SAFETY DATA SHEET

R TF-R5

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

1.1. Product identifier

Trade name: R TF-R5

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

Relevant identified uses of the substance or mixture: Fuels

Use descriptors (UK REACH):

Product category	Description
PC 13	Fuels

Uses advised against : None known.

1.3. Details of the supplier of the safety data sheet

Company and address:

Anglo American Oil Company Ltd
58 Holton Road
Holton Heath Trading Park
Poole
BH16 6LT Dorset
England
Tel: +44 01929 551557
Fax: +44 01929 551567
www.aaoil.co.uk

E-mail: racing@aaoil.co.uk

Revision: 21/01/2025

SDS Version: 3.0

Date of previous version: 06/10/2023 (2.0)

1.4. ▼Emergency telephone number

+1 352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Classified according to Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

2.1. Classification of the substance or mixture

Flam. Liq. 2; H225, Highly flammable liquid and vapour.
Asp. Tox. 1; H304, May be fatal if swallowed and enters airways.
Skin Irrit. 2; H315, Causes skin irritation.
STOT SE 3; H336, May cause drowsiness or dizziness.
Muta. 1B; H340, May cause genetic defects.

Carc. 1B; H350, May cause cancer.
Repr. 2; H361d, Suspected of damaging the unborn child.
STOT SE 2; H371, May cause damage to organs.
STOT RE 2; H373, May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 2; H411, Toxic to aquatic life with long lasting effects.

2.2. Label elements

▼*Hazard pictogram(s):*



Signal word: Danger

Hazard statement(s):
Highly flammable liquid and vapour. (H225)
May be fatal if swallowed and enters airways. (H304)
Causes skin irritation. (H315)
May cause drowsiness or dizziness. (H336)
May cause genetic defects. (H340)
May cause cancer. (H350)
Suspected of damaging the unborn child. (H361d)
May cause damage to organs. (H371)
May cause damage to organs through prolonged or repeated exposure. (H373)
Toxic to aquatic life with long lasting effects. (H411)

Precautionary statement(s):

General:
If medical advice is needed, have product container or label at hand. (P101)
Keep out of reach of children. (P102)

Prevention:
Do not breathe vapour. (P260)

Response:
Get medical advice/attention if you feel unwell. (P314)
IF SWALLOWED: Immediately call a POISON CENTER/doctor. (P301+P310)
Do NOT induce vomiting. (P331)

Storage:
-

Disposal:
Dispose of contents/container in accordance with local regulation (P501)

Hazardous substances:
toluene
Naphtha (petroleum), light alkylate
isopentane;2-methylbutane
methanol

Additional labelling:

2.3. Other hazards

▼*Additional warnings:*
This mixture/product does not contain any substances known to fulfil the criteria for PBT

and vPvB classification.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
toluene	CAS No.: 108-88-3 EC No.: 203-625-9 UK-REACH: 01-2119471310-51-XXXX Index No.: 601-021-00-3	25-40%	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Repr. 2, H361d STOT RE 2, H373	[1], [3]
Naphtha (petroleum), light alkylate	CAS No.: 64741-66-8 EC No.: 265-068-8 UK-REACH: Index No.: 649-276-00-X	25-40%	Flam. Liq. 1, H224 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Muta. 1B, H340 Carc. 1B, H350 Aquatic Chronic 2, H411	[19]
tert-butyl methyl ether	CAS No.: 1634-04-4 EC No.: 216-653-1 UK-REACH: 01-2119452786-27-XXXX Index No.: 603-181-00-X	10-15%	Flam. Liq. 2, H225 Skin Irrit. 2, H315	[1]
isopentane;2-methylbutane	CAS No.: 78-78-4 EC No.: 201-142-8 UK-REACH: 01-2119475602-38-XXXX Index No.: 601-085-00-2	5-10%	EUH066 Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411	[1]
methanol	CAS No.: 67-56-1 EC No.: 200-659-6 UK-REACH: 01-2119392409-28-XXXX Index No.: 603-001-00-X	3-5%	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 STOT SE 2, H371 (SCL: 3.00 %)	[1], [3]

m-xylene	CAS No.: 1330-20-7 EC No.: 215-535-7 UK-REACH: 01-2119488216-32-XXXX Index No.: 601-022-00-9	<0.0015%	Flam. Liq. 3, H226 Acute Tox. 4, H312 Skin Irrit. 2, H315 Acute Tox. 4, H332	
n-hexane	CAS No.: 110-54-3 EC No.: 203-777-6 UK-REACH: Index No.: 601-037-00-0	<0.0015%	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Repr. 2, H361f STOT RE 2, H373 (SCL: 5.00 %) Aquatic Chronic 2, H411	[1]
ethylbenzene	CAS No.: 100-41-4 EC No.: 202-849-4 UK-REACH: 01-2119489370-35-XXXX Index No.: 601-023-00-4	<0.0015%	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Acute Tox. 4, H332 STOT RE 2, H373	
benzene	CAS No.: 71-43-2 EC No.: 200-753-7 UK-REACH: Index No.: 601-020-00-8	<0.0015%	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372	[1], [3], [4]

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

[1] European occupational exposure limit.
[3] According to UK REACH, Annex XVII, the substance is subject to restrictions.
[4] Substance is listed in Annex I of the Prior Informed Consent Regulation (PIC, Regulation (EU) 649/2012).
[19] UVCB = Unknown or variable composition, complex reaction products or of biological materials

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information:

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.
Contact a doctor if in doubt about the injured

	person's condition or if the symptoms persist. Never give an unconscious person water or other drink.
Inhalation:	Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.
Skin contact:	Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners. If skin irritation occurs: Get medical advice/attention.
Eye contact:	If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.
Ingestion:	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do not induce vomiting! If vomiting occurs, keep head facing down so that vomit does not get into the lungs. Call a doctor or ambulance. Symptoms of chemical pneumonia can appear after several hours. People who have swallowed the product should therefore be kept under medical attention for at least 48 hours.
Burns:	Rinse with water until pain stops then continue to rinse for 30 minutes.

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

This product contains substances that can cause chemical pneumonia if swallowed. Symptoms of chemical pneumonia may appear after several hours.
Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

IF exposed or concerned:
Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture
Highly flammable liquid and vapour.
In use may form flammable/explosive vapour-air mixture.
Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Carbon oxides (CO / CO2)

5.3. Advice for firefighters
Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.
Hazchem Code: 3YE

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Storages not yet ignited must be cooled by water mist. Remove flammable materials if conditions allow it. Ensure sufficient ventilation.
Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.
Avoid inhalation of vapours from spilled material.
Contaminated areas may be slippery.

6.2. Environmental precautions
Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. Methods and material for containment and cleaning up
Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections
See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Ground and bond container and receiving equipment.
Use explosion-proof [electrical/lighting/ventilating] equipment.
Use non-sparking tools.

Take action to prevent static discharges.
It is recommended to install waste collection trays in order to prevent emissions to the waste water system and surrounding environment.
Avoid direct contact with the product.
Avoid contact during pregnancy and while nursing.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. ▼Conditions for safe storage, including any incompatibilities

Store locked up. A sign warning of toxic materials shall be affixed the room and cupboard containing the product(s).
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Take action to prevent static discharges.
Must be stored in a cool and well-ventilated area, away from possible sources of ignition.

Recommended storage material:	Keep only in original packaging. Stainless steel
Storage conditions:	Dry, cool and well ventilated Keep away from sources of ignition. Keep container tightly closed. Keep away from direct sunlight. Prevent build-up of electrostatic charge in the immediate area. Room temperature 15 to 25°C
Incompatible materials:	Strong oxidizing agents

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

toluene
Long term exposure limit (8 hours) (ppm): 50
Long term exposure limit (8 hours) (mg/m^3): 191
Short term exposure limit (15 minutes) (ppm): 100
Short term exposure limit (15 minutes) (mg/m^3): 384
Annotations:
Sk = Can be absorbed through the skin and lead to systemic toxicity.

tert-butyl methyl ether
Long term exposure limit (8 hours) (ppm): 50
Long term exposure limit (8 hours) (mg/m^3): 183,5
Short term exposure limit (15 minutes) (ppm): 100
Short term exposure limit (15 minutes) (mg/m^3): 367

isopentane;2-methylbutane
Long term exposure limit (8 hours) (ppm): 600
Long term exposure limit (8 hours) (mg/m^3): 1800

methanol

Long term exposure limit (8 hours) (ppm): 200
Long term exposure limit (8 hours) (mg/m³): 266
Short term exposure limit (15 minutes) (ppm): 250
Short term exposure limit (15 minutes) (mg/m³): 333
Annotations:
Sk = Can be absorbed through the skin and lead to systemic toxicity.

n-hexane
Long term exposure limit (8 hours) (ppm): 20
Long term exposure limit (8 hours) (mg/m³): 72

benzene
Long term exposure limit (8 hours) (ppm): 1
Long term exposure limit (8 hours) (mg/m³): 3,25
Annotations:
Carc = Capable of causing cancer and/or heritable genetic damage.
Sk = Can be absorbed through the skin and lead to systemic toxicity.

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677 The Stationery Office 2002.
EH40/2005 Workplace exposure limits (Fourth Edition 2020).

DNEL

benzene

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - General population	Inhalation	140 µg/m³
Long term – Systemic effects - Workers	Inhalation	800 µg/m³

isopentane;2-methylbutane

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - Workers	Dermal	432 mg/kg bw/day
Long term – Systemic effects - Workers	Inhalation	3000 mg/m³

methanol

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - Workers	Dermal	20 mg/kg bw/day
Short term – Systemic effects - Workers	Dermal	20 mg/kg bw/day
Long term – Local effects - Workers	Inhalation	130 mg/m³
Long term – Systemic effects - Workers	Inhalation	130 mg/m³
Short term – Local effects - Workers	Inhalation	130 mg/m³
Short term – Systemic effects - Workers	Inhalation	130 mg/m³

n-hexane

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - General population	Dermal	5.3 mg/kg bw/day

Long term – Systemic effects - Workers	Dermal	11 mg/kg bw/day
Long term – Systemic effects - General population	Inhalation	16 mg/m³
Long term – Systemic effects - Workers	Inhalation	75 mg/m³
Long term – Systemic effects - General population	Oral	4 mg/kg bw/day

Naphtha (petroleum), light alkylate

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - General population	Dermal	699 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	773 mg/kg bw/day
Long term – Local effects - General population	Inhalation	178.57 mg/m³
Long term – Local effects - Workers	Inhalation	837.5 mg/m³
Long term – Systemic effects - General population	Inhalation	410 µg/m³
Long term – Systemic effects - General population	Inhalation	608 mg/m³
Long term – Systemic effects - Workers	Inhalation	1.9 mg/m³
Long term – Systemic effects - Workers	Inhalation	2035 mg/m³
Short term – Local effects - General population	Inhalation	640 mg/m³
Short term – Local effects - Workers	Inhalation	1066.67 mg/m³
Short term – Systemic effects - General population	Inhalation	1152 mg/m³
Short term – Systemic effects - Workers	Inhalation	1286.4 mg/m³
Long term – Systemic effects - General population	Oral	699 mg/kg bw/day

tert-butyl methyl ether

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - General population	Dermal	3570 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	5100 mg/kg bw/day
Long term – Systemic effects - General population	Inhalation	53.6 mg/m³
Long term – Systemic effects - Workers	Inhalation	178.5 mg/m³
Short term – Local effects - General population	Inhalation	214 mg/m³
Short term – Local effects - Workers	Inhalation	357 mg/m³
Long term – Systemic effects - General population	Oral	7.1 mg/kg bw/day

toluene

Duration:	**Route of exposure:**	**DNEL:**
Long term – Systemic effects - Workers	Dermal	384 mg/kg bw/day
Long term – Local effects - Workers	Inhalation	192 mg/m³
Long term – Systemic effects - Workers	Inhalation	192 mg/m³

Short term – Local effects - Workers	Inhalation	384 mg/m³
Short term – Systemic effects - Workers	Inhalation	384 mg/m³

PNEC

benzene

Route of exposure:	**Duration of Exposure:**	**PNEC:**
Freshwater		80 µg/L
Freshwater sediment		1.36 mg/kg
Intermittent release (freshwater)		53 µg/L
Intermittent release (marine water)		5.3 µg/L
Marine water		8 µg/L
Marine water sediment		136 µg/kg
Sewage treatment plant		39 mg/L
Soil		225 µg/kg

tert-butyl methyl ether

Route of exposure:	**Duration of Exposure:**	**PNEC:**
Freshwater		5.1 mg/L
Freshwater sediment		23 mg/kg
Intermittent release (freshwater)		47.2 mg/L
Marine water		260 µg/L
Marine water sediment		1.17 mg/kg
Sewage treatment plant		71 mg/L
Soil		1.56 mg/kg

toluene

Route of exposure:	**Duration of Exposure:**	**PNEC:**
Freshwater		74-680 µg/L
Freshwater sediment		1.78-16.39 mg/kg
Intermittent release (freshwater)		37.8-680 µg/L
Intermittent release (marine water)		3.78 µg/L
Marine water		7.4-680 µg/L
Marine water sediment		178-16390 µg/kg
Sewage treatment plant		840-13610 µg/L
Soil		313-2890 µg/kg

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations: Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios: There are no exposure scenarios implemented for this product.

Exposure limits: Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures: Do not recirculate outlet air that contain the substances.
The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked. Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures: Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure: Keep damming materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment

Generally: Use only UKCA marked protective equipment.

Respiratory Equipment:

Work situation	Type	Class	Colour	Standards	
In case of inadequate ventilation	Self contained breathing apparatus			EN137, EN139	

Skin protection:

Recommended	Type/Category	Standards	
Wear appropriate protection clothing, e.g. coveralls in polypropylene or working clothes in cotton or polyester.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0.4	> 480	EN374-2, EN374-3, EN388	

Eye protection:

Type	Standards	
Safety glasses	EN166	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Colourless
Odour / Odour threshold:	Characteristic
▼*pH:*	No relevant or available data due to the nature of the product.
▼*Density (g/cm^3):*	No relevant or available data due to the nature of the product.
▼*Kinematic viscosity:*	No relevant or available data due to the nature of the product.
Particle characteristics:	Does not apply to liquids.

Phase changes

▼*Melting point/Freezing point (°C):*	No relevant or available data due to the nature of the product.
Softening point/range (°C):	Does not apply to liquids.
Boiling point (°C):	38
Vapour pressure:	7.54 psi
▼*Relative vapour density:*	No relevant or available data due to the nature of the product.
▼*Decomposition temperature (°C):*	No relevant or available data due to the nature of the product.

Data on fire and explosion hazards

Flash point (°C):	-40
Flammability (°C):	The material is ignitable.
▼*Auto-ignition temperature (°C):*	No relevant or available data due to the nature of the product.
▼*Lower and upper explosion limit (% v/v):*	No relevant or available data due to the nature of the product.

Solubility

▼*Solubility in water:*	No relevant or available data due to the nature of the product.
▼*n-octanol/water coefficient (LogKow):*	No relevant or available data due to the nature of the product.
▼*Solubility in fat (g/L):*	No relevant or available data due to the nature of the product.

9.2. Other information

▼*Oxidizing properties:*	No relevant or available data due to the nature of the product.

Other physical and chemical parameters: No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
Avoid static electricity.
Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure.

10.5. Incompatible materials
Strong oxidizing agents

10.6. ▼Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

Acute toxicity

Product/substance	toluene
Test method:	OECD 401
Species:	Rat, male
Route of exposure:	Oral
Test:	LD50
Result:	5580 mg/kg

Product/substance	toluene
Test method:	OECD 403
Species:	Rat, male/female
Route of exposure:	Inhalation
Test:	LC50 (4 hours)
Result:	28.1 mg/L

Product/substance	toluene
Test method:	OECD 403
Species:	Rat, male
Route of exposure:	Inhalation
Test:	LC50 (4 hours)
Result:	25.7 mg/L

Product/substance	toluene
Test method:	OECD 403
Species:	Rat, female

Route of exposure:	Inhalation
Test:	LC50 (4 hours)
Result:	30 mg/L

Product/substance	toluene
Species:	Rabbit, male
Route of exposure:	Dermal
Test:	LD50
Result:	>5000 mg/kg

Product/substance	isopentane;2-methylbutane
Test method:	OECD 403
Species:	Rat
Route of exposure:	Inhalation
Test:	LC50
Result:	>25.3 mg/L

Product/substance	methanol
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	>1,187-2,769 mg/kg

Product/substance	methanol
Species:	Rabbit
Route of exposure:	Dermal
Test:	LD50
Result:	17,100 mg/kg

Product/substance	methanol
Species:	Rat
Route of exposure:	Inhalation
Test:	LC50 (4 hours)
Result:	128.2 mg/L

Product/substance	n-hexane
Species:	Rat
Route of exposure:	Intraperitoneal
Test:	LD lo
Result:	9100 mg/kg bw

Product/substance	n-hexane
Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	25 g/kg

Product/substance	benzene
Species:	Mouse
Route of exposure:	Oral
Test:	LD50
Result:	1440 mg/kg

Product/substance	benzene

Species:	Rat
Route of exposure:	Oral
Test:	LD50
Result:	930 mg/kg

Product/substance	benzene
Species:	Mouse
Route of exposure:	Dermal
Test:	LD50
Result:	48 mg/kg

▼Skin corrosion/irritation

Product/substance	toluene
Test method:	OECD 404
Species:	Rabbit
Result:	Adverse effect observed (Slightly irritating)

Causes skin irritation.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

STOT-single exposure

Product/substance	toluene
Route of exposure:	Inhalation
Target organ:	Central nervous system
Conclusion:	Adverse effect observed

May cause drowsiness or dizziness.
May cause damage to organs.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Product/substance	isopentane;2-methylbutane
Test:	The substance is a hydrocarbon and has a kinematic viscosity ≤ 20,5 mm²/s (40°C)
Conclusion:	Aspiration hazard - category 2 (GHS)

May be fatal if swallowed and enters airways.

11.2. Information on other hazards

Long term effects

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic.

The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.
Reproductive toxicity: This product contains teratogenic substances, which may produce anomalies and/or developmental defects to the human offspring. Adverse effects include: death, growth retardation, congenital disorders, delayed mental development, and functional disorders.
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.
Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

Other information

toluene has been classified by IARC as a group 3 carcinogen.
tert-butyl methyl ether has been classified by IARC as a group 3 carcinogen.
benzene has been classified by IARC as a group 1 carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Product/substance	toluene
Species:	Fish, Oncorhynchus mykiss
Duration:	96 hours
Test:	LC50
Result:	5.5 mg/L

Product/substance	toluene
Species:	Daphnia, Ceriodaphnia dubia
Duration:	48 hours
Test:	LC50
Result:	3.78 mg/L

Product/substance	toluene
Species:	Algae
Duration:	3 hours
Test:	EC50
Result:	134 mg/L

Product/substance	toluene
Species:	Bacteria
Duration:	24 hours
Test:	EC50
Result:	84 mg/L

Product/substance	isopentane;2-methylbutane
Species:	Daphnia, Daphnia magna
Duration:	48 hours
Test:	EC50
Result:	2.3 mg/L

Product/substance	methanol
Species:	Fish
Duration:	28 days
Test:	NOEC
Result:	446.7 mg/L

Product/substance	methanol
Test method:	OECD 201
Species:	Algae, Pseudokirchneriella subcapitata
Duration:	96 hours
Test:	EC50
Result:	22,000 mg/L

Product/substance	methanol
Test method:	OECD 202
Species:	Algae, Lepomis macrochirus
Duration:	48 hours
Test:	EC50
Result:	>10,000 mg/L

Toxic to aquatic life with long lasting effects.

12.2. ▼Persistence and degradability
Based on available data, the classification criteria are not met.

12.3. ▼Bioaccumulative potential
Based on available data, the classification criteria are not met.

12.4. Mobility in soil
No data available.

12.5. ▼Results of PBT and vPvB assessment
This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Endocrine disrupting properties
This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects
This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms.
This product contains substances, which may cause adverse long-term effects to the aquatic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product is covered by the regulations on hazardous waste. (*)
HP 3 - Flammable
HP 4 - Irritant (skin irritation and eye damage)
HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 7 – Carcinogenic
HP 10 – Toxic for reproduction
HP 11 – Mutagenic
HP 14 – Ecotoxic
Dispose of contents/container to an approved waste disposal plant.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

EWC code

13 07 02* Petrol

Specific labelling

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN1203	GASOLINE	Transport hazard class: 3 Label: 3 Classification code: F1 	II	Yes	Limited quantities: 1 L Tunnel restriction code: (D/E) See below for additional information.
IMDG	UN1203	GASOLINE	Transport hazard class: 3 Label: 3 Classification code: F1 	II	Yes	Limited quantities: 1 L EmS: F-E S-E See below for additional

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
						information.
IATA	UN1203	GASOLINE	Transport hazard class: 3 Label: 3 Classification code: F1 	II	Yes	See below for additional information.

* Packing group

** Environmental hazards

▼Additional information

This product is within scope of the regulations of transport of dangerous goods.
ADR / See Table A, section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.
IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.
IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.
Hazchem Code: 3YE

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: REGULATORY INFORMATION

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

Restrictions for application: Restricted to professional users.
People under the age of 18 shall not be exposed to this product.
Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

Demands for specific education: No specific requirements.

Control of Major Accident Hazards (COMAH) - Categories / dangerous substances:	P5c - FLAMMABLE LIQUIDS, Qualifying quantity (lower-tier): 5.000 tonnes / (upper-tier): 50.000 tonnes E2 - ENVIRONMENTAL HAZARDS, Qualifying quantity (lower-tier): 200 tonnes / (upper-tier): 500 tonnes methanol
Regulation on drug precursors:	toluene is included (Category 3)
UK-REACH, Annex XVII:	toluene is subject to restrictions, UK-REACH annex XVII (entry 48). methanol is subject to restrictions, UK-REACH annex XVII (entry 69). benzene is subject to restrictions, UK-REACH annex XVII (entry 05). toluene is subject to UK-REACH restrictions (entry 40). Naphtha (petroleum), light alkylate is subject to UK-REACH restrictions (entry 40). tert-butyl methyl ether is subject to UK-REACH restrictions (entry 40). isopentane;2-methylbutane is subject to UK-REACH restrictions (entry 40). methanol is subject to UK-REACH restrictions (entry 40). n-hexane is subject to UK-REACH restrictions (entry 40). benzene is subject to UK-REACH restrictions (entry 40).
▼*Additional information:*	Tactile warning.
Sources:	The Management of Health and Safety at Work Regulations 1999. The Health and Safety at Work etc. Act 1974 Regulations 2013. Control of Major Accident Hazards (COMAH) Regulations 2015. Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals as retained and amended in UK law. Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law. The Controlled Drugs (Drug Precursors) Regulations 2008. Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law. Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and

Restriction of Chemicals (REACH) as retained and amended in UK law.

15.2. Chemical safety assessment

No

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3

EUH066, Repeated exposure may cause skin dryness or cracking.
H224, Extremely flammable liquid and vapour.
H225, Highly flammable liquid and vapour.
H226, Flammable liquid and vapour.
H301, Toxic if swallowed.
H304, May be fatal if swallowed and enters airways.
H311, Toxic in contact with skin.
H312, Harmful in contact with skin.
H315, Causes skin irritation.
H319, Causes serious eye irritation.
H331, Toxic if inhaled.
H332, Harmful if inhaled.
H336, May cause drowsiness or dizziness.
H340, May cause genetic defects.
H350, May cause cancer.
H361d, Suspected of damaging the unborn child.
H361f, Suspected of damaging fertility.
H370, Causes damage to organs.
H371, May cause damage to organs.
H372, Causes damage to organs through prolonged or repeated exposure.
H373, May cause damage to organs through prolonged or repeated exposure.
H411, Toxic to aquatic life with long lasting effects.

The full text of identified uses as mentioned in section 1

PC 13 = Fuels

▼Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario

EUH statement = CLP-specific Hazard statement
EuPCS = European Product Categorisation System
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
GWP = Global warming potential
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.
The classification of the substance/mixture in regard of environmental hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.
The classification of the mixture in regard to physical hazards has been based on experimental data.

The safety data sheet is validated by

R KIRBY

▼Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product.
Information in this safety data sheet cannot be used as a product specification.
Country-language: GB-en