Safety Data Sheet
according to Regulation (EC) No 2015/830

Naphtha (petroleum), hydrotreated light

n-HEXANE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier	Name: Naphtha (petroleum), hydrotreated light CAS no.: 64742-49-0
ECHA registration number	01-2119475133-43-0010
Other means of identification Product trade name	n-HEXANE

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

Identified uses	Polymerization solvent to obtain high density polyethylene and polypropylene, as a solvent in the food, in the tire industry. (see section 7.3.)
Identified uses according to Chemical Safety Report	No data available
Uses advised against	This product is not recommended for any industrial or professional use other than the Identified uses above.

1.3. Details of the supplier of the safety data sheet

Producer	**ROMPETROL RAFINARE SA** Working point - Vega Refinery (Company of the KMG International Group) Valeni Street, no 146, Ploiesti Phone No: +(40) 241 506 040 (RR); +(40) 244 406 110 (Vega) Fax No: +(40) 241 506 930 (RR); +(40) 244 514 469 (Vega) office.rafinare@rompetrol.com

1.4. Emergency telephone number:

+(40) 244 406 110 (between 07:00 – 15:30)
+(40) 244 406 204 (between 15:30 – 07:00)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.2. Classification of the substance according to CLP Regulation (EC No.1272/2008) with amendments

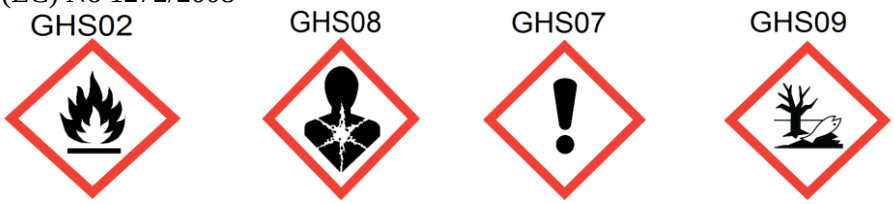
Classification	Flammable Liquids 2 – H225 Skin irritation 2 – H315 Reproductive toxicity 2 – H361f Specific target organ toxicity (STOT) – single exposure 3 – H336 Specific target organ toxicity (STOT) – repeated exposure 2 – H373 Aspiration hazard 1 – H304 Hazardous to the aquatic environment, Chronic 2 – H411
Adverse Physical/ Chemical effects	Highly flammable liquid. In utilisation, vapour with air, may form flammable / explosive mixtures in the presence of heat or ignition sources (electrical, mechanical, flame). Generates electrostatic charge during handling.

Adverse Human health effects	The substance is harmful by inhalation and skin contact. Inhalation, by long exposure, may cause mucous membrane and respiratory tract irritation. Not classified as irritant to eyes - tests show that the effect on the eyes is minimum
Adverse Environmental effects	On long-term, may cause adverse effects on the aquatic environment.

2.2. Label elements

In accordance with Regulation (EC) No 1272/2008

Code(s) Hazard pictogram(s) Signal word(s)



Danger

Hazard statement(s)	H225 - Highly flammable liquid and vapour. H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H336 - May cause drowsiness or dizziness. H361f - Suspected of damaging fertility. H373 - May cause damage to organs (skin, nervous system) through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statement(s) Prevention	P201 – Obtain special instructions before use. P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P233 - Keep container tightly closed. P243 - Take precautionary measures against static discharge. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement(s) Intervention	P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 - Do NOT induce vomiting. P370+P378 - In case of fire: Use chemical foam for extinguishing. P391 - Collect spillage.
Precautionary statement(s) Storage	P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up.
Precautionary statement(s) Disposal	P501 - Dispose of contents/container in authorized deposits.
2.3. Other hazards	The substance does not meet the criteria for PBT and vPvB in accordance with Annex XIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

This product is defined as a substance.

Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha;
A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C4 through C11 and boiling in the range of approximately minus 20 °C to 190 °C (-4 °F to 374 °F).

Substance	Concentration Range, %	EC	CAS	Classification according to (EC) No 1272/2008
Naphtha (petroleum), hydrotreated light* *Note P*	100	265-151-9	64742-49-0	Flam. liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 STOT SE 3 - H336 Repr. 2 - H361f Aquatic Chronic - H411

Important constituents:

Name	CAS	EC	Concentration %	Clasification
N-HEXANE**	110-54-3	203-777-6	Aprox 56	Flam. Liq 2 - H225 Repr. 2 - H361f Asp.Tox.1 - H304 STOT RE 2 – H373 Skin. Irrit. 2 – H315 STOT SE 3 – H336 Aquatic Chronic 2 – H411
I-HEXANE	107-83-5	203-523-4	20	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 STOT SE 3 - H336 Aquatic Chronic 2 /H411
METYL CYCLOPENTAN	108-87-2	203-624-3	17,4	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 STOT SE 3 - H336 Aquatic Chronic 2 - H411
CYCLOHEXANE	110-82-7	203-806-2	2,5	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 STOT SE 3 - H336 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

*: Classification specified by the manufacturer, which includes other classification in addition to the classification specified by Regulation 1272/2008/EC.
**: Substance having occupational exposure limit value.

Note P: The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).
For the full text of H phrases: see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures
Own protection is needed for people who provide first aid measures.
4.1.1. First aid instructions provided by relevant routes of exposure

Eye contact:
Wash eyes with plenty of water, including under the eyelids. Washing will be performed until the victim arrives to hospital.
Check for and remove any contact lenses.
Irrigate eyes with copious amounts of water, holding eyelids apart to ensure thorough rinsing.
If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

Skin contact:
Wear protective neoprene gloves, goggles, protective and oil resistant clothing and footwear, no metallic accessories.
Wash contaminated area with soap and water for at least 15 minutes and rub the skin with a protective cream.
Wear appropriate personal protective equipment during decontamination.
Remove contaminated clothing and contaminated footwear and dispose of safely.
Seek medical attention if skin irritation, swelling or redness occurs.
Launder contaminated non-leather clothing before reuse.

Ingestion:
Do not cause vomiting. If vomiting occurs spontaneously, bend the victim towards, in order to reduce the risk of aspiration of product, into the lungs.
Always assume that aspiration has occurred. The casualty should be sent immediately to hospital. Do not wait for symptoms to develop.
If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs (aspiration). Once vomiting ceases, place the person in the recovery position with the legs slightly raised.
Do not give anything by mouth to an unconscious person. Do not induce vomiting as there is high risk of aspiration.

Inhalation:
Remove victim to fresh air and perform artificial breathing, if the person has first aid knowledge in this regard. Transport the victim to hospital.
Transport immediately to hospital. Do not wait for symptoms to develop.
Do not induce vomiting. In case of symptoms arising from inhalation of vapour or mists.
Remove casualty to a quiet and well ventilated place if safe to do so. Obtain medical attention immediately.
If there is any suspicion of inhalation of H2S:
• Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures.
• Remove casualty to fresh air as quickly as possible.
• Immediately begin artificial respiration if breathing has ceased.
• Obtain medical advice for further treatment.

4.1.2. Advice provided to person who performs first aid

See information provided in each section applicable.

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

Prolonged exposure can cause abdominal pain, coughing, headaches, nausea, loss of balance, central nervous system depression or the onset of pulmonary edema.
Handling at elevated temperatures with poor ventilation may cause headache, dizziness, nausea, cardiac irregularities and signs of CNS depression. Monitor breathing and pulse rate. Treatment should be in general symptomatic to relieve any effects.
•Individuals with pre-existing lung disorders may have increased susceptibility of the effects of exposure.

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

If needed, require medical emergency care.
If it was ingested, give paraffin oil or other vegetal oil, saline purgative. (perform gastric lavage).

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Major fire: foam, water fog. Minor fire: dry chemical powder, carbon dioxide, 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

Combustion Products	In case of fire, can produce toxic fumes. Generates explosive atmosphere.

5.3. Advice for firefighters

Wear protective antistatic equipment.
Wear an isolated autonomous respiratory protection apparatus with compressed air and full protective equipment.
When the fire is extinguished, it will be used for cleaning, tools that do not produce sparks.
If the containers temperature rises, measures will be taken to cool them with spray of water (in rain).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel	Ensure ventilation of the contaminated area and remove sources of fire. No smoking! Take precautionary measures against electrostatic discharge by using non-sparking tools. Wear the appropriate personal protective equipment mentioned in Section 8 of the safety data sheet. Comply with established emergency procedures to evacuate from the danger zone. Avoid prolonged exposure to the atmosphere charged with vapors without wearing protective equipment: breathing apparatus, neoprene gloves, goggles, protective oil resistant clothing and footwear, no metallic accessories.
6.1.2. For emergency responders	Delimitation of the area where leakage occurred. For small leaks, worn equipment is a necessary Staff will provide intervention Wear natural fiber protection and rubber gloves resistant to oil, to prevent contact with skin, versatile cartridge gas masks for respiratory protection, eye and face accessories and shoes without metal resistant to oil.

6.2. Environmental precautions

Avoid discharge into the environment on concrete platforms
Prevent water and soil contamination through drains, ditches or rivers by collecting it and using absorbent materials, sand, earth or other available barriers.
Prevent product from entering sewers, rivers, waterways. If spillage has occurred notify the competent authorities of the Inspectorate for Emergency Situations, Environmental Protection Agency, Environmental Guard, Inspection County Police.

6.3. Methods and material for containment and cleaning up

6.3.1. Advice on how to contain a spill	Collect free product with suitable means. Transfer the collected product and contaminated material in suitable containers for recovery or safe disposal.

6.3.2. Advice on how to clean-up a spill	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. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other materials in suitable tanks or containers for recovery or safe disposal In case of soil contamination, remove/treat contaminated soil and treat in accordance with local regulations.
6.3.3. Other information relating to spills and releases	Local conditions – wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions.

6.4. Reference to other sections - see sections 7, 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Recommendations for safe handling	Because the product is highly flammable and the vapors may generate potentially explosive atmosphere, handling is performed by strictly complying with the technological and emergency situations instructions and all relevant regulations regarding explosive atmosphere. During handling, non-sparkling equipment and tools will be used in accordance with National and European legislation for explosive atmospheres. Loading facilities will be linked to the ground; the containers, in which the uploading is made, are necessary to be linked to the ground against static electricity. Outlets will be inspected regularly. To be used away from heat / sparks / open flames / hot surfaces. To be used outdoors or in a well-ventilated area. If it is used in confined spaces, ensure adequate ventilation and perform regular determination of contaminants. Do not work under pressure; compressed air is not used for loading / unloading, handling. Handling temperature – ambient. Avoid contact with skin and eyes. Avoid inhaling the product. Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazard. Open slowly in order to control possible pressure release. For respiratory protection are used gas mask with filter for organic vapors or autonomous breathing apparatus (SCBA); it must be used, whenever exposure can not be fully assessed or where it is likely to be a deficit of oxygen. It's mandatory to measure vapors concentration and keep the value below the lower explosive limit (LEL).
7.1.2. Advice on general occupational hygiene	Use protective and oil-resistant clothing, goggles, neoprene gloves, anti-static shoes (see section 8 of the sheet). During handling and use, do not eat / drink or smoke. Ensure good personal hygiene after using the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage	It should be stored outdoors, in remote areas, away from direct sunlight. Tanks will be equipped (on the cover) with hydraulic breathing valve and fire stopper. For storage, use clean containers / tanks specially designed, to avoid contamination or the appearance of unwanted reactions. Inspection, maintenance and tank cleaning should be performed only by qualified and properly equipped personnel (see section 8 of the sheet).

Before entering the storage tanks and begin any operation, perform determination of oxygen, hydrogen sulphide and flammability.
Storage is done in specially designated containers, provided with safety equipment, grounding devices and water spray rings. It is indicated the use of tanks with floating roof to prevent evaporation losses.
Small amounts can be stored in drums, cans or metal containers, tightly closed and properly labelled, in cold areas, dry, well ventilated, away from heat and ignition sources.
Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation.
Periodically check the tightness of containers. Qualified staff will periodically verify the tanks to prevent leakage of product.
Store away from heat / sparks / open flames / hot surfaces.
In case of large quantities storages, the storage areas should be designed with retaining walls around the tanks, to prevent pollution of soil and water spillage.
Containers / containers for storing small amounts of solvent must comply with European legislation on safety shutdown systems for children and a tactile warning of danger, when they are sold to the general public.
Do not incinerate empty containers, unless they have been cleaned with water.
Do not cut and weld near containers / tanks full or empty.
Product handling is not allowed in plastic containers, unlabelled and improvised containers.
Storage temperature - ambient.
Store separately from oxidizing agents.

Containers advice

Recommended materials for containers: For containers, or container linings use mild steel, stainless steel.

Unrecommended materials for containers: Natural rubber, neoprene, rubber, ethylene, propylene, polypropylene, polymers, polystyrene, polyvinyl chloride, poly isobutylene.

7.3. Specific end use(s): Polymerization solvent to obtain high density polyethylene and polypropylene, as a solvent in the food , in the tire industry

1. Polymerization solvent to obtain high density polyethylene and polypropylene
   Exposure scenarios : ES 9.1.1a processing –annex 1
   ES 9.3.1a distribution–annex 2
2. Rubber proccesing - Exposure scenario : ES 9.13.1a -annex 3
3. Solvent in the food industry – Exposure scenario: ES 9.1.1a - annex 1

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1. Control parameters: Occupational Exposure: Limit value (mg n-Hexane /m^3air):

8 h	170
Short period (15 min.):	-

Regulated by Government Decision Nr.1218/2006 on the establishment of minimum safety and health at work requirements, to ensure the protection of workers from risks related to chemical agents.

8.2. Exposure controls: Periodic medical examination of the exposed workers; training regarding first-aid measures.

8.2.1. Appropriate engineering controls

It is recommended to determinate the volatile organic compounds at the workplace with a device with the Photo ionization principle.
Product storage tanks must be completely sealed.
Installation of local and general ventilation to maintain vapour concentration below the maximum allowed limit.
Local exhaust ventilation is preferred because it prevents dispersion of pollutants in

the work area, and captures it to source.
Mount Eyewash water sources in the work area and fast protection emergency showers.
It will provide specific authorization of the equipment according to law.

8.2.2. Individual protection measures

8.2.2.1. Use of personal protective equipment

Individual Protective Measures: breathing apparatus, neoprene gloves, goggles, protective oil resistant clothing and footwear, no metallic accessories.
Must comply with GD 1048/2006 regarding the minimum safety and health requirements for workers regarding the use of the personal protective equipment at work.

8.2.2.2. Detailed specifications on protective equipment type

(a) Eye / face protection — Wear safety glass goggles or chemical eye protection goggles according to requirements regarding eye protection; avoid using the contact lenses at the workplace.

(b) Skin protection

(i) Hand protection — Avoid exposure to a charged with vapour atmosphere, without wearing the proper protective equipment: protective clothing 100% cotton, no metal accessories, antistatic safety shoes, neoprene gloves.

(ii) Other — Street clothes shall be kept separately from work protective equipment and wash the contaminated ones before a new use.

(c) Respiratory protection — Avoid prolonged exposure to the atmosphere charged with vapor without wearing protective equipment.
Use a suitable respirator filter apparatus with cartridge for organic vapor, or any complete insulating face mask. Attention respirators filtering apparatus do not protect workers in a oxygen-deficient atmosphere (below 18%).

(d) Thermal hazards — In working areas it is not allowed eating, drinking, smoking; after handling the preparation, before eating, drinking, smoking, use of toilet or cosmetics, ensure good hygiene.

8.2.3 Environmental exposure controls

Do not drain the product into ambient enironment. Product is toxic to marine life. See attached exposure scenarios.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

(a) Appearance	clear liquid, colorless	
(b) Odour	specific to oil products - solvent	
(c) Odour threshold	no data	
(d) pH	no data	
(e) Melting point/freezing point	na (not relevant for this category of products)	
(f) Initial boiling point and boiling range	66 °C distillation 5% 70 °C distillation 95%	SR EN ISO 3405-03, ASTM D 86-07a
(g) Flash point	< -6 °C	SR EN ISO 13736-09
(h) Evaporation rate	no data	
(i) Flammability (solid, gas)	not relevant; the product is liquid	
(j) Upper/ lower flammability or explosive limits	LFL 1,1%, UFL 5,4% vol (at 760 mmHg and 20 °C)	Concawe

(k) Vapour pressure	38,5 kPa (ASTM D 5191/2007 SR EN 13016-1/2008)	
(l) Vapour density	no data	
(m) Relative density	663-690	15 °C; ASTM D 1298-99(05) ASTM D 4052-96(02)
(n) Solubility(ies)	water: less than 1 mg/l (Concawe)	
(o) Partition coefficient: n-octanol/water	no data	
(p) Auto-ignition temperature	>200 °C	Concawe
(q) Decomposition temperature	no data	
(r) Viscosity	< 7 cSt	40 °C, Concawe
(s) Explosive properties	the product does not meet the criteria to be classified as explosive	
(t) Oxidising properties	does not act as an oxidizing agent	
9.2. Other information	no data	

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity	Components are not self-reactive, they don't react with water.
10.2. Chemical stability	Stable under normal temperature and pressure and in normal handling and storage conditions.
10.3. Possibility of hazardous reactions	Yes, with strong oxidising substances.
10.4. Conditions to avoid	Storage in places without proper ventilation. Storage near heat and ignition sources. Contact with oxidizing substances. Mechanical shocks that can lead to the formation of static electricity. Open flame. Exposure to direct sunlight.
10.5. Incompatible materials	Reacts with oxidizing materials (peroxides, nitrates, perchlorates).
10.6. Hazardous decomposition products	Thermal decomposition: carbon oxides, toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Substance(s)
Relevant hazard classes

(a) acute toxicity	None known.
(b) skin corrosion/irritation	Causes skin irritation.
(c) serious eye damage/ irritation	None known.
(d) respiratory or skin sensitisation	None known.
(e) germ cell mutagenicity	None known.
(f) carcinogenicity	None known.
(g) reproductive toxicity	Suspected of damaging fertility.
(h) STOT-single exposure	May cause drowsiness or dizziness.
(i) STOT-repeated exposure	May cause damage to organs (skin, nervous system) through prolonged or repeated exposure.
(j) aspiration hazard	May be fatal if swallowed and enters airways.

11.1.2. Relevant toxicological properties of the hazardous substances:

LD50 (Rat) oral ≥ 5 g/kg body weight
LC50 (Rat) inhalation ≥ 5,2 mg/l
LD50 (Rabbit) dermal ≥ 2 g/kg body weight
Moderate skin irritation.

11.2. Information on likely routes of exposure

No data available.

11.3. Symptoms related to the physical, chemical and toxicological characteristics

Skin irritation: tests were done on rabbit skin by 24 hours exposure and was observed a mild irritation, moderate / severe and can persist for up to 14 days. (Concawe information).
Severe damage / eye irritation: eye irritation is minimal, information based on tests performed on rabbits, observing in each case is a slight redness that disappears very quickly (Concave information).
Respiratory and skin sensitization: does not cause sensitization - results obtained on studies conducted in the EU Tests on guinea pigs did not indicate skin sensitization and airway.
Germ cell mutagenicity: no mutagenic effect (the determined content of benzene is less than 0.1%, so there is no danger to germ cells). Studies have shown that there is no evidence of mutagenic activity of the product.
Carcinogenicity: It is not carcinogenic - (the determined content of benzene is less than 0.1%).
Reproductive toxicity: In repeated dose, the product is toxic to fertility, because the content in n-hexane is exceeding 5%. (Concawe).
STOT single-exposure: May cause narcosis / depression at high concentrations and long exposure time (Concawe).
STOT repeated exposure: There have been made studies on rats for periods between 10 days and 2 years, concerning the dermal effect and the inhalation of the product.
It consisted of a severe irritation of the skin, without systemic toxicity.
In terms of exposure by inhalation:
The content of light hydrocarbons, at repeated exposure, generates nephropathies.

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

No data available.

11.5. Interactive effects

No data available.

11.6. Absence of specific data

No data available.

11.7. Other information

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity	Toxic to aquatic life with long lasting effects. Prevent product from entering sewers, rivers or other bodies of water, including groundwater network.
Acute (short-term) aquatic hazard	Short-term toxicity test (Daphnia): EL50 (shrimp) 2 mg/l Growth inhibition study on plants (algae): IL50 (algae) 11 mg/l NOEL (algae 72 h) <0.2-0.9 mg/l Short-term toxicity testing on fish - LL50 (fat head minnow) 8.3 mg/l.
Chronic (long-term) Aquatic Hazard	Long term toxicity test (Daphnia): NOEL (Daphnia, reproduction 21d) < 0.4 mg/l.

12.2. Persistence and degradability

Degradation simulation tests in surface waters, suggest that it is biodegradable (based on the prediction).

12.3. Bioaccumulative potential

BIOACCUMULATIVE (based on the prediction). Bioaccumulation in aquatic species, preferably over logKow values ranging from 3 to higher than 6, are considered potentially bioaccumulative.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The product is not classified vPvB and PBT.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods	It is forbidden to discharge into the environment. Accidental leaks or spills, if they can not be recovered or recycled, it will be handled as hazardous waste. Residues will be collected in a controlled manner. In case of accidental spills, use sand or sawdust. Subsequent destruction or disposal will be by incineration or hazardous waste landfills storaging, in accordance with the rules and legal regulations on environmental protection.
Contaminated packaging	Packaging is considered hazardous waste and can be eliminated in accordance with national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number	1208
14.2. UN proper shipping name	HEXANES
14.3. Transport hazard class(es)	3
14.4. Packing group	II
14.5. Environmental hazards	YES
14.6. Special precautions for user	
Remarks hazard identification number	33
Labels	3, flammable liquid
Tunnel restriction code	D/E (ADR only)

Identification label

Danger labels

14.7. 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

According to Seveso Directive 2012/18/EU (Seveso III) Annex 1:

No.	Dangerous substance categories/hazard category	Qualifying quantities(tonnes) for application lower/upper tier requirements
H2	ACUTE TOXIC	50 / 200

P5b	FLAMMABLE LIQUIDS Flammable liquids Category 2 or 3 where particular processing conditions, such as high pressure or high temperature, may create major-accident hazards	50 / 200
E2	HAZARDOUS TO THE AQUATIC ENVIRONMENT - Category Chronic 2	200 / 500

Applicable EU Directives and Regulations:

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 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

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

European Agreement for International road transportation of dangerous goods (ADR)

National regulations
Law no.319/2006, The Law of security and work health.
GO no. 1048/2006 regarding the establishment of minimum security and work health measures for the workers' usage of the individual protection equipment at the working spot.
GO no. 355/2007 regarding the workers health surveillance
GD 1218/2006 amended by GD no.1/2012 regarding the minimum requirements of safety and occupational health in the scope of workers protection against risks related to chemicals

15.2. Chemical safety assessment

Exposure scenarios performed by Concawe under REACH registration process.
The relevant exposure scenarios from the Chemical Safety Report are attached.

SECTION 16: OTHER INFORMATION

16.1. Information which has been added, erased or modified
The safety data sheet has been revised according to Regulation (EU) 2015/830 (Section 1-16).
16.2. Legend of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet

ECHA	The European Chemicals Agency
GHS	Globally Harmonised System
CLP	Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging
OIN	Oil Industry Note
DPD	Dangerous Preparation Directive 1999/45/EC
TLV-TWA	Treshold Limit value
ACGIH	American Conference of Governmental Industrial Hygienists
TRK	Technical Guidance Concentration
BCF	BCF is bio concentration
NOEC	NOEC is no-observed effect concentration
NOAEC	No observed adverse effect level
PBT	Persistent, Bioacumulative, Toxic
vPvBvT	Very Persistent, very Bioacumulative, very Toxic
NA	Not applicable

16.3. Key literature references and sources for data
Previous version of the safety data sheet (25. 07. 2016, version 4)
16.4. List of relevant hazard statements, and precautionary statements according to CLP Regulation (EC) 1272/2008
Hazard Statements:

H225 – Highly flammable liquid and vapour.
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H336 – May cause drowsiness or dizziness.
H373 – May cause damage to organs through prolonged or repeated exposure.
H400 – Very toxic to aquatic life.
H410 – Very toxic to aquatic life with long lasting effects.
H411 – Toxic to aquatic life with long lasting effects.
H361f – Suspected of damaging fertility

Precautionary statements:

P201 – Obtain special instructions before use.
P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 - Keep container tightly closed.
P243 - Take precautionary measures against static discharge.
P273 - Avoid release to the environment.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting
P370+P378 - In case of fire: Use chemical foam for extinguishing.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in authorized deposits.

16.5. Advice on any training appropriate for workers to ensure protection on human health and the environment

No data available.

Quality-Environment-Occupational Health and Safety integrated Management System is certified by DNV-GL according to the following standards:

- ISO 9001:2008
- ISO 14001:2004
- BS OHSAS 18001:2007

The test lab is accredited by RENAR, in compliance with SR EN ISO/CEI 17025:2005.

ANNEX-Exposure Scenarios for different uses

ANNEX 1:9.1.1a. Exposure Scenario

Section 1 Exposure Scenario Title Low boiling point naphthas (Gasoline) that is *NOT* classified as R45, R46, R62 or R63; (containing less than 0.1% benzene)	
Title: Manufacture of substances	
Use Descriptor	
Sector(s) of Use	3, 8, 9
Process Categories	1, 2, 3, 4, 8a, 8b, 15
Environmental Release Categories	1, 4
Specific Environmental Release Category	ESVOC SpERC 1.1.v1
Processes, tasks, activities covered	
Manufacture of the substance or use as a process chemical or extraction agent within closed or contained systems. Includes incidental exposures during recycling/ recovery, 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 > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Amount used	Not applicable
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Human factors not influenced by risk management	Not applicable
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
CS15 General exposures (closed systems).	No other specific measures identified. EI20.
CS15 General exposures (closed systems) + CS56 With sample collection.	No other specific measures identified. EI20.
CS16 General exposures (open systems).	Provide extract ventilation to points where emissions occur. E54.
CS29 Mixing operations	No other specific measures identified. EI20.

(closed systems).	
CS2 Process sampling	No other specific measures identified. EI20.
CS36 Laboratory activities	Handle in a fume cupboard or under extract ventilation. E83.
CS14 Bulk transfers	No other specific measures identified. EI20.
CS8 Drum/batch transfers	No other specific measures identified. EI20.
CS5 Equipment maintenance	No other specific measures identified. EI20.
CS67 Storage.	No other specific measures identified. EI20.
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
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)	1.87E7
Fraction of Regional tonnage used locally	0.032
Annual site tonnage (tonnes/year)	6.0e5
Maximum daily site tonnage (kg/day)	2.0e6
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)	0.05
Release fraction to wastewater from process (initial release prior to RMM)	0.003
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	
Prevent discharge of undissolved substance to or recover from wastewater [TCR14]. Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation) [TCR1k]. Onsite wastewater treatment required [TCR13].	
Treat air emission to provide a typical removal efficiency of (%)	99.0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	95.2
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	80.4
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	

Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	99.1
Maximum allowable site tonnage (M_{Safe}) (kg/d)	2.0e6
Assumed domestic sewage treatment plant flow (m^3/d)	10000
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].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file	
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]. Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file in IUCLID section 13 – “Site-Specific Production” worksheet [DSU6]. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific safety assessment is required [DSU8]. Measured data have been used to demonstrate that the PETRORISK predicted fence-line concentrations in air are overestimated. These data support the conclusion that no refineries have RCRs>1 (Appendix 4 and PETRORISK file in IUCLID section 13 – "Site-Specific Production & Tier II worksheets")	

ANNEX 2: 9.3.1a. Exposure Scenario

Section 1 Exposure Scenario Title Low boiling point naphthas (Gasoline) that is *NOT* classified as R45, R46, R62 or R63; (containing less than 0.1% benzene)	
Title	
Distribution of substance	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 8b, 9, 15
Environmental Release Categories	1, 2, 3, 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, maintenance and associated laboratory activities.	
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 > 10 kPa at STP OC5
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Amount used	Not applicable
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Human factors not influenced by risk management	Not applicable
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
CS15 General exposures (closed systems).	No other specific measures identified. EI20.
CS15 General exposures (closed systems). + CS56 With sample collection.	No other specific measures identified. EI20.
CS16 General exposures (open systems).	Provide extract ventilation to points where emissions occur. E54.
CS2 Process sampling	No other specific measures identified. EI20.
CS36 Laboratory	Handle in a fume cupboard or under extract ventilation. E83.

activities.	
CS501 Bulk closed loading and unloading.	No other specific measures identified. EI20.
CS6 Drum and small package filling	Fill containers/cans at dedicated fill points supplied with local extract ventilation. E51.
CS39 Equipment cleaning and maintenance	No other specific measures identified. EI20.
CS67 Storage.	No other specific measures identified. EI20.
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
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)	1.87E7
Fraction of Regional tonnage used locally	0.002
Annual site tonnage (tonnes/year)	3.75E4
Maximum daily site tonnage (kg/day)	1.2E5
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)	0.001
Release fraction to wastewater from process (initial release prior to RMM)	0.00001
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 humans via indirect exposure (primarily inhalation) [TCR1k]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	12
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	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	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5

Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (M_{Safe}) (kg/d)	1.1E6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
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].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file	
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].	

ANNEX 3: 9.13.1a. Exposure Scenario

Section 1 Exposure Scenario Title Low boiling point naphthas (Gasoline) that is ***NOT* **classified as R45, R46, R62 or R63; (containing less than 0.1% benzene)	
Title	
Rubber production and processing	
Use Descriptor	
Sector(s) of Use	3, 10, 11
Process Categories	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21
Environmental Release Categories	1, 4, 6d
Specific Environmental Release Category	ESVOC SpERC 4.19.v1
Processes, tasks, activities covered	
Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, calendaring, vulcanising, cooling and finishing as well as maintenance.	
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 > 10 kPa at STP OC5
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Amounts used	Not applicable
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Human factors not influenced by risk management	Not applicable
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 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. E4
CS15 General exposures (closed systems).	No other specific measures identified. EI20.
CS3 Material transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS91 Bulk weighing	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS90 Small scale	Carry out in a vented booth. E57.

weighing	
CS92 Additive premixing	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS64 Calendaring (including Banburys)	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS73 Pressing uncured rubber blanks	Provide extract ventilation to points where emissions occur. E54.
CS112 Rubber refreshing during article build up	Provide extract ventilation to points where emissions occur. E54.
CS70 Vulcanisation	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. E1.
CS71 Cooling cured articles	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS13 Manual applications e.g. brushing, rolling	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS113 Production of articles by dipping	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS102 Finishing operations	No other specific measures identified. EI20.
CS36 Laboratory activities	Handle in a fume cupboard or under extract ventilation. E83.
CS5 Equipment maintenance	No other specific measures identified. EI20.
CS67 Storage.	No other specific measures identified. EI20.
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
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)	94
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	94
Maximum daily site tonnage (kg/day)	4.7E3
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)	0.003
Release fraction to wastewater from process (initial release prior to RMM)	0.01
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	
Prevent discharge of undissolved substance to or recover from wastewater [TCR14]. Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation) [TCR1k]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	23.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	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	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (M_{Safe}) (kg/d)	4.2E4
Assumed domestic sewage treatment plant flow (m^3/d)	2000
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].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file	
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].