

Safety Data Sheet

according to the requirements of Regulation (UE) no. 453/2010

Naphtha petroleum solvent refined light (ROMPETROL SE 35-80; 65-80; 70-95; 70-100; 75-115; 80-110; 80-115; 100-150; 100-160)

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

1.1 Product identifier	Naphtha petroleum solvent refined light CAS no.64741-84-0
Registration No. under REACH Regulation	01-2119485160-44-0002
Other means of identification	ROMPETROL SE 35-80; 65-80; 70-95; 75-115; 80-110; 80-115; 100-150;
Trade name	100-160
1.2 Relevant identified uses of the substance or mixture and contraindications uses	
Identified uses	Ecological solvent for varnishes and dyes industry, for processing rubber, solubilizer, grease remover Special uses for SE 65-80: solvent for oil extraction
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 REFINING 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	+(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 substance or of blend	
2.1.1. Classification according to Regulation (EC) 1272/2008 (CLP) with amendments;	
Classification	Asp Tox 1- Aspiration toxicity, Category 1 H304: May be fatal if swallowed and enters airways Flammable Liquids Category 2 H 225 Highly flammable liquid and vapour (OIN4) Toxic for reproduction Cat.2 H361: Suspected of damaging fertility or to unborn child Additional classification considerations: Chronic toxicity to the aquatic environment H411
Contains less than 0,1% benzene	<i>OIN P (CLP) is applicable. The classification as 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).</i> M2 Note applies
Adverse effects of the physical and chemical properties	Highly flammable substance. When used, vapours in contact with air may generate flammable/explosive blends in the presence of heat or of a fire source (electrical, mechanical, flame). Generates electrostatic charge when handling.
Health	Headache, nausea and dizziness are not uncommon after exposure. Central system

nervous depression including confusion, altered mental status, and seizure can occur after acute, high dose exposure. Cardiac rhythm abnormalities can occur after acute, high dose exposure.

On long-term, has adverse effects on the aquatic environment. Chronic cat.3

Environment

2.2 Label elements

In accordance with Regulation (EC) No 1272/2008

Hazard pictogram(s) GHS08

GHS02

Signal word(s)

Code(s)



Danger

Hazard statements (H)

H304: May be fatal if swallowed and enters airways

H224: Highly flammable liquid and vapour (OIN4)

H361: Suspected of damaging fertility or to unborn child

H315: Causes skin irritation

H336: May cause drowsiness and dizziness

H411: Toxic to aquatic life with long lasting effects

Precautionary

Statements (P)

Prevention

P102: Keep out of reach of children

P201: Obtain special instructions before use

P 210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe dust/fume/gas/mist/vapours/spray

P262: Do not get in eyes, on skin, or on clothing

P273: Avoid release to the environment

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary

Statements (P)

Intervention

- P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician

P340: If inhaled-Remove victim to fresh air and keep at rest in a position comfortable for breathing

P308 +P313: If exposed or concerned: Get medical advice/attention

P310+ P331: Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378: In case of fire: Use the recommended extinguishing media for extinction (see section 5.1)

Precautionary

Statements (P)

Storage

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up

Precautionary

Statements (P)

Disposal

P501: Dispose of contents/container to national wastes regulations

2.3 Other hazards: not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 This product is defined as a substance

Complex of hydrocarbons obtained from a refining process followed by solvent extraction. Contains aliphatic hydrocarbons with a number of carbon atoms within the C5 – C11 range and distillation range between 35°C and 190°C.

Substance	Concentration Range, %	EC	CAS	Classification according to Regulation 1272/2008
Naphtha petroleum solvent refined light	100	265-086-6	64741-84-0	Asp Tox 1- H304 Flam Cat 2-H225 OIN P(CLP) apply: Toxic for reproduction at.2- H361

The following hydrocarbons (markers) are present in the bellow concentrations:

Substance	% (w/w)	EC	CAS	Classification according to Regulation 1272/2008
n-hexane	0,910 - 39,350	203-777-6	110-54-3	Flam liq 2, Repr.2, Asp.Tox.1, STOT RE 2, Skin Irr.2, STOT SE 3, Aquatic Chronic 2
benzene	0,002 - 0,0195	200-753-7	71-43-2	Flam liq.2, Carc 1A, Muta 1B, STOT RE 1, Asp Tox 1, Eye Irr.2
toluene	0,0006 - 1,190	203-625-9	108-88-3	Flam liq 2, Repr.2, Asp.Tox.1, STOT RE 2 Skin Irr.2, STOT SE 3

SECTION 4 : FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1. First aid instructions provided by relevant routes of exposure

Own protection is needed for people who provide first aid measures

Inhalation

Move to well-ventilated area.

Monitor for the respiratory distress; administer oxygen and assist ventilation as required. Seek medical assistance.

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.

Skin contact

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 all contaminated clothing and contaminated footwear and dispose of safely

Wash affected area with soap and copious amounts of water for 10 to 15 min.

Seek medical attention if skin irritation, swelling or redness occurs.

Laundry contaminated non-leather clothing before reuse.

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.

Remove contact lenses and irrigate exposed eyes for at least 15 minutes.

Irrigate before and after removing the lenses to prevent a carry-over of the substances to the shielded area of the lens.

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 the 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

4.1.2. Advice provided to person who performs first aid

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).

If prolonged skin exposure has led to a chemical burn, this should be treated as a burn. High-pressure injection may drive fluid into the skin even through gloves or overalls. Radiographic examination of the affected area may help to determine the distance of spread from the injection site. Primary treatment consists of surgical decompression and debridement

Induction of vomiting and gastric lavage (even with a secured airway) are contraindicated. Activated charcoal is ineffective

In cases of known or suspected aspiration:

- Continuous monitoring of the patient's peripheral haemoglobin oxygen saturation by pulse for 48-72 hours is highly recommended

Monitoring for evidence of pulmonary edema by sequential medical imaging beginning 6 hours following ingestion/aspiration and continuing for at least 48-72 hours is highly recommended

SECTION 5: FIRE-FIGHTING MEASURES

General considerations

5.1. Extinguishing media

Suitable extinguishing media

Major fire: Foam, Water Fog

Minor fire: Dry chemical powder, Carbon dioxide, Sand or earth

ABC powders, BC powders, steam, inert gas, halon replacements, aerosol, foam.

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

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

5.3. Advice for fire-fighters

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 Ensure ventilation of the contaminated area and remove sources of fire. No smoking!

- personnel
- 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.
- Is evacuated and ventilated area where the incident took place indoors
- Movement of staff will be perpendicular to the wind direction, so as to produce rapid removal from the area of risk
- Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares).
- The contaminated area must be ventilated and fire sources must be removed. Do not smoke! Do not inhale vapours and avoid contact with the liquid.
- Take precaution measures against electrostatic discharge by using tools which do not generate sparks. Wear personal protective equipment specified at Section 8 of the safety data sheet.
- Comply with emergency procedures applicable in case of evacuation of the dangerous area.
- 6.1.2. For emergency responders
- 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.
- Separate the area where the leak occurred.
- Prevent water and soil contamination as a result of collection of substance into drains, channels or running waters by using adsorbent materials, sand, clod or other available barriers.
- 6.2 Environmental precautions
- Avoid discharge into the environment on concrete platforms
- 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.
- Prevent discharge into the environment
- 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
- Product spill shall be covered by adsorbent nonflammable materials, such as sand, diatomite, acid binder, universal binder, sawdust. Cleaning materials become hazardous waste.
- 6.3.3. Other information relating to spills and releases - No data
- 6.4. Reference to other sections – see sections 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, 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; grounding plugs must be checked periodically; 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 closed spaces, ensure adequate ventilation and periodically assess the toxicity level.

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) This are worn whenever exposure can not be fully assessed or where it is likely to be a deficit of oxygen. Determinations the vapor concentration must be done which must be 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

Store in specially appointed tanks, provided with safety equipment, grounding devices and water sprinkling rings. Use floating top tanks in order to avoid loss by way of vapouring.

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 sulfide 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, unlabeled and improvised containers.

Storage temperature - ambient.

- 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 environment. Product is moderately toxic to the flora and fauna. 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	
(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	35 °C -160 °C	SR EN ISO 3405-03, ASTM D 86-07a
(g) Flash point liquid	< -6°C	SR EN ISO 13736-09
(h) Evaporation rate	no data	
(i) Flammability (solid, gas)	not relevant. The product is liquid	
(j) Lower/upper/flammability or explosive limits	LFL 1,1%, UFL 7,6% vol (at 760mmHg and 20°C)	Concawe data
(k) Vapour pressure	15 - 90 kPa	ASTM D 5191/2007 SR EN 13016-1/2008
(l) Vapour density	no data	
(m) Relative density at 15°C	656.8 – 735.5Kg/cm	ASTM D 1298-99(05) ASTM D 4052-96(02)
(n) Solubility(ies) - water	less than 1mg/l	Concawe data
(o) Partition coefficient: n-octanol/water	no data	
(p) Auto-ignition temperature	> 200 °C	Concawe data
(q) Decomposition temperature	no data	
(r) Viscosity	-at 40°C of < 7cSt	Concawe data
(s) Explosive properties	the product does not meet the criteria to be classified as	
(t) Oxidising properties	does not act as an oxidizing agent	
9.2 Other information	there are not	

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	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 the oxidizing materials (peroxides, nitrates, perchlorates).
10.6. Hazardous decomposition products	From thermal decomposition are resulting carbon oxides, toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Substance

11.1.1.1 Relevant hazards classes

- a) acute toxicity: The result of animal studies on determining the acute oral, dermal and inhalation toxicity, are the following:
 LD50 (Rat) oral = > 5 g / kg body weight
 LC50 –(Rat) inhalation = > 5.2 mg / l
 Data are obtained from tests made in the EU (information Concauwe)
- b) skin irritation LD50 (Rabbit) dermal = > 2 g / kg body weight
 Moderate skin irritation (classified as irritant category 2)
 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. (Concauwe information)
- c) 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 (Concauwe information)
- d) respiratory and skin sensitization Not cause sensitization, results obtained on studies conducted in the EU Tests on guinea pigs did not indicate skin sensitization and airway (information Concauwe)
- e) germ cell mutagenicity No mutagenic effect (the determined content of benzene is less than 0.1%, w/w; n-hexane >3% w/w, there is danger to germ cells).
 Studies have shown that there is no evidence of mutagenic activity of the product.
- f) carcinogens *Are not sufficient evidence to be considered carcinogenic (the benzene content was determined to be lower than 0,1%)*
 Tests on mice for a period of two years, the effect of skin cancer has revealed an increased incidence of skin tumors.
- g) reproductive toxicity In repeated doses, the product is toxic to fertility, due to the n-Hexane content which exceeds 5% (CONCAWE studies - information)
- (h) STOT (specific target organ toxicity) single-exposure May cause narcosis / depression in case of prolonged exposure to a high concentration (CONCAWE)
- (i) STOT (specific target organ toxicity), 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.
 Severe skin irritation – without systemic toxicity – was noticed. The light hydrocarbons content may cause nephropathies in case of repeated exposure.
- (j) aspiration hazard May cause drowsiness and dizziness.

SECTION 12 : ECOLOGICAL INFORMATION

Prevent product from entering sewers, rivers or other bodies of water, including groundwater table

12.1 Toxicity

- Acute(short-term) aquatic hazard Testing toxicity in the short term (Daphnia): EL50 (shrimps) 2.0 mg/l – Acute 2nd category toxicity (GHS), R51(EU)
 Testing toxicity in the short term (Daphnia): NOEL (daphnia, reproduction 21d) < 0.4 mg/l - 2nd class chronic toxicity (GHS), R53(EU)
- Chronic (long-term) Aquatic Hazard Study concerning inhibition of growth, performed on plants (algae):
 IL50 (algae) 1.1 mg/l
 NOEL (algae 72h) <0.2-0.9 mg/l - 2nd class acute / chronic toxicity (GHS), R51/53(EU)
 Testing short term toxicity on fish - LL50 (fat head minnow) 8.3 mg/l
 2nd class acute toxicity in the short term (GHS), R51(EU)

12.2 Persistence and degradability	The studies which were performed revealed that the product is not easily degradable but simulation tests in surface waters revealed that it is surely biodegradable (based on prediction).
12.3 Bio accumulative potential	BIOACCUMULATIVE (based on prediction). Bioaccumulation in water species, preferably fish. LogKow values, varying from 3 to more than 6, are deemed bioaccumulative.
12.4 Mobility in soil	No data is available concerning the potential of mobility in the soil.
12.5 Results of PBT and vPvB assessment:	The product is not classified vPvB and PBT.
12.6 Other adverse effects	No data

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	If removal is required after the recovery of spills or tank cleanings, burning or burning in a boiler in operation are the most suitable methods. Alternative the redistilled product can be recovered for use as solvent. Product spill in the environment is forbidden. Accidental leaks or spills, if cannot be recovered or recycled, shall be handled as hazardous waste. Waste shall be collected in a controlled manner. In case of accidental leak, use sand or sawdust. Later destruction or removal of residue shall be performed by way of incineration or in hazardous waste dumps, in compliance with the applicable legal norms and regulations concerning environmental protection.
Contaminated packaging:	Empty, with traces of oil are dangerous, they should not be cut, pressurized, sold, and drilled especially to be kept away from heat, flame sources. Cleaning is done by authorized firms. Packing is deemed hazardous waste and may be incinerated in specialized units

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number	UN 1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)
14.3 Transport hazard class(es)	3
14.4. Packing group	II
14.5. Environmental hazards	YES
14.6. Special precautions for user	
Hazard identification number	33
Labels ADR/RID	3
Tunnel restriction code	D/E – Note: ADR requirement only

Product shall be transported by auto or railway tanks/ships, in good technical condition, having signaling panels for danger and danger label with RID/ADR/IMDG requirements (see Fig no.1, 2 and 3).

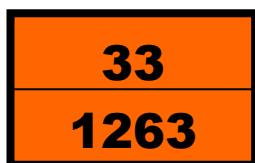


Fig.1



Fig 2



Fig 3

14.7 Transported in bulk in accordance with Annex II to MARPOL 73/78 and IBC code - Not applicable

SECTION 15 : REGULATORY INFORMATION

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

Applicable EU Directives and Regulations:

- Regulation (EC) No. 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- Regulation Reach no.1907/2006 for registration, evaluation restriction of chemicals and authorisation of substance
- Regulation (EC) 1272/2008 on the classification, labeling and packaging of substances mixtures, which modifies and amends Directives 67/548/EEC and 1999/45/EC, with further amendments
- Commission Regulation (EU) no.944/2013, amending for the purposes of its adaptation to the technical and scientific progress, Regulation no.1272/2008 of the European Parliament and of the Council, on classification, labeling and packaging of substances and mixtures
- Council Directive 67/548/EEC of [27 June 1967](#) on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
- The 89/656/CEE Directive regarding the establishment of minimum security and health measures for the workers' usage of the individual protection equipment at the working spot. (the 3rd specific directive by meaning of the 16th article alin. (1) from Directive 89/391/CEE], published in the Official Journal of the European communities no. (JOCE) nr. L393/1989
- Directive 96/82/EC SEVESO II on the control of major-accident hazards
- Directive 2004/37/EC (EU) on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
- Directive 2006/12/EC and 2008/98/EC Waste Framework - sets the basic concepts and definitions related to waste management
- Directive 1999/45/EC on 31 May 1999 on the approximation of laws, rules and decisions of the ref to the classification, packaging and labelling of dangerous preparations
- Directive 89/656/EEC establishing the minimum health and safety rules at work, the use of personal protective equipment at work
- Directive 89/391/EEC establishing measures to promote improved health and safety of workers
- Law no.319/2006, The Law of security and work health
- Government decision 347/2003, Appendix 11, section 29
- Government Decision 856/2002 regarding waste management tracking
- GD 1218/2006 ammended 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
- Rules for international transport of dangerous goods by railway (RID)
- European Treaty for international road transport of dangerous goods (ADR)
- International Maritime Code for the Transport of Dangerous Goods (IMDG)
- European Treaty for international transport of dangerous goods by inland seas, rivers, streams (ADN)

15.2. Chemical safety report Exposure scenarios of Chemical Safety Report in Annex

SECTION 16: OTHER INFORMATION

16.1. Information which has been added, erased or modified

It was revised sections 2 and 14

16.2. Key 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	Threshold 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 Bioaccumulative, very Toxic

NA Not applicable

16.3. List of relevant additionally hazard statement list

Relevant risk statements list

H 336: May cause drowsiness or dizziness.

H 315: Causes skin irritation

H 411: Toxic to aquatic life with long lasting effects. (Category 2)

Relevant Precautionary Statements List

P 233: Keep container tightly closed.

P 240: Ground / bond container and receiving equipment.

P 241: Use explosion-proof electrical/ventilating/lighting/.../ equipment..

P 242: Use only non-sparking tools.

P 243: Take precautionary measures against static discharge.

P 264: Wash your hands thoroughly after use

P 273: Avoid release to the environment.

Relevant Precautionary Statements (intervention)

P 302+P 352: IF ON SKIN: Wash with plenty of soap and water.

P 332+P 313: If skin irritation or rash occurs: Get medical advice/attention.

P 362: Take off contaminated clothing and wash before reuse

P 370+P 378: In case of fire: Use chemical foam for extinguishing.

P 391: Collect spillage.

P 305+ P 351 + P 338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary phrase. Elimination

P501: Dispose of contents / container in the settled place for the hazardous waste storage.

16.4. Key literature references and sources for data

References:

- International Chemical Safety Data Sheets
- ESIS (European Chemical Substances Information System) - <http://ecb.jrc.ec.europa.eu/esis/> - IUCLID data base
- Concawe Product Dossiers - <http://www.concawe.org/>
- Concawe recommendations July 2005 - classification and labelling of petroleum substances according to the EU dangerous substances directive
- CONCAWE - PC Handbook 19 November 2010
- Standard Specification

The recommendations contained herein are, to the best of Rompetrol Refining's knowledge and belief, accurate and reliable as of the data issued. The information and recommendations are offered for the user's consideration and examination. The information apply to only the above described product, being disclosed in good faith but without warranty, expressed or implicit, to be complete.

The Client shall be responsible for deciding if the product and information in this document are suitable for his intended usage of bought product. The conditions or methods for handling, storage, use or disposal of product are beyond our control and may be outside the knowledge we have. For this reason, Rompetrol Refining doesn't assume responsibility for losses or expenses resulting from degradation in connection with the handling, storage, use or disposal of the product by the Client.

Quality-Environment-Occupational Health and Safety is certified by Germanischer Lloyd Certification according to the following standards:

- ISO 9001:2008
- ISO 14001:2009
- BS OHSAS 18001:2007

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

© **ROMPETROL REFINING SA** Unauthorized reproduction by any mean, partial or total, is prohibited.

Anexa 1

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 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
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 activities.	Handle in a fume cupboard or under extract ventilation. E83.
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 \geq (%)	12
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	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 identified 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	
<p>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.</p> <p>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32.</p> <p>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..</p>	
4.2. Environment	
<p>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].</p>	

ANEXA 2

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 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
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 (closed systems).	No other specific measures identified. EI20.
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 \geq (%)	95.2
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	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")	

ANEXA 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 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
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 weighing	Carry out in a vented booth. E57.
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 \geq (%)	23.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	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 identified OCs and RMMs is contained in Petrisk 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 Petrisk 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].

ANEXA 4

9.4.1a. 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	
Formulation & (re)packing of substances and mixtures	
Use Descriptor	
Sector(s) of Use	3, 10
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
Environmental Release Categories	2
Specific Environmental Release Category	ESVOC SpERC 2.2.v1
Processes, tasks, activities covered	
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletization, extrusion, large and small scale packing, maintenance, sampling 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
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	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	No other specific measures identified. EI20 .

(closed systems). + CS56 With sample collection.	
CS16 General exposures (open systems).	Provide extract ventilation to points where emissions occur. E54.
CS2 Process sampling	No other specific measures identified. EI20.
CS29 Mixing operations (closed systems)	Provide extract ventilation to points where emissions occur. E54.
CS36 Laboratory activities	Handle in a fume cupboard or under extract ventilation. E83.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS34 Manual + CS22 Transfer from/pouring from containers	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
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. EI18.
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)	1.65e7
Fraction of Regional tonnage used locally	0.0018
Annual site tonnage (tonnes/year)	3.0e4
Maximum daily site tonnage (kg/day)	1.0e5
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)	0.025
Release fraction to wastewater from process (initial release prior to RMM)	0.002
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 (%)	56.5
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency \geq (%)	94.7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	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)	1.0E5
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 identified 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].

Anexa 5

9.7.1a. 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	
Use in Cleaning Agents	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 7, 8a, 8b, 10, 13 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC SpERC 4.4a.v1
Processes, tasks, activities covered	
Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and 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	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 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
CS38 Use in contained systems, CS93 Automated process with	No other specific measures identified. EI20 .

(semi) closed systems.	
CS37 Use in contained batch processes.	No other specific measures identified. EI20.
CS45 Filling / preparation of equipment (from drums or containers).	No other specific measures identified. EI20.
CS44 Cleaning with high pressure washers	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS39 Equipment cleaning and maintenance	No other specific measures identified. EI20.
CS 14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS37 Use in contained batch processes. CS93 Automated process with (semi) closed systems.	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS4 Dipping, immersion and pouring	Minimise exposure by extracted full enclosure for the operation or equipment. E61.
CS42 Cleaning with low-pressure washers.	Provide enhanced general ventilation by mechanical means. E48.
CS34 Manual, CS47 Cleaning, CS48 Surfaces, CS60 No spraying	Provide enhanced general ventilation by mechanical means. E48.
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)	5.12E2
Fraction of Regional tonnage used locally	0.2
Annual site tonnage (tonnes/year)	1.0E2
Maximum daily site tonnage (kg/day)	5.0E3
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)	1.0
Release fraction to wastewater from process (initial release prior to RMM)	0.00003
Release fraction to soil from process (initial release prior to RMM)	0
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 (%)	70
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency \geq (%)	4.4
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	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)	2.9E4
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 identified 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].	

ANEXA 6

9.8.1. 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	
Use in Cleaning Agents	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 8a, 8b, 10, 11, 13 Further information on the mapping and allocation of PROC codes is contained in Table 9.1
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.4b.v1
Processes, tasks, activities covered	
Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).	
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	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 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
CS38 Use in contained systems. CS93 Automated process with (semi) closed systems.	Provide extract ventilation to points where emissions occur. E54 .
CS37 Use in contained	No other specific measures identified. EI20 .

batch processes.	
CS45 Filling / preparation of equipment (from drums or containers).	No other specific measures identified. EI20.
CS37 Use in contained batch processes, CS76 Semi Automated process. (e.g.: Semi automatic application of floor care and maintenance products).	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. E60.
CS45 Filling / preparation of equipment (from drums or containers)	Ensure material transfers are under containment or extract ventilation. E66.
CS14 Bulk Transfers.	Ensure material transfers are under containment or extract ventilation. E66.
CS42 Cleaning with low-pressure washers, CS60 No spraying.	Minimise exposure by extracted full enclosure for the operation or equipment. E61.
CS34 Manual, CS47 Cleaning, CS48 Surfaces, CS50 Wiping, CS51 Rolling, Brushing.	Provide enhanced mechanical ventilation by mechanical means. E48.
CS44 Cleaning with high pressure washers, CS10 Spraying, OC8 Indoor.	Provide enhanced mechanical ventilation by mechanical means. E48.
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)	3.6E2
Fraction of Regional tonnage used locally	0.0005
Annual site tonnage (tonnes/year)	0.18
Maximum daily site tonnage (kg/day)	0.49
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
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)	0.02
Release fraction to wastewater from process (initial release prior to RMM)	0.000001
Release fraction to soil from process (initial release prior to RMM)	0
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 (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency \geq (%)	3.3
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of \geq (%)	0
Organisation measures to prevent/limit release from site	
Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. 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)	4.6
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 nation 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].	