

SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (REACH)

GASOLINE

Version number: 1.1. Revision: 2021-12-14
Replaces version of 2020-11-26 (1) SDS02

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

GASOLINE

Registration number (REACH)

Not relevant (mixture)

1.1.6 Unique formula identifier (UFI)

Q300-303Y-S00H-CCEA

Other means of identification

Alternative name(s)

Gasoline Octane > 95 < 98, Gasoline Octane > 98 / Superplus, Euro 95, Eurobob UMS (Unleaded Motor Spirit), MoGas (Motor Gasoline), Blue one 95, Base ethanolable, SP98

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

Relevant identified uses

Fuels
Distribution

1.3 Details of the supplier of the safety data sheet

VARO Energy Netherlands B.V.
Waalhaven Z.Z. 11
3089 JH Rotterdam
Netherlands

Telephone: +31 (0)881007000

e-mail (competent person)

HSE@varoenergy.com

1.4 Emergency telephone number

Country	Name	Telephone
United Kingdom	National Poisons Information Service (NPIS)	0344-8920111 (medical professionals only)
United Kingdom	NHS (general public)	non-emergency: 111 or a doctor; emergency: 999

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	1	Flam. Liq. 1	H224
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.5	germ cell mutagenicity	1B	Muta. 1B	H340
3.6	carcinogenicity	1B	Carc. 1B	H350

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.7	reproductive toxicity	2	Repr. 2	H361
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
3.10	aspiration hazard	1	Asp. Tox. 1	H304
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- signal word Danger

- pictograms

GHS02, GHS07,
GHS08, GHS09



- hazard statements

H224 Extremely flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H411 Toxic to aquatic life with long lasting effects.

- precautionary statements

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

- hazardous ingredients for labelling

Gasoline; 2-ethoxy-2-methylpropane; tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]

2.3 Other hazards

Of no significance.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to 1272/2008/EC	Pictograms	Notes
Gasoline	CAS No 86290-81-5 EC No 289-220-8 Index No 649-378-00-4	≤ 100	Flam. Liq. 1 / H224 Skin Irrit. 2 / H315 Muta. 1B / H340 Carc. 1B / H350 Repr. 2 / H361 STOT SE 3 / H336 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411	 	IOELV
tert-butyl methyl ether	CAS No 1634-04-4 EC No 216-653-1 Index No 603-181-00-X REACH Reg. No 01-2119452786-27-xxxx	≤ 20	Flam. Liq. 2 / H225 Skin Irrit. 2 / H315	 	IOELV
2-ethoxy-2-methyl-propane	CAS No 637-92-3 EC No 211-309-7 REACH Reg. No 01-2119452785-29-xxxx	≤ 20	Flam. Liq. 2 / H225 STOT SE 3 / H336	 	
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	CAS No 994-05-8 EC No 213-611-4 Index No 603-213-00-2 REACH Reg. No 01-2119453236-41-xxxx	≤ 15	Flam. Liq. 2 / H225 Acute Tox. 4 / H302 STOT SE 3 / H336	 	GHS-HC



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Name of sub-stance	Identifier	Wt%	Classification acc. to 1272/2008/EC	Pictograms	Notes
Ethanol	CAS No 64-17-5 EC No 200-578-6 Index No 603-002-00-5 REACH Reg. No 01-2119457610-43- xxxx	≤ 10	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319	 	GHS- HC IARC: 1

Notes

GHS- Harmonised classification (the classification of the substance corresponds to the entry in the list according to
HC: 1272/2008/EC, Annex VI)
IARC: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)
1:
IOELV: Substance with a community indicative occupational exposure limit value

Name of sub-stance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	CAS No 994-05-8 EC No 213-611-4	-	-	500 mg/kg	oral
Ethanol	CAS No 64-17-5 EC No 200-578-6	Eye Irrit. 2; H319: C ≥ 50 %	-	-	

Remarks

For full text of H-phrases: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.
Benzene ≥ 0.1% w/w; toluene ≥ 3% w/w; n-hexane ≥ 3% w/w.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

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Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell. Observe aspiration hazard if vomiting occurs. Immediately call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Delayed effects can be expected after short or long-term exposure. Narcotic effects. Nausea. Dizziness. Death following aspiration.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water mist; Dry extinguishing powder; Carbon dioxide (CO₂); Alcohol resistant foam

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air. Danger of bursting container. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Personal protective equipment: see section 8.

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6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority. Collect contaminated firefighting water separately.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Collect spillage. Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.). Use explosion-proof electrical/ventilating/lighting/equipment.

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use only outdoors or in a well-ventilated area. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use local and general ventilation. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Collect spillage.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Keep away from food, drink and animal feedingstuffs. Personal protective equipment: see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight.

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- incompatible substances or mixtures

Incompatible materials: see section 10.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
EU	toluene	108-88-3	IOEL V	50	192	100	384				2006/15/EC
EU	n-hexane	110-54-3	IOEL V	20	72						2006/15/EC
EU	tert-butyl methyl ether	1634-04-4	IOEL V	50	183.5	100	367				2009/161/EU
EU	benzene	71-43-2	IOEL V	1	3.25						2004/37/EC
GB	hydrocarbon mixture (RCP method)		WEL		250		500				EH40/2005
GB	toluene	108-88-3	WEL	50	191	100	384				EH40/2005
GB	n-hexane	110-54-3	WEL	20	72						EH40/2005
GB	methyl tert-butyl ether	1634-04-4	WEL	50	183.5	100	367				EH40/2005

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Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
GB	ethanol	64-17-5	WEL	1,000	1,920						EH40/2005
GB	benzene	71-43-2	WEL	1	3.25						EH40/2005
GB	cycloalkanes (>C7)	86290-81-5	WEL		800						EH40/2005
GB	cycloalkanes (C5-C6)	86290-81-5	WEL		1,800						EH40/2005

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur
STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture							
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time	
tert-butyl methyl ether	1634-04-4	DNEL	178.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects	
tert-butyl methyl ether	1634-04-4	DNEL	357 mg/m ³	human, inhalatory	worker (industry)	acute - local effects	
tert-butyl methyl ether	1634-04-4	DNEL	5,100 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects	
tert-butyl methyl ether	1634-04-4	DNEL	53.6 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects	
tert-butyl methyl ether	1634-04-4	DNEL	214 mg/m ³	human, inhalatory	consumer (private households)	acute - local effects	
tert-butyl methyl ether	1634-04-4	DNEL	3,570 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects	
tert-butyl methyl ether	1634-04-4	DNEL	7.1 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects	
2-ethoxy-2-methylpropane	637-92-3	DNEL	352 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects	
2-ethoxy-2-methylpropane	637-92-3	DNEL	2,800 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects	

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-ethoxy-2-methylpropane	637-92-3	DNEL	105 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	6,767 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	105 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	1,680 mg/m ³	human, inhalatory	consumer (private households)	acute - systemic effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	63 mg/m ³	human, inhalatory	consumer (private households)	chronic - local effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	4,060 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
2-ethoxy-2-methylpropane	637-92-3	DNEL	6 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	88.8 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	353.3 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	1,601 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	26.5 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	212 mg/m ³	human, inhalatory	consumer (private households)	acute - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	961 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	DNEL	1 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ethanol	64-17-5	DNEL	1,900 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Ethanol	64-17-5	DNEL	950 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Ethanol	64-17-5	DNEL	343 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Ethanol	64-17-5	DNEL	114 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
Ethanol	64-17-5	DNEL	206 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Ethanol	64-17-5	DNEL	87 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
tert-butyl methyl ether	1634-04-4	PNEC	47.2 mg/l	aquatic organisms	water	intermittent release
tert-butyl methyl ether	1634-04-4	PNEC	5.1 mg/l	aquatic organisms	freshwater	short-term (single instance)
tert-butyl methyl ether	1634-04-4	PNEC	0.26 mg/l	aquatic organisms	marine water	short-term (single instance)
tert-butyl methyl ether	1634-04-4	PNEC	71 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
tert-butyl methyl ether	1634-04-4	PNEC	23 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
tert-butyl methyl ether	1634-04-4	PNEC	1.17 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
tert-butyl methyl ether	1634-04-4	PNEC	1.56 mg/kg	terrestrial organisms	soil	short-term (single instance)
2-ethoxy-2-methylpropane	637-92-3	PNEC	11 mg/l	aquatic organisms	water	intermittent release
2-ethoxy-2-methylpropane	637-92-3	PNEC	0.51 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-ethoxy-2-methylpropane	637-92-3	PNEC	0.017 mg/l	aquatic organisms	marine water	short-term (single instance)
2-ethoxy-2-methylpropane	637-92-3	PNEC	12.5 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-ethoxy-2-methylpropane	637-92-3	PNEC	2.86 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-ethoxy-2-methylpropane	637-92-3	PNEC	0.078 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-ethoxy-2-methylpropane	637-92-3	PNEC	0.274 mg/kg	terrestrial organisms	soil	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	0.51 mg/l	aquatic organisms	freshwater	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	0.034 mg/l	aquatic organisms	marine water	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	25 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	2.99 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	0.199 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	PNEC	0.301 mg/kg	terrestrial organisms	soil	short-term (single instance)
Ethanol	64-17-5	PNEC	2.75 mg/l	aquatic organisms	water	intermittent release
Ethanol	64-17-5	PNEC	0.96 mg/l	aquatic organisms	freshwater	short-term (single instance)
Ethanol	64-17-5	PNEC	0.79 mg/l	aquatic organisms	marine water	short-term (single instance)
Ethanol	64-17-5	PNEC	580 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Ethanol	64-17-5	PNEC	3.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Ethanol	64-17-5	PNEC	2.9 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Ethanol	64-17-5	PNEC	0.63 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

Use only outdoors or in a well-ventilated area. Use local exhaust ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggles with side protection (EN 166).

Skin protection



Protective clothing (EN 340 & EN ISO 13688).

- hand protection



Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- type of material

Nitrile rubber

- material thickness

No information available.

- breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Wash hands thoroughly after handling.

Respiratory protection

Do not breathe vapour. Use local and general ventilation. In case of inadequate ventilation wear respiratory protection. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown). At high concentrations (like vessel/ container cleaning) a breathing apparatus must be used (self-contained: SCBA/ fresh air hose breathing apparatus). (concentration oxygen <19.5%: wear self-contained breathing apparatus).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	transparent
Odour	gasoline
Melting point/freezing point	-108.6 °C at 101.3 kPa calculated value, referring to a component of the mixture
Boiling point or initial boiling point and boiling range	25 – 200 °C at 101.3 kPa
Evaporation rate	not determined
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	LEL: 1.4 vol% UEL: 7.6 vol%
Flash point	<-40 °C
Auto-ignition temperature	≥280 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	<1 cSt at 40 °C
Solubility(ies)	not determined

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	<240 kPa at 37.8 °C
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Density	0.7 – 0.755 g/cm ³ at 15 °C
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Particle characteristics	not relevant (liquid)
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9.2 Other information

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According to Regulation (EC) No. 1907/2006 (REACH)

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Information with regard to physical hazard classes	there is no additional information
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Strong oxidisers.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Use local exhaust ventilation.

10.5 Incompatible materials

Oxidisers. Acids.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]	994-05-8	oral	500 mg/kg

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Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Gasoline	86290-81-5	oral	LD50	>5,000 mg/kg	rat
Gasoline	86290-81-5	dermal	LD50	>2,000 mg/kg	rabbit
tert-butyl methyl ether	1634-04-4	oral	LD50	>2,000 mg/kg	rat
tert-butyl methyl ether	1634-04-4	inhalation: vapour	LC50	85 mg/l/4h	rat
tert-butyl methyl ether	1634-04-4	dermal	LD50	>2,000 mg/kg	rat
2-ethoxy-2-methylpropane	637-92-3	oral	LD50	>2,003 mg/kg	rat
2-ethoxy-2-methylpropane	637-92-3	inhalation: vapour	LC50	>5.88 mg/l/4h	rat
2-ethoxy-2-methylpropane	637-92-3	dermal	LD50	>2,000 mg/kg	rabbit
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	oral	LD50	2,417 mg/kg	rat
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	inhalation: vapour	LC50	>5,400 mg/m ³ /4h	rat
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylbentane]	994-05-8	dermal	LD50	>2,000 mg/kg	rabbit
Ethanol	64-17-5	oral	LD50	10,470 mg/kg	rat
Ethanol	64-17-5	inhalation: vapour	LC50	124.7 mg/l/4h	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

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Aspiration hazard (aspiration hazard).
May be fatal if swallowed and enters airways.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Gasoline	86290-81-5	LL50	8.2 mg/l	fish	96 h
Gasoline	86290-81-5	EL50	4.5 mg/l	aquatic invertebrates	48 h
tert-butyl methyl ether	1634-04-4	LC50	672 mg/l	fish	96 h
tert-butyl methyl ether	1634-04-4	EC50	472 mg/l	aquatic invertebrates	48 h
2-ethoxy-2-methylpropane	637-92-3	LC50	574 mg/l	fish	96 h
2-ethoxy-2-methylpropane	637-92-3	EC50	110 mg/l	aquatic invertebrates	48 h
2-ethoxy-2-methylpropane	637-92-3	ErC50	1,100 mg/l	algae	72 h
2-ethoxy-2-methylpropane	637-92-3	EbC50	32 mg/l	algae	72 h
2-ethoxy-2-methylpropane	637-92-3	NOEC	25 mg/l	aquatic invertebrates	96 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	LC50	574 mg/l	fish	96 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	EC50	100 mg/l	aquatic invertebrates	48 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	ErC50	780 mg/l	algae	72 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	NOEC	77 mg/l	algae	72 h
Ethanol	64-17-5	LC50	15,400 mg/l	fish	96 h
Ethanol	64-17-5	EC50	12,700 mg/l	fish	96 h
Ethanol	64-17-5	ErC50	22,000 mg/l	algae	96 h

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Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Gasoline	86290-81-5	EL50	10 mg/l	fish	21 d
Gasoline	86290-81-5	EC50	15.41 mg/l	microorganisms	40 h
tert-butyl methyl ether	1634-04-4	NOEC	299 mg/l	fish	31 d
tert-butyl methyl ether	1634-04-4	LOEC	100 mg/l	aquatic invertebrates	21 d
tert-butyl methyl ether	1634-04-4	growth (EbCx) 10%	710 mg/l	microorganisms	18 h
2-ethoxy-2-methylpropane	637-92-3	EC50	510 mg/l	microorganisms	16 h
2-ethoxy-2-methylpropane	637-92-3	NOEC	51 mg/l	aquatic invertebrates	21 d
2-ethoxy-2-methylpropane	637-92-3	LOEC	100 mg/l	aquatic invertebrates	21 d
2-ethoxy-2-methylpropane	637-92-3	growth (EbCx) 10%	25 mg/l	microorganisms	16 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	EC50	510 mg/l	microorganisms	16 h
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	NOEC	51 mg/l	aquatic invertebrates	21 d
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	LOEC	100 mg/l	aquatic invertebrates	21 d
tert-Amyl methyl ether [TAME or 2-methoxy-2-methyl-bentane]	994-05-8	growth (EbCx) 10%	25 mg/l	microorganisms	16 h
Ethanol	64-17-5	EC50	22.6 g/l	algae	10 d
Ethanol	64-17-5	LC50	1,806 mg/l	aquatic invertebrates	10 d
Ethanol	64-17-5	ErC50	675 mg/l	algae	4 d
Ethanol	64-17-5	NOEC	250 mg/l	fish	120 h
Ethanol	64-17-5	growth rate (ErCx) 10%	86 mg/l	algae	4 d

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12.2 Persistence and degradability

Degradability of components of the mixture					
Name of substance	CAS No	Process	Degradation rate	Time	Method
tert-butyl methyl ether	1634-04-4	oxygen depletion	0 %	28 d	
2-ethoxy-2-methylpropane	637-92-3	oxygen depletion	6.6 %	7 d	
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]	994-05-8	oxygen depletion	5 %	7 d	
Ethanol	64-17-5	oxygen depletion	69 %	5 d	

12.3 Bioaccumulative potential

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
tert-butyl methyl ether	1634-04-4	1.5	1.06 (pH value: 7, 20 °C)	
2-ethoxy-2-methylpropane	637-92-3		1.48 (pH value: ~7, 25 °C)	
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]	994-05-8		1.55 (pH value: ~7, 20 °C)	
Ethanol	64-17-5		-0.77	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Endocrine disrupting chemicals (EDC)				
Name of substance	CAS No	Combined category	Human health category	Wildlife category
tert-butyl methyl ether	1634-04-4	CAT1	CAT1	CAT2

Legend

CAT1 Category 1 - evidence of endocrine disruption in at least one species using intact animals
CAT2 Category 2 - at least some in vitro evidence of biological activity related to endocrine disruption

12.7 Other adverse effects

Data are not available.

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GASOLINE

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 1203
IMDG-Code	UN 1203
ICAO-TI	UN 1203

14.2 UN proper shipping name

ADR/RID/ADN	GASOLINE
IMDG-Code	GASOLINE
ICAO-TI	Gasoline

14.3 Transport hazard class(es)

ADR/RID/ADN	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	Gasoline

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

No data available.

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14.8 Information for each of the UN Model Regulations


Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code	F1
Danger label(s)	3, fish and tree
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	243, 534, 664
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33
Emergency Action Code	3YE
Remarks	
	Dangers (ADN). N2, CMR, F NSTR 3211: Gasoline/ Benzine/ Bensin.

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	3, fish and tree
 	
Special provisions (SP)	243
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-E
Stowage category	E

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	3
	
Special provisions (SP)	A100
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	CAS No	Restriction	No
GASOLINE	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
Ethanol	flammable / pyrophoric		R40	40
Gasoline	carcinogenic		R28-30	28
Gasoline	germ cell mutagenic (mutagenic)		R28-30	29
Gasoline	flammable / pyrophoric		R40	40
tert-butyl methyl ether	flammable / pyrophoric		R40	40
2-ethoxy-2-methylpropane	flammable / pyrophoric		R40	40
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]	flammable / pyrophoric		R40	40

Legend

- R28-30 1. Shall not be placed on the market, or used,
- as substances,
 - as constituents of other substances, or,
 - in mixtures,
- for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:
- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
 - the relevant concentration specified in Directive 1999/45/EC where no specific concentration limit is set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008.
- Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:
- 'Restricted to professional users'.
2. By way of derogation, paragraph 1 shall not apply to:
- (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;
 - (b) cosmetic products as defined by Directive 76/768/EEC;
 - (c) the following fuels and oil products:
 - motor fuels which are covered by Directive 98/70/EC,
 - mineral oil products intended for use as fuel in mobile or fixed combustion plants,
 - fuels sold in closed systems (e.g. liquid gas bottles);
 - (d) artists' paints covered by Directive 1999/45/EC;
 - (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2.
- Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date.

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Legend

- R3
1. Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 2. Articles not complying with paragraph 1 shall not be placed on the market.
 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and,
 - present an aspiration hazard and are labelled with R65 or H304,
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
 - (b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
 - (c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.
- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - 'whoopie' cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

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Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
34a	petroleum product (gasolines and naphthas)	2,500	25,000	

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Ethanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	
tert-butyl methyl ether	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	
tert-Amyl methyl ether [TAME or 2-methoxy-2-methylpentane]	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	

Legend

A) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

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15.2 Chemical Safety Assessment

For the substances of this mixture a chemical safety assessment has been carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
1.4		Emergency telephone number: change in the listing (table)
9.1	Vapour pressure: <240 hPa at 37.8 °C	Vapour pressure: <240 kPa at 37.8 °C

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2004/37/EC	Directive of the European Parliament and of the Council on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
2009/161/EU	Commission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval

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Abbr.	Descriptions of used abbreviations
LEL	Lower explosion limit (LEL)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RCP	Reciprocal calculation procedure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (REACH)

GASOLINE

Version number: 1.1. Revision: 2021-12-14
Replaces version of 2020-11-26 (1) SDS02

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Use code	Use name	Setting
M-1	01 - Manufacture of substance (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	Manufacture
M-2	01 - Manufacture of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Manufacture
M-3	01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Manufacture
M-4	01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	Manufacture
M-5	01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	Manufacture
F-16	02 - Formulation & (re)packing of substances and mixtures (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	Formulation
F-17	02 - Formulation & (re)packing of substances and mixtures (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Formulation
F-18	02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Formulation
F-19	02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	Formulation
F-20	02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	Formulation
IW-7	01b - Use of substance as intermediate (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Industrial
IW-8	01b - Use of substance as intermediate (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Industrial
IW-11	01a - Distribution of substance (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	Industrial
IW-12	01a - Distribution of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Industrial
IW-13	01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Industrial
IW-14	01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	Industrial
IW-15	01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	Industrial
IW-29	12a - Use as a fuel: Industrial (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Industrial
IW-501	12a - Use as a fuel: Industrial (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Industrial
PW-30	12b - Use as a fuel: Professional (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	Professional

PW-31	12b - Use as a fuel: Professional (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Professional
PW-504	12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Professional
PW-505	12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	Professional
PW-506	12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	Professional
C-32	12c - Use as a fuel: Consumer (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	Consumer
C-33	12c - Use as a fuel: Consumer (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	Consumer
C-507	12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	Consumer
C-508	12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	Consumer
C-509	12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	Consumer

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 4, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems). + CS54 Continuous process.	Handle substance within a closed system. E47.
CS15 General exposures (closed systems). + CS55 Batch process.	Handle substance within a closed system. E47. Ensure operation is undertaken outdoors. E69.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22.	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
CS67 Storage.	Store substance within a closed system. E84. Wear suitable gloves tested to EN374. PPE15.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system to avoid exposure. E8. Ensure operation is undertaken outdoors. E69. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47. Wear suitable gloves tested to EN374. PPE15. Ensure operation is undertaken outdoors. E69. Avoid carrying out activities involving exposure for more than 4 hours. OC26.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Avoid carrying out activities involving exposure for more than 1
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69.
CS67 Storage.	Wear suitable gloves tested to EN374. PPE15. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system to avoid exposure. E8. Ensure operation is undertaken outdoors. E69. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Ensure operation is undertaken outdoors. E69. Avoid carrying out activities involving exposure for more than 1 hour. OC27. Handle substance within closed systems. E47.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 4 hours. OC28. Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). E40.
CS67 Storage.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Store substance within a closed system. E84. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15
Environmental Release Categories	
Specific Environmental Release Category	
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	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
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.
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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
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	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems). OC9 Outdoor	Handle substance within a closed system. E47.
CS2 Process sampling	Sample via a closed loop or other system intended to avoid exposure. E8.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage.	Store substance within a closed system. E84. Wear suitable gloves tested to EN374. PPE15.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22.	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
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	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
CS2 Process sampling	Sample via a closed loop or other system intended to avoid exposure. E8.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
CS67 Storage.	Store substance within a closed system. E84. Wear suitable gloves tested to EN374. PPE15.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22.	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
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	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15. Avoid carrying out activities involving exposure for more than 4 hours. OC28.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47. Wear suitable gloves tested to EN374. PPE15. Avoid carrying out activities involving exposure for more than 4 hours. OC28. Ensure operation is undertaken outdoors. E69.
CS67 Storage.	Wear suitable gloves tested to EN374. PPE15. Store substance within a closed system. E84. Avoid carrying out activities involving exposure for more than 4 hours. OC28.
CS2 Process sampling	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15. Avoid carrying out activities involving exposure for more than 4 hours. OC28.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear suitable gloves tested to EN374. PPE15.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear suitable gloves tested to EN374. PPE15.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
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	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system to avoid exposure. E8. Ensure operation is undertaken outdoors. E69. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Ensure operation is undertaken outdoors. E69. Avoid carrying out activities involving exposure for more than 1 hour. OC27. Handle substance within closed systems. E47.
CS67 Storage.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Store substance within a closed system. E84. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS2 Process sampling	Sample via a closed loop or other system intended to avoid exposure. E8. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 4 hours. OC28. Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). E40.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01b - Use of substance as intermediate (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	8, 9
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of substance as an intermediate. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Handle substance within a closed system. E47. Ensure operation is undertaken outdoors. E69.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01b - Use of substance as intermediate (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	8, 9
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of substance as an intermediate. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Operation is carried out at elevated temperature (> 20°C above ambient temperature). OC7. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
CS67 Storage.	Wear suitable gloves tested to EN374. PPE15. Store substance within a closed system. E84.
CS36 Laboratory activities	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS14 Bulk transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01a - Distribution of substance (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 4, 8a, 8b, 9, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37..	

GOTO USES

Section 1	
Title	
01a - Distribution of substance (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems). OC9 Outdoor.	Handle substance within closed systems. E47.
CS2 Process sampling	Sample via a closed loop or other system to avoid exposure. E8.
CS36 Laboratory activities.	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS501 Bulk closed loading and unloading.	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not enable the derivation of a DNEL for carcinogenic effects. G33. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on	

GOTO USES

Section 1	
Title	
01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
CS2 Process sampling	Sample via a closed loop or other system to avoid exposure. E8.
CS36 Laboratory activities.	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12.
CS501 Bulk closed loading and unloading.	Ensure material transfers are under containment or extract ventilation. E66.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
CS67 Storage.	Ensure operation is undertaken outdoors. E69. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47. Wear suitable gloves tested to EN374. PPE15. Avoid carrying out activities involving exposure for more than 4 hours. OC28.
CS2 Process sampling	Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15.
CS36 Laboratory activities.	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12..
CS500 Bulk closed loading.	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Avoid carrying out activities involving exposure for more than 1
CS501 Bulk closed loading and unloading.	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Avoid carrying out activities involving exposure for more than 1
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69.
CS67 Storage.	Wear suitable gloves tested to EN374. PPE15. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
01a - Distribution of substance (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid all skin contact with product. Clean up contamination / spills as soon as they occur. Wear gloves (tested to EN374) if hand contamination likely. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. E3.
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems). + CS56 With sample collection.	Handle substance within closed systems. E47. Sample via a closed loop or other system to avoid exposure. E8. Ensure operation is undertaken outdoors. E69. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Ensure operation is undertaken outdoors. E69. Avoid carrying out activities involving exposure for more than 1 hour. OC27. Handle substance within closed systems. E47.
CS2 Process sampling	Sample via a closed loop or other system intended to avoid exposure. E8. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour.
CS36 Laboratory activities.	Handle within a fume cupboard or implement suitable equivalent methods to minimise exposure. E12. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
CS500 Bulk closed loading.	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22.
CS501 Bulk closed loading and unloading.	Ensure material transfers are under containment or extract ventilation. E66. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16. Avoid carrying out activities involving exposure for more than 1 hour. OC27. or, Wear a respirator conforming to EN140 with Type A filter or better. PPE22.
CS39 Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18. Avoid carrying out activities involving exposure for more than 4 hours. OC28. Wear a respirator conforming to EN140 with Type A filter or better. PPE22. Ensure operation is undertaken outdoors. E69. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). E40.
CS67 Storage.	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. PPE17. Store substance within a closed system. E84. Avoid carrying out activities involving exposure for more than 1 hour. OC27.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22.	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
12a - Use as a fuel: Industrial (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS507 Refuelling	Ensure material transfers are under containment or extract ventilation. E66.
CS508 Refuelling aircraft	Ensure material transfers are under containment or extract ventilation. E66.
CS15 General exposures (closed systems)	Handle substance within a closed system. E47. 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.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS39 Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. E65. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. 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. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16.
CS67 Storage	Store substance within a closed system. E84. 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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

[GOTO USES](#)

Section 1	
Title	
12a - Use as a fuel: Industrial (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
General Measures (skin irritants). G19.	Specific Risk Management Measures and Operating Conditions Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS15 General exposures (closed systems). + CS56 With sample collection.	Sample via a closed loop or other system intended to avoid exposure. E8. Wear suitable gloves tested to EN374. PPE15. Handle substance within a closed system. E47.
CS15 General exposures (closed systems).	Provide extract ventilation to points where emissions occur. E54. Handle substance within closed systems. E47.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS39 Equipment cleaning and maintenance.	Drain down and flush system prior to equipment break-in or maintenance. E55. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
CS67 Storage	Wear suitable gloves tested to EN374. PPE15. Store substance within a closed system. E84.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

[GOTO USES](#)

Section 1	
Title	
12b - Use as a fuel: Professional (not classified as H340, H350 or H361; (containing less than 0.1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
CS15 General exposures (closed systems).	No other specific measures identified. EI20.
CS66 Preparation of material for application + CS29 Mixing operations (closed systems).	No other specific measures identified. EI20.
CS502 Bulk closed unloading	No other specific measures identified. EI20.
CS8 Drum/batch transfers	No other specific measures identified. EI20.
CS507 Refuelling	No other specific measures identified. EI20.
GEST_12I Use as a fuel, CS107 (closed systems)	No other specific measures identified. EI20.
CS5 Equipment maintenance	Drain down system prior to equipment break-in or maintenance. E65. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. PPE18.
CS67 Storage	No other specific measures identified. EI20.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1	
Title	
12b - Use as a fuel: Professional (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	
Specific Risk Management Measures and Operating Conditions	
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems), OC9 Outdoor.	Handle substance within a closed system. E47.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS507 Refuelling	Ensure material transfers are under containment or extract ventilation. E66.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS5 Equipment maintenance	Drain down system prior to equipment break-in or maintenance. E65. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. 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. Ensure operatives are trained to minimise exposures. E119.
CS67 Storage.	Store substance within a closed system. E84. 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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22.	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

[GOTO USES](#)

Section 1	
Title	
12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems), OC9 Outdoor.	Handle substance within a closed system. E47.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS507 Refuelling	Ensure material transfers are under containment or extract ventilation. E66.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS5 Equipment maintenance	Drain down system prior to equipment break-in or maintenance. E65. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. 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. Ensure operatives are trained to minimise exposures. E119.
CS67 Storage.	Store substance within a closed system. E84. 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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

[GOTO USES](#)

Section 1	
Title	
12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. G20.
CS15 General exposures (closed systems), OC9 Outdoor.	Handle substance within a closed system. E47.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS507 Refuelling	Ensure material transfers are under containment or extract ventilation. E66.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS5 Equipment maintenance	Drain down system prior to equipment break-in or maintenance. E65. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. 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. Ensure operatives are trained to minimise exposures. E119.
CS67 Storage.	Store substance within a closed system. E84. 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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

[GOTO USES](#)

Section 1	
Title	
12b - Use as a fuel: Professional (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))	
Use Descriptor	
Sector(s) of Use	
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2.
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	Specific Risk Management Measures and Operating Conditions
General Measures (skin irritants). G19.	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. <u>Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop.</u> E3
General Measures (carcinogens). G18.	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean / flush equipment, where possible, prior to maintenance. Where there is potential for exposure: Restrict access to authorised staff; provide specific activity training to operators to minimise exposures; wear suitable gloves (tested to EN374) and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. <u>Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.</u> G20.
CS15 General exposures (closed systems), OC9 Outdoor.	Handle substance within a closed system. E47.
CS502 Bulk closed unloading	Ensure material transfers are under containment or extract ventilation. E66.
CS8 Drum/batch transfers	Ensure material transfers are under containment or extract ventilation. E66.
CS507 Refuelling	Ensure material transfers are under containment or extract ventilation. E66.
GEST_12I Use as a fuel, CS107 (closed systems)	Handle substance within closed systems. E47.
CS5 Equipment maintenance	Drain down system prior to equipment break-in or maintenance. E65. Retain drain downs in sealed storage pending disposal or for subsequent recycle. ENVT4. Clear spills immediately. C&H13. 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. <u>Ensure operatives are trained to minimise exposures.</u> E119.
CS67 Storage.	Store substance within a closed system. E84. 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.
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	

GOTO USES

Section 1		
Title		
12c - Use as a fuel: Consumer (not classified as H340, H350 or H361; (containing less than 0.1% benzene))		
Use Descriptor		
Sector(s) of Use		
Product Categories	13	
Environmental Release Categories		
Specific Environmental Release Category		
Processes, tasks, activities covered		
Covers consumer uses in fuels.		
Assessment Method		
See Section 3.		
Section 2 Operational conditions and risk management measures		
Section 2.1 Control of consumer exposure		
Product characteristics		
Physical form of product	Liquid	
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5	
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]	
Amounts used	Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm ² [ConsOC5]	
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]	
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m ³ room [ConsOC11]; assumes use with typical ventilation [ConsOC8].	
Product Category		
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Scooter Refuelling	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Garden Equipment – Use	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid (subcategories added): Garden Equipment – Refuelling	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m ³) under typical ventilation [ConsOC10]; covers use in room size of 34m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
Section 3 Exposure Estimation		
3.1. Health		
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.		
Section 4 Guidance to check compliance with the Exposure Scenario		
4.1. Health		
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. G39. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.		

GOTO USES

Section 1		
Title		
12c - Use as a fuel: Consumer (classified as H340 and/or H350 and/or H361; (containing 0% to 1% benzene))		
Use Descriptor		
Sector(s) of Use		
Product Categories	13	
Environmental Release Categories		
Specific Environmental Release Category		
Processes, tasks, activities covered		
Covers consumer uses in fuels.		
Assessment Method		
See Section 3.		
Section 2 Operational conditions and risk management measures		
Section 2.1 Control of consumer exposure		
Product characteristics		
Physical form of product	Liquid	
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5	
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]	
Amounts used	Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm2 [ConsOC5]	
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]	
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].	
Product Category		
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Scooter Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Garden Equipment – Use	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid (subcategories added): Garden Equipment – Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m3) under typical ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
Section 3 Exposure Estimation		
3.1. Health		
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.		
Section 4 Guidance to check compliance with the Exposure Scenario		
4.1. Health		
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. G39. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.		

GOTO USES

Section 1		
Title		
12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 1% to 5% benzene))		
Use Descriptor		
Sector(s) of Use		
Product Categories		13
Environmental Release Categories		
Specific Environmental Release Category		
Processes, tasks, activities covered		
Covers consumer uses in fuels.		
Assessment Method		
See Section 3.		
Section 2 Operational conditions and risk management measures		
Section 2.1 Control of consumer exposure		
Product characteristics		
Physical form of product	Liquid	
Vapour pressure	Liquid, vapour pressure > 10 kPa at STP OC5	
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.	
Amounts used	Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm ² [ConsOC5]	
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]	
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m ³ room [ConsOC11]; assumes use with typical ventilation [ConsOC8].	
Product Category		Specific Risk Management Measures and Operating Conditions
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Scooter Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Garden Equipment – Use	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid (subcategories added): Garden Equipment – Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m ³) under typical ventilation [ConsOC10]; covers use in room size of 34m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
Section 3 Exposure Estimation		
3.1. Health		
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.		
Section 4 Guidance to check compliance with the Exposure Scenario		
4.1. Health		
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. G39. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.		

GOTO USES

Section 1		
Title		
12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 5% to 20% benzene))		
Use Descriptor		
Sector(s) of Use		
Product Categories		13
Environmental Release Categories		
Specific Environmental Release Category		
Processes, tasks, activities covered		
Covers consumer uses in fuels.		
Assessment Method		
See Section 3.		
Section 2 Operational conditions and risk management measures		
Section 2.1 Control of consumer exposure		
Product characteristics		
Physical form of product		Liquid
Vapour pressure		Liquid, vapour pressure > 10 kPa at STP OC5
Concentration of substance in product		Unless otherwise stated, cover concentrations up to 100% [ConsOC1]. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.
Amounts used		Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm ² [ConsOC5]
Frequency and duration of use/exposure		Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]
Other Operational Conditions affecting exposure		Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m ³ room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category		Specific Risk Management Measures and Operating Conditions
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Scooter Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid - subcategories added: Garden Equipment – Use	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
PC13:Fuels--Liquid (subcategories added): Garden Equipment – Refuelling	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m ³) under typical ventilation [ConsOC10]; covers use in room size of 34m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated
Section 3 Exposure Estimation		
3.1. Health		
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.		
Section 4 Guidance to check compliance with the Exposure Scenario		
4.1. Health		
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. G39. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.		

GOTO USES

Section 1						
Title						
12c - Use as a fuel: Consumer (classified as H340, H350 and/or H361; (containing equal to or greater than 20% to 79% benzene))						
Use Descriptor						
Sector(s) of Use						
Product Categories		13				
Environmental Release Categories						
Specific Environmental Release Category						
Processes, tasks, activities covered						
Covers consumer uses in fuels.						
Assessment Method						
See Section 3.						
Section 2 Operational conditions and risk management measures						
Section 2.1 Control of consumer exposure						
Product characteristics						
Physical form of product		Liquid				
Vapour pressure		Liquid, vapour pressure > 10 kPa at STP OC5				
Concentration of substance in product		Unless otherwise stated, cover concentrations up to 100% [ConsOC1]. The registered substance is used as a blend stock in the preparation of fuels. The benzene concentration of the registered substance is within the range stated in the use name. However, the concentration of benzene in the final fuel is in accordance with local regulations. In the European Union, the maximum concentration of benzene in fuel is 1% by volume in accordance with EU Directive 98/70/EC.				
Amounts used		Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm ² [ConsOC5]				
Frequency and duration of use/exposure		Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]				
Other Operational Conditions affecting exposure		Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m ³ room [ConsOC11]; assumes use with typical ventilation [ConsOC8].				
Product Category						
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling		<table border="1"> <tr> <td>OC</td> <td>Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m³[ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];</td> </tr> <tr> <td>RMM</td> <td>No specific RMMs developed beyond those OCs stated</td> </tr> </table>	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];	RMM	No specific RMMs developed beyond those OCs stated
OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];					
RMM	No specific RMMs developed beyond those OCs stated					
PC13:Fuels--Liquid - subcategories added: Scooter Refuelling		<table border="1"> <tr> <td>OC</td> <td>Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m³[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];</td> </tr> <tr> <td>RMM</td> <td>No specific RMMs developed beyond those OCs stated</td> </tr> </table>	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];	RMM	No specific RMMs developed beyond those OCs stated
OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];					
RMM	No specific RMMs developed beyond those OCs stated					
PC13:Fuels--Liquid - subcategories added: Garden Equipment – Use		<table border="1"> <tr> <td>OC</td> <td>Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m³[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];</td> </tr> <tr> <td>RMM</td> <td>No specific RMMs developed beyond those OCs stated</td> </tr> </table>	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];	RMM	No specific RMMs developed beyond those OCs stated
OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m ³ [ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];					
RMM	No specific RMMs developed beyond those OCs stated					
PC13:Fuels--Liquid (subcategories added): Garden Equipment – Refuelling		<table border="1"> <tr> <td>OC</td> <td>Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m³) under typical ventilation [ConsOC10]; covers use in room size of 34m³[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];</td> </tr> <tr> <td>RMM</td> <td>No specific RMMs developed beyond those OCs stated</td> </tr> </table>	OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m ³) under typical ventilation [ConsOC10]; covers use in room size of 34m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];	RMM	No specific RMMs developed beyond those OCs stated
OC	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm ² [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m ³) under typical ventilation [ConsOC10]; covers use in room size of 34m ³ [ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];					
RMM	No specific RMMs developed beyond those OCs stated					
Section 3 Exposure Estimation						
3.1. Health						
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.						
Section 4 Guidance to check compliance with the Exposure Scenario						
4.1. Health						
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. G39. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.						

GOTO USES

Section 1	
Title	
01 - Manufacture of substance (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	1
Specific Environmental Release Category	ESVOC SpERC 1.1.v1
Processes, tasks, activities covered	
Manufacture of the substance. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.1E+07
Fraction of Regional tonnage used locally	4.5E-01
Annual site tonnage (tonnes/year)	5.2E+06
Maximum daily site tonnage (kg/day)	1.7E+07
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	6.6E-03
Release fraction to wastewater from process (initial release prior to RMM)	4.0E-05
Release fraction to soil from process (initial release prior to RMM)	0.0001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment. [TCR1b]	
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]	
If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9]	
Treat air emission to provide a typical removal efficiency of (%)	9.0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	95.1
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1.9E+07
Assumed domestic sewage treatment plant flow (m3/d)	1.0E+04
Conditions and measures related to external treatment of waste for disposal	
During manufacturing no waste of the substance is generated. [ETW4]	
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated. [ERW2]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2]	
Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	8.0E-01
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9.1E-01

GOTO USES

Section 1	
Title	
02 - Formulation & (re)packing of substances and mixtures (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
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 2.2 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)	1.0E+07
Fraction of Regional tonnage used locally	3.0E-03
Annual site tonnage (tonnes/year)	3.0E+04
Maximum daily site tonnage (kg/day)	1.0E+05
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 (after typical onsite RMMs, consistent with EU Solvent Emissions Directive requirements)	2.5E-02
Release fraction to wastewater from process (initial release prior to RMM)	1.4E-03
Release fraction to soil from process (initial release prior to RMM)	0.0001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment. [TCR1b]	
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]	
If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9]	
Treat air emission to provide a typical removal efficiency of (%)	0.0E+00
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	95.1
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1.1E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW3]	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2]	
Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	1.8E-01
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9.1E-01

GOTO USES

Section 1	
Title	
01b - Use of substance as intermediate (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	6a
Specific Environmental Release Category	ESVOC SpERC 6.1a.v1
Processes, tasks, activities covered	
Use of substance as an intermediate. Includes material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	6.3E+05
Fraction of Regional tonnage used locally	2.4E-02
Annual site tonnage (tonnes/year)	1.5E+04
Maximum daily site tonnage (kg/day)	5.0E+04
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	2.5E-02
Release fraction to wastewater from process (initial release prior to RMM)	3.0E-03
Release fraction to soil from process (initial release prior to RMM)	0.001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment. [TCR1b]	
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]	
If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9]	
Treat air emission to provide a typical removal efficiency of (%)	8.0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	95.5
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5.1E+04
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
This substance is consumed during use and no waste of the substance is generated. [ETW5]	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of the substance is generated. [ERW3]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2]	
Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	1.1E-01
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	9.9E-01

GOTO USES

Section 1	
Title	
01a - Distribution of substance (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	4, 5, 6a, 6b, 6c, 6d, 7
Specific Environmental Release Category	ESVOC SpERC 1.1b.v1
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.1E+07
Fraction of Regional tonnage used locally	2.0E-03
Annual site tonnage (tonnes/year)	2.2E+04
Maximum daily site tonnage (kg/day)	7.2E+04
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0E-03
Release fraction to wastewater from process (initial release prior to RMM)	1.0E-05
Release fraction to soil from process (initial release prior to RMM)	0.00001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater. [TCR1a]	
No wastewater treatment required [TCR6]	
Treat air emission to provide a typical removal efficiency of (%)	9.0E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	0.0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	3.3E+06
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW3]	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2] Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	1.1E-02
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	2.2E-02

GOTO USES

Section 1	
Title	
12a - Use as a fuel: Industrial (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	7
Specific Environmental Release Category	ESVOC SpERC 7.12a.v1
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.0E+06
Fraction of Regional tonnage used locally	1.0E+00
Annual site tonnage (tonnes/year)	1.0E+06
Maximum daily site tonnage (kg/day)	3.3E+06
Frequency and duration of use	
Continuous release. [FD2]	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5.0E-02
Release fraction to wastewater from process (initial release prior to RMM)	1.0E-05
Release fraction to soil from process (initial release prior to RMM)	0
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 (%)	9.5E+01
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	79.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5.4E+06
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. [ETW1] Combustion emissions considered in regional exposure assessment. [ETW2] 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	
This substance is consumed during use and no waste of the substance is generated. [ERW3]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2]	
Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	5.9E-01
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	2.2E-01

GOTO USES

Section 1	
Title	
12b - Use as a fuel: Professional (classified)	
Use Descriptor	
Sector(s) of Use	
Process Categories	
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC SpERC 9.12b.v1
Processes, tasks, activities covered	
Covers the use as a fuel or in fuels (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	9.6E+05
Fraction of Regional tonnage used locally	5.0E-04
Annual site tonnage (tonnes/year)	4.8E+02
Maximum daily site tonnage (kg/day)	1.3E+03
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 wide dispersive use (regional use only)	1.0E-02
Release fraction to wastewater from wide dispersive use	1.0E-05
Release fraction to soil from wide dispersive use (regional use only)	0.00001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used. [TCS1]	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater. [TCR1a]	
No wastewater treatment required [TCR6]	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%)	0.0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%)	0.0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils. [OMS2] Sludge should be incinerated, contained or reclaimed. [OMS3]	
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	7.1E+04
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. [ETW1] Combustion emissions considered in regional exposure assessment. [ETW2] 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	
This substance is consumed during use and no waste of the substance is generated. [ERW3]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1] Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. [DSU2] Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. [DSU3] Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html). [DSU4]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	6.3E-03
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	1.8E-02

GOTO USES

Section 1	
Title	
12c - Use as a fuel: Consumer (classified)	
Use Descriptor	
Sector(s) of Use	
Product Categories	
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC SpERC 9.12c.v1
Processes, tasks, activities covered	
Covers consumer uses in fuels.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB. [PrC3] Predominantly hydrophobic. [PrC4a]	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	8.2E+06
Fraction of Regional tonnage used locally	5.0E-04
Annual site tonnage (tonnes/year)	4.1E+03
Maximum daily site tonnage (kg/day)	1.1E+04
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 wide dispersive use (regional use only)	1.0E-02
Release fraction to wastewater from wide dispersive use	1.0E-05
Release fraction to soil from wide dispersive use (regional use only)	0.00001
Conditions and measures related to municipal sewage treatment plant	
Not applicable as there is no release to wastewater. [STP1]	
Estimated substance removal from wastewater via domestic sewage treatment (%)	95.5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5.9E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.0E+03
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls. [ETW1] Combustion emissions considered in regional exposure assessment. [ETW2] 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	
This substance is consumed during use and no waste of the substance is generated. [ERW3]	
Section 3 Exposure Estimation	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. [EE2]	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. [DSU1]	
Maximum Risk Characterisation Ratio for Air Emissions RCRair	6.3E-03
Maximum Risk Characterisation Ratio for Wastewater Emissions RCRwater	1.9E-02