

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830



TRC-1800

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

1.1. Product identifier

Product name : TRC-1800
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

Adhesive
Sealing compound

1.2.2 Uses advised against

No uses advised against known

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@tec7.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.
Skin Sens.	category 1	H317: May cause an allergic skin reaction.
Skin Irrit.	category 2	H315: Causes skin irritation.
STOT SE	category 3	H336: May cause drowsiness or dizziness.
Aquatic Chronic	category 2	H411: Toxic to aquatic life with long lasting effects.

2.2. Label elements



Contains: heptane, branched, cyclic and linear; zinc bis(dibutylidithiocarbamate).

Signal word Danger

H-statements

H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 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.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P235 Keep cool.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

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
heptane, branched, cyclic and linear	426260-76-6	85%<C<95%	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	(1)(2)(10)	Constituent
polyisoprene	9003-31-0	2%<C<8%		(2)	Constituent
zinc bis(dibutylthiocarbamate)	136-23-2 205-232-8	1%<C<5%	Skin Sens. 1; H317 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)(9)	Constituent
heptane 01-2119457603-38	142-82-5 205-563-8	C<4%	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
cyclohexyl(ethyl)amine	5459-93-8 226-733-8	C<1%	Flam. Liq. 3; H226 Acute Tox. 3; H311 Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318	(1)(10)	Constituent

(1) For H-statements in full: see heading 16

(2) Substance with a Community workplace exposure limit

(9) M-factor, see heading 16

(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:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Wash immediately with lots of water. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

EXPOSURE TO HIGH CONCENTRATIONS: Dizziness. Drowsiness.

After skin contact:

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Tingling/irritation of the skin.

After eye contact:

No effects known.

After ingestion:

No effects known.

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:

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 (alcohol-resistant), Water spray if puddle cannot expand.

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

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

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. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. 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. Protective goggles. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

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 heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective goggles. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Liquid spill: take up in noncombustible 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 heading 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: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Gas/vapour heavier than air at 20°C. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately. 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:

Store in a cool area. Protect against frost. Keep container in a well-ventilated place. Keep out of direct sunlight. Fireproof storeroom. Meet the legal requirements.

7.2.2 Keep away from:

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

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

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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
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	2085 mg/m ³

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
Particules non classifiées autrement (fraction alvéolaire)	Time-weighted average exposure limit 8 h	3 mg/m ³
Particules non classifiées autrement (fraction inhalable)	Time-weighted average exposure limit 8 h	10 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
Poussières réputées sans effet spécifique, fraction	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	5 mg/m ³
Poussières réputées sans effet spécifique	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	10 mg/m ³

Germany

Allgemeiner Staubgrenzwert: Alveolengängige Fraktion	Time-weighted average exposure limit 8 h (TRGS 900)	1.25 mg/m ³
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

UK

Inhalable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m ³
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
Respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m ³

USA (TLV-ACGIH)

Heptane, all isomers	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	400 ppm
	Short time value (TLV - Adopted Value)	500 ppm
Particulates (insoluble or poorly soluble)(NOS) (R): Respirable fraction	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	3 mg/m ³ (R)

b) National biological limit values

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

8.1.2 Sampling methods

Product name	Test	Number
Amines, Aliphatic	NIOSH	2010
Butyl Ziram	OSHA	2065
Dust, Respirable Nuisance (Particulates)	NIOSH	0600

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Product name	Test	Number
Dust, Respirable	ASTM	D 4532-92
Dust, Total Nuisance (Particulates)	NIOSH	0500
n-Heptane (Hydrocarbons, BP 26 to 126 C)	NIOSH	1500
n-Heptane (Volatile Organic compounds)	NIOSH	2549
n-Heptane	OSHA	7
total aerosol mass	NIOSH	0501

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

zinc bis(dibutyl)dithiocarbamate)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	6 mg/m ³	
	Long-term systemic effects dermal	800 mg/kg bw/day	

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	

DNEL/DMEL - General population

zinc bis(dibutyl)dithiocarbamate)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2 mg/m ³	
	Long-term systemic effects dermal	480 mg/kg bw/day	
	Long-term systemic effects oral	1 mg/kg bw/day	

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	

PNEC

zinc bis(dibutyl)dithiocarbamate)

Compartments	Value	Remark
Fresh water	0.32 µg/l	
Marine water	0.032 µg/l	
Fresh water (intermittent releases)	7.4 µg/l	
STP	3.65 µg/l	
Fresh water sediment	32 mg/kg sediment dw	
Marine water sediment	3.2 mg/kg sediment dw	
Soil	6.4 mg/kg soil dw	
Oral	4.56 mg/kg food	

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: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Work under local exhaust/ventilation. Measure the concentration in the air regularly.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. 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	Remark	Protection index
nitrile rubber	> 480 minutes		Class 6

c) Eye protection:

Protective goggles.

d) Skin protection:

Protective clothing. Head/neck protection.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Solvent-like odour
Odour threshold	No data available
Colour	Coloured
Particle size	Not applicable (liquid)
Explosion limits	1.2 - 6.7 vol %
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available in the literature
Kinematic viscosity	150 mm ² /s ; 40 °C
Melting point	No data available in the literature
Boiling point	88 °C
Evaporation rate	> 1 ; Butyl acetate
Relative vapour density	No data available in the literature
Vapour pressure	158 hPa ; 20 °C
Solubility	No data available in the literature
Relative density	0.71 ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	-9 °C ; Closed cup
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available in the literature

9.2. Other information

Absolute density	710 kg/m ³
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SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

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: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system.

10.5. Incompatible materials

(strong) acids, (strong) bases, oxidizing agents.

10.6. Hazardous decomposition products

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

polyisoprene

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		> 2000 mg/kg		Rat		
Dermal	LD50		> 2000 mg/kg		Rat		

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zinc bis(dibutyldithiocarbamate)

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)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 2000 mg/kg bw		Rabbit (male / female)	Experimental value	
Inhalation						Data waiving	

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	

cyclohexyl(ethyl)amine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		590 mg/kg bw		Rat	Experimental value	
Skin			category 3			Literature study	
Inhalation			category 4			Literature study	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

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No (test) data on the mixture available

Classification is based on the relevant ingredients

heptane, branched, cyclic and linear

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Skin	Irritating; category 2					Literature study	

zinc bis(dibutyldithiocarbamate)

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Draize Test		24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Irritating	Draize Test	24 h	24; 48; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Annex VI	

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
Skin	Irritating	Equivalent to OECD 404	24 h	72 hours	Rabbit	Read-across	

cyclohexyl(ethyl)amine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage				Rat	Experimental value	
Skin	Corrosive				Rabbit	Experimental value	

Conclusion

Causes skin irritation.

Not classified as irritating to the respiratory system

Not classified as irritating to the eyes

Respiratory or skin sensitisation

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No (test) data on the mixture available

Classification is based on the relevant ingredients

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zinc bis(dibutyl)dithiocarbamate)

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	
Skin	Sensitizing; category 1					Annex VI	

heptane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406		24; 48 hours	Guinea pig (male / female)	Read-across	

Conclusion

May cause an allergic skin reaction.
Not classified as sensitizing for inhalation

Specific target organ toxicity

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No (test)data on the mixture available
Classification is based on the relevant ingredients
heptane, branched, cyclic and linear

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation			STOT SE cat.3		Drowsiness, dizziness			Literature study

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			STOT SE cat.3		Drowsiness, dizziness			Literature study

Conclusion

May cause drowsiness or dizziness.
Not classified for subchronic toxicity

Mutagenicity (in vitro)

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

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (<i>S.typhimurium</i>)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Human lymphocytes	No effect	Read-across	

Conclusion

Not classified for mutagenic or genotoxic toxicity

Mutagenicity (in vivo)

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

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

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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	Effect	Organ	Value determination
Unknown								Data waiving

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Conclusion

Not classified for carcinogenicity

Reproductive toxicity

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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))	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	10560 mg/m ³ air	10 days (6h / day)	Mouse	No effect		Read-across
	LOAEL	Equivalent to OECD 414	31680 mg/m ³ air	10 days (6h / day)	Mouse	Lung tissue affection/degeneration	Lungs	Read-across
Effects on fertility (Inhalation (vapours))	NOAEL	Equivalent to OECD 416	31680 mg/m ³ air		Rat (male / female)	No effect		Read-across

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

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No (test) data on the mixture available

Chronic effects from short and long-term exposure

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Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

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No (test) data on the mixture available

Classification is based on the relevant ingredients

zinc bis(dibutylthiocarbamate)

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	> 16000 µg/l	96 h	Poecilia reticulata	Semi-static system	Fresh water	Experimental value
Acute toxicity crustacea	EC50	US EPA	0.74 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	1.1 mg/l	96 h	Chlorella pyrenoidosa	Static system	Fresh water	Read-across; Growth rate
Long-term toxicity fish	NOEC	Equivalent to OECD 210	0.32 mg/l	10 day(s)	Danio rerio	Semi-static system	Fresh water	Experimental value
Long-term toxicity aquatic crustacea	NOEC		3.2 µg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across; Reproduction
Toxicity aquatic micro-organisms	EC50	Equivalent to OECD 209	1428 mg/l	3 h	Activated sludge	Static system	Salt water	Experimental value; GLP

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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		0.1 mg/l	96 h	Americamysis bahia	Semi-static system	Salt water	Experimental value
Toxicity algae and other aquatic plants	EL50		4.338 mg/l	72 h	Pseudokirchneriella subcapitata		Fresh water	QSAR; Biomass
	NOELR		0.97 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
Long-term toxicity aquatic crustacea	NOEC	OECD 211	0.17 mg/l	21 day(s)	Daphnia magna	Static system	Fresh water	Read-across; GLP
Toxicity aquatic micro-organisms	EL50		22.6 mg/l	48 h	Tetrahymena pyriformis		Fresh water	QSAR; Nominal concentration

Conclusion

Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

zinc bis(dibutylthiocarbamate)

Biodegradation water

Method	Value	Duration	Value determination
EU Method C.4	2 %; GLP	28 day(s)	Experimental value

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	1500000 /cm ³	Calculated value

cyclohexyl(ethyl)amine

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	0.6 %; GLP	28 day(s)	Experimental value

Conclusion

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, branched, cyclic and linear

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

polyisoprene

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable			

zinc bis(dibutylthiocarbamate)

Log Kow

Method	Remark	Value	Temperature	Value determination
		5.54		Calculated

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
		4.66		Experimental value

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cyclohexyl(ethyl)amine

Log Kow

Method	Remark	Value	Temperature	Value determination
EU Method A.8		1.027	25 °C	Experimental value

Conclusion

Contains bioaccumulative component(s)

12.4. Mobility in soil

zinc bis(dibutyldithiocarbamate)

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	6.26	QSAR

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

Conclusion

Contains component(s) that adsorb(s) into the soil

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

12.5. Results of PBT and vPvB assessment

Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

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Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

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)

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).

08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). 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	1133
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14.2. UN proper shipping name

Proper shipping name	Adhesives
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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

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14.5. Environmental hazards

Environmentally hazardous substance mark	yes
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14.6. Special precautions for user

Special provisions	640C
Limited quantities	Combination packagings: not more than 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	1133
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14.2. UN proper shipping name

Proper shipping name	Adhesives
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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	640C
Limited quantities	Combination packagings: not more than 5 liters 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	1133
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14.2. UN proper shipping name

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

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	640C
Limited quantities	Combination packagings: not more than 5 liters 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	1133
-----------	------

14.2. UN proper shipping name

Proper shipping name	adhesives
----------------------	-----------

14.3. Transport hazard class(es)

Class	3
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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 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	Not applicable, based on available data
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Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	1133
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14.2. UN proper shipping name

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

Class	3
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14.4. Packing group

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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	A3
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Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	1 L
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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
< 5 %	

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, branched, cyclic and linear · heptane	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.	<ol style="list-style-type: none"> Shall not be used in: <ul style="list-style-type: none"> — 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, Articles not complying with paragraph 1 shall not be placed on the market. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: <ul style="list-style-type: none"> — 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, 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). 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: <ol style="list-style-type: none"> 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"; 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"; 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. 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 H304, intended for supply to the general public. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'
· heptane, branched, cyclic and linear · 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.	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> — metallic glitter intended mainly for decoration, — artificial snow and frost, — "whoopee" cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 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". 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. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

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National legislation Belgium

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No data available

National legislation The Netherlands

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

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No data available

National legislation Germany

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WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
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polyisoprene

TA-Luft	5.2.1
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zinc bis(dibutyldithiocarbamate)

TA-Luft	5.2.5/I
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heptane

TA-Luft	5.2.5/I
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National legislation United Kingdom

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No data available

Other relevant data

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No data available

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

zinc bis(dibutyldithiocarbamate)

A chemical safety assessment has been performed.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
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 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
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

M-factor

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zinc bis(dibutyldithiocarbamate)	1	Acute	ECHA
zinc bis(dibutyldithiocarbamate)	10	Chronic	ECHA

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.

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