

DOCUMENTS, PROVIDED BY CONSORTIUM:
Chemical Safety Report "Low Boiling Point Naphthas (Gasolines)" prepared by CONCAWE, 2017
EU REGULATION
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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
Regulation (EC) No 1272/2008 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Regulations. Commission regulation (EU) no 2015/830 of 31 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Training advice

Personnel handling the product has to be acquainted demonstrably with its hazardous properties, with health and environmental protection principles related to the product and first aid principles.

DISCLAIMER

This information is based on our current level of knowledge. This information may be subject to revision as new knowledge and experience becomes available, and SIBUR makes no warranties and assumes no liability in connection with any use of this information. Since SIBUR cannot be aware of all aspects of your business and the impact the REACH Regulation has for your company, SIBUR strongly encourages you to get familiar with the REACH Regulation in order to comply with its requirements and timelines.

ANNEX. EXPOSURE SCENARIOS

Exposure Scenario 1 (ES1): Use of Low Boiling Point Naphthas (Gasoline) as Intermediate – Industrial

Section 1	
Title	
01b - Use of substance as intermediate (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	8, 9
Process Categories	1, 2, 3, 8a, 8b, 15
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 2.1 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).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
CS67 Storage.	Wear suitable gloves tested to EN374. PPE15. 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 intensive management supervision controls. PPE18.

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)	1,2E+05
Fraction of Regional tonnage used locally	1,3E-01
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)	3,0E-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, additional onsite wastewater treatment required	
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 >= (%)	97,9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	43,7

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 (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	97,9
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5,0E+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	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
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	
4.1. 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.	
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	8,0E-02
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9,1E-01

Exposure Scenario 2 (ES2): Distribution of Low Boiling Point Naphthas (Gasoline) Industrial

Section 1	
Title	
01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
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 2.1 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).	Provide extract ventilation to points where emissions occur. E54. 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 intensive management supervision controls. PPE18.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.

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)	1,2E+05
Fraction of Regional tonnage used locally	2,0E-03
Annual site tonnage (tonnes/year)	2,3E+02
Maximum daily site tonnage (kg/day)	1,2E+04
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	20
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 sediment. [TCR1b]	
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 (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	8,4E+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	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
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	
4.1. 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.	
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	1,2E-04
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	1,4E-03

END OF SAFETY DATA SHEET