

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

FIX PRIMER

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

1.1. Product identifier

Product name : FIX PRIMER
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Hardener

1.2.2 Uses advised against

No uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@novatech.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Asp. Tox.	category 1	H304: May be fatal if swallowed and enters airways.
Skin Irrit.	category 2	H315: Causes skin irritation.
STOT SE	category 3	H336: May cause drowsiness or dizziness.
Aquatic Acute	category 1	H400: Very toxic to aquatic life.
Aquatic Chronic	category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2. Label elements



Contains: heptane.

Signal word

H-statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.

P-statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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P280	Wear protective gloves, protective clothing and eye protection/face protection.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P331	Do NOT induce vomiting.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard
May build up electrostatic charges: risk of ignition

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
heptane 01-2119457603-38	142-82-5 205-563-8	C≥90%	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)(10)	Constituent	M: 1 (Acute, BIG)
1,8-diazabicyclo[5.4.0]undec-7-ene	6674-22-2 229-713-7	C<1%	Acute Tox. 3; H301 Skin Corr. 1B; H314 Eye Dam. 1; H318	(1)(10)	Constituent	

- (1) For H- and EUH-statements in full: see section 16
(2) Substance with a Community workplace exposure limit
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

After eye contact:

Rinse immediately with (lukewarm) water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:

Dizziness. Drowsiness.

After skin contact:

Tingling/irritation of the skin.

After eye contact:

No effects known.

After ingestion:

Risk of aspiration pneumonia.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

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Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (not alcohol-resistant).

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Protective goggles (EN 166). Head/neck protection. Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Protective goggles (EN 166). Head/neck protection. Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product. Dam up the liquid spill. Try to reduce evaporation. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: keep naked flames/sparks away. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Do not discharge the waste into the drain. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a cool area. Keep container in a well-ventilated place. Fireproof storeroom. Keep only in the original container.

7.2.2 Keep away from:

Heat sources, ignition sources, oxidizing agents, (strong) acids.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

n-Heptane	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	500 ppm
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n-Heptane	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	2085 mg/m ³
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Belgium

n-Heptane	Time-weighted average exposure limit 8 h	400 ppm
	Time-weighted average exposure limit 8 h	1664 mg/m ³
	Short time value	500 ppm
	Short time value	2085 mg/m ³

The Netherlands

n-Heptaan	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	288 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	1200 mg/m ³
	Short time value (Public occupational exposure limit value)	384 ppm
	Short time value (Public occupational exposure limit value)	1600 mg/m ³

France

n-Heptane	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	400 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	1668 mg/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	500 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	2085 mg/m ³

Germany

Heptan (alle Isomeren)	Time-weighted average exposure limit 8 h (TRGS 900)	500 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	2100 mg/m ³

Austria

Heptan (alle Isomeren): n-Heptan, 2,2-Dimethylpentan, 2,3-Dimethylpentan, 2,4-Dimethylpentan, 3,3-Dimethylpentan, 3-Ethylpentan, 2-Methylhexan, 3-Methylhexan, 2,2,3-Trimethylbutan, Isoheptan (Gemisch)	Tagesmittelwert (MAK)	500 ppm
	Tagesmittelwert (MAK)	2000 mg/m ³
	Kurzzeitwert 15(Miw) 4x (MAK)	2000 ppm
	Kurzzeitwert 15(Miw) 4x (MAK)	8000 mg/m ³

UK

n-Heptane	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	500 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	2085 mg/m ³

USA (TLV-ACGIH)

Heptane, isomers	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	400 ppm
	Short time value (TLV - Adopted Value)	500 ppm

b) National biological limit values

If limit values are applicable and available these will be listed below.

Germany

n-Heptan (Heptan-2,5-dion)	Urin: expositionsende, bzw. schichtende	250 µg/l	
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8.1.2 Sampling methods

Product name	Test	Number
n-Heptane (Hydrocarbons, BP 26 to 126 C)	NIOSH	1500
n-Heptane (Volatile Organic compounds)	NIOSH	2549
n-Heptane	OSHA	7

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

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heptane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2085 mg/m ³	
	Long-term systemic effects dermal	300 mg/kg bw/day	

1,8-diazabicyclo[5.4.0]undec-7-ene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	10.6 mg/m ³	
	Long-term systemic effects dermal	3 mg/kg bw/day	

DNEL/DMEL - General population

heptane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	447 mg/m ³	
	Long-term systemic effects dermal	149 mg/kg bw/day	
	Long-term systemic effects oral	149 mg/kg bw/day	

1,8-diazabicyclo[5.4.0]undec-7-ene

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.6 mg/m ³	
	Long-term systemic effects dermal	1.5 mg/kg bw/day	
	Long-term systemic effects oral	1.5 mg/m ³	

PNEC

1,8-diazabicyclo[5.4.0]undec-7-ene

Compartment	Value	Remark
Fresh water	0.24 mg/l	
Marine water	0.024 mg/l	
Fresh water (intermittent releases)	0.5 mg/l	
STP	13 mg/l	
Fresh water sediment	1.46 mg/kg sediment dw	
Marine water sediment	0.146 mg/kg sediment dw	
Soil	0.152 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: keep naked flames/sparks away. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
nitrile rubber	> 480 minutes	≥ 0.4 mm	Class 6	

c) Eye protection:

Protective goggles (EN 166).

d) Skin protection:

Head/neck protection. Protective clothing (EN 14605 or EN 13034).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available in the literature
Colour	Colourless
Translucency	Clear
Particle size	Not applicable (liquid)
Explosion limits	0.6 - 7.0 vol %
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available in the literature
Kinematic viscosity	No data available in the literature

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Melting point	No data available in the literature
Boiling point	83 °C - 105 °C
Relative vapour density	No data available in the literature
Vapour pressure	No data available in the literature
Solubility	Water ; insoluble
Relative density	0.71
Absolute density	713 kg/m ³
Decomposition temperature	No data available in the literature
Auto-ignition temperature	> 200 °C
Flash point	-5 °C
pH	Not applicable (non-soluble in water)

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. May build up electrostatic charges: risk of ignition.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: keep naked flames/sparks away.

10.5. Incompatible materials

Oxidizing agents, (strong) acids.

10.6. Hazardous decomposition products

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

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

11.1.1 Test results

Acute toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

heptane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	> 5000 mg/kg bw		Rat (male / female)	Read-across	
Dermal	LD50	Equivalent to OECD 402	> 2000 mg/kg bw	24 h	Rabbit (male / female)	Read-across	
Inhalation (vapours)	LC50	Equivalent to OECD 403	> 29.29 mg/l air	4 h	Rat (male / female)	Experimental value	

1,8-diazabicyclo[5.4.0]undec-7-ene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	215 mg/kg bw - 681 mg/kg bw		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation						Data waiving	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

FIX PRIMER

No (test)data on the mixture available

Classification is based on the relevant ingredients

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heptane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	Equivalent to OECD 405		24; 48; 72 hours	Rabbit	Read-across	Single treatment with rinsing
Skin	Irritating	Equivalent to OECD 404	24 h	72 hours	Rabbit	Read-across	

1,8-diazabicyclo[5.4.0]undec-7-ene

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye						Data waiving	
Eye	Serious eye damage; category 1					Literature study	
Not applicable (in vitro test)	Corrosive	In vitro skin irritation/corrosion	> 4 h			Experimental value	

Conclusion

Causes skin irritation.
Not classified as irritating to the eyes
Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

FIX PRIMER

No (test)data on the mixture available
Judgement is based on the relevant ingredients
heptane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406			Guinea pig (male / female)	Read-across	

1,8-diazabicyclo[5.4.0]undec-7-ene

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	

Conclusion

Not classified as sensitizing for inhalation
Not classified as sensitizing for skin

Specific target organ toxicity

FIX PRIMER

No (test)data on the mixture available
Classification is based on the relevant ingredients
heptane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation (vapours)	NOAEC	Subchronic toxicity test	12470 mg/m ³ air	Central nervous system	No effect	16 weeks (daily)	Rat (male)	Experimental value
Inhalation (vapours)	NOAEC systemic effects	Subchronic toxicity test	12470 mg/m ³ air		No adverse systemic effects	16 weeks (daily)	Rat (male)	Experimental value

1,8-diazabicyclo[5.4.0]undec-7-ene

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	Dose level	OECD 408	120 mg/kg bw/day		No effect	90 day(s)	Rat (male / female)	Experimental value

Conclusion

May cause drowsiness or dizziness.
Not classified for subchronic toxicity

Mutagenicity (in vitro)

FIX PRIMER

No (test)data on the mixture available
Judgement is based on the relevant ingredients

FIX PRIMER

heptane

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S. typhimurium and E. coli)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Rat liver cells	No effect	Experimental value	

1,8-diazabicyclo[5.4.0]undec-7-ene

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)	No effect	Experimental value	

Mutagenicity (in vivo)

FIX PRIMER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

FIX PRIMER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

heptane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

FIX PRIMER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

heptane

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	10560 mg/m ³ air	10 days (6h / day)	Mouse	No effect	Foetus	Read-across
	LOAEL	Equivalent to OECD 414	31680 mg/m ³ air	10 days (6h / day)	Mouse	Minor skeletal variations	Foetus	Read-across
Maternal toxicity (Inhalation (vapours))	NOAEL	Equivalent to OECD 414	3168 mg/m ³ air	10 days (6h / day)	Mouse	No effect		Read-across
	LOAEL	Equivalent to OECD 414	10560 mg/m ³ air	10 days (6h / day)	Mouse	Maternal toxicity		Read-across
Effects on fertility (Inhalation (vapours))	NOAEL	Equivalent to OECD 416	31680 mg/m ³ air		Rat (male / female)	No effect		Read-across

1,8-diazabicyclo[5.4.0]undec-7-ene

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	150 mg/kg bw/day	14 day(s)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	150 mg/kg bw/day	14 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility (Oral (stomach tube))	NOAEL	OECD 422	150 mg/kg bw/day	29 day(s) - 57 day (s)	Rat (male / female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

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Classification is based on the relevant ingredients
May be fatal if swallowed and enters airways.

Toxicity other effects

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No (test)data on the mixture available

Chronic effects from short and long-term exposure

FIX PRIMER

No effects known.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

FIX PRIMER

No (test)data on the mixture available

Classification is based on the relevant ingredients

heptane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LL50		5.738 mg/l	96 h	Oncorhynchus mykiss		Fresh water	QSAR; Nominal concentration
Acute toxicity crustacea	LC50		0.2 mg/l	96 h	Chaetogammarus marinus	Semi-static system	Salt water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	EC50		4.338 mg/l	72 h	Pseudokirchneriella subcapitata		Fresh water	QSAR; Biomass
Long-term toxicity fish	NOELR		1.284 mg/l	28 day(s)	Oncorhynchus mykiss		Fresh water	QSAR; Growth rate
Toxicity aquatic micro-organisms	EL50		22.6 mg/l	48 h	Tetrahymena pyriformis		Fresh water	QSAR; Growth

1,8-diazabicyclo[5.4.0]undec-7-ene

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	DIN 38412-15	146.6 mg/l	96 h	Leuciscus idus	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	EU Method	50 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	EU Method	> 100 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
	EC10	EU Method	> 100 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC	OECD 211	≥ 12 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC20	ISO 8192	650 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Experimental value; Nominal concentration

Conclusion

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

heptane

Biodegradation water

Method	Value	Duration	Value determination
	70 %; Oxygen consumption	10 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
SRC AOP v1.92	18.68 h	1.5E6 /cm ³	Calculated value

1,8-diazabicyclo[5.4.0]undec-7-ene

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C	1 %; Oxygen consumption	4 week(s)	Experimental value

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Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

heptane

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.00	552			Calculated value

Log Kow

Method	Remark	Value	Temperature	Value determination
		4.5		

1,8-diazabicyclo[5.4.0]undec-7-ene

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	< 3.6	6 week(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
Equivalent to OECD 107		-0.43	25 °C	Experimental value

Conclusion

Contains bioaccumulative component(s)

12.4. Mobility in soil

heptane

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	2.38	Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	79 %	0 %	10 %	3.8 %	7.8 %	Calculated value

1,8-diazabicyclo[5.4.0]undec-7-ene

(log) Koc

Parameter	Method	Value	Value determination
log Koc		1.4	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

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Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Groundwater

Groundwater pollutant

heptane

Groundwater

Groundwater pollutant

1,8-diazabicyclo[5.4.0]undec-7-ene

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

FIX PRIMER

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

07 01 04* (wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals: other organic solvents, washing liquids and mother liquors). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste.

Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1206
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14.2. UN proper shipping name

Proper shipping name	heptanes
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14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes
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14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	1206
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14.2. UN proper shipping name

Proper shipping name	heptanes
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14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes
--	-----

14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number

UN number	1206
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14.2. UN proper shipping name

Proper shipping name	heptanes
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14.3. Transport hazard class(es)

Class	3
Classification code	F1

14.4. Packing group

FIX PRIMER

Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number	
UN number	1206
14.2. UN proper shipping name	
Proper shipping name	heptanes
14.3. Transport hazard class(es)	
Class	3
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Marine pollutant	P
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	1206
14.2. UN proper shipping name	
Proper shipping name	heptanes
14.3. Transport hazard class(es)	
Class	3
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	1 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
97 %	
690 g/l	

Directive 2012/18/EU (Seveso III)

Threshold values under special circumstances

Substance or category	Special circumstances	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P5b FLAMMABLE LIQUIDS	Particular processing conditions, such as high pressure or high temperature, may create major-accident hazards	50	200	None	Flammability
P5a FLAMMABLE LIQUIDS	Maintained at a temperature above the boiling point	10	50	None	Flammability

Threshold values under normal circumstances

Substance or category	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
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E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1	100	200	None	Eco-toxicity
P5c FLAMMABLE LIQUIDS	5000	50000	None	Flammability

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· heptane · 1,8-diazabicyclo[5.4.0]undec-7-ene	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	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 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 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 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 H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
· heptane	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	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. 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.
· heptane	Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

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columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.
The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.

National legislation Belgium

FIX PRIMER

No data available

National legislation The Netherlands

FIX PRIMER

Waterbezikbaarheid	A (1); Algemene Beoordelingsmethodiek (ABM)
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National legislation France

FIX PRIMER

No data available

National legislation Germany

FIX PRIMER

Lagerklasse (TRGS510)	3: Entzündbare Flüssigkeiten
WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

heptane

TA-Luft	5.2.5/I
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1,8-diazabicyclo[5.4.0]undec-7-ene

TA-Luft	5.2.5/I
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National legislation Austria

FIX PRIMER

No data available

National legislation United Kingdom

FIX PRIMER

No data available

Other relevant data

FIX PRIMER

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

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The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.