SAFETY DATA SHEET

Based upon Regulation (EC) No. 1907/2006, as amended by Regulation (EC) No. 453/2010

Brake Cleaner

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

1.1 Product identifier:

Product name : Brake Cleaner

Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Detergent according to Regulation (EC) No 648/2004

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

SOUDAL N.V.
Everdongenlaan 18-20
B-2300 Turnhout
☎ +32 14 42 42 31
+32 14 42 65 14
msds@soudal.com

Manufacturer of the product

SOUDAL N.V.
Everdongenlaan 18-20
B-2300 Turnhout
☎ +32 14 42 42 31
+32 14 42 65 14
msds@soudal.com

Distributor of the product

JUMBO Markt AG
Industriestrasse 34 - Postfach 222
CH-8305 Dietlikon
☎ +41 (0)44 805 61 11
+41 (0)44 805 62 03
info@jumbo.ch

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:

2.1.1 Classification according to Regulation EC No 1272/2008

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

Class	Category	Hazard statements
Aerosol	category 1	H222: Extremely flammable aerosol.
Aerosol	category 1	H229: Pressurised container: May burst if heated.
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.

2.1.2 Classification according to Directive 67/548/EEC-1999/45/EC

Classified as dangerous in accordance with the criteria of Directives 67/548/EEC and 1999/45/EC

F+; R12 - Extremely flammable.

Xi; R38 - Irritating to skin.

R67 - Vapours may cause drowsiness and dizziness.

N; R51-53 - Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

2.2 Label elements:

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

Drawn up according to the criteria of Regulation (EU) No 487/2013, 4th adaptation of Regulation (EC) No 1272/2008

Contains: hydrocarbons, C7, n-alkanes, isoalkanes, cyclics; hydrocarbons, C6, isoalkanes, < 5% n-hexane.

Signal word Danger

H-statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

P-statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P280	Wear protective gloves.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P410 + P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C/ 122°F.
P501	Dispose of contents/container in accordance with local/regional/national/international regulation.

Labelling according to Directive 67/548/EEC-1999/45/EC (DSD/DPD)

Labels

Extremely flammable

Irritant

Dangerous for the environment

R-phrases

38	Irritating to skin
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
67	Vapours may cause drowsiness and dizziness

S-phrases

02	Keep out of the reach of children
16	Keep away from sources of ignition - No smoking
23	Do not breathe spray
(46)	(If swallowed, seek medical advice immediately and show this container or label)
51	Use only in well-ventilated areas
61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Additional recommendations

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C.
Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.

2.3 Other hazards:

CLP

May be ignited by sparks
Gas/vapour spreads at floor level: ignition hazard
Aerosol may explode under the effect of heat

DSD/DPD

May be ignited by sparks
Gas/vapour spreads at floor level: ignition hazard
Aerosol may explode under the effect of heat

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 DSD/DPD	Classification according to CLP	Note	Remark

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (01-2119475514-33)		C>25 %	F; R11 Xn; R65 Xi; R38 R67 N; R51-53	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	(1)(10)	UVCB
hydrocarbons, C6, isoalkanes, < 5% n-hexane (01-2119484651-34)		10%<C<25%	F; R11 Xn; R65 Xi; R38 R67 N; R51-53	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	(1)(10)	UVCB
n-hexane (-)	110-54-3 203-777-6	1%<C<2.5%	F; R11 Repr. Cat. 3; R62 Xn; R48/20 - 65 Xi; R38 R67 N; R51-53	Flam. Liq. 2; H225 Repr. 2; H361f Asp. Tox. 1; H304 STOT RE 2; H373 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	(1)(2)(8)(10)	Constituent
cyclohexane (01-2119463273-41)	110-82-7 203-806-2	0.25%<C<1%	F; R11 Xn; R65 Xi; R38 R67 N; R50-53	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
butane (01-2119474691-32)	106-97-8 203-448-7	10%<C<25%	F+; R12	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
propane (01-2119486944-21)	74-98-6 200-827-9	10%<C<25%	F+; R12	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
carbon dioxide (-)	124-38-9 204-696-9	1%<C<10%		Press. Gas - Liquefied gas; H280	(1)(2)	Propellant
(benzene, conc<0.1%) (-)						
(1,3-butadiene, conc<0.1%) (-)						

(1) For R-phrases and H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit
(8) Specific concentration limits, 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:

If you feel unwell, seek medical advice.

After inhalation:

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

After skin contact:

Wash immediately with lots of water. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Do not induce vomiting. 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:

Coughing. Respiratory difficulties. Headache.

After skin contact:

Tingling/irritation of the skin.

After eye contact:

Redness of the eye tissue. Visual disturbances.

After ingestion:

Diarrhoea. Headache. Gastrointestinal complaints. Disturbances of consciousness. Vomiting.

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:

Water spray. Polyvalent foam. BC powder. Carbon dioxide.

5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

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. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistant risk of physical explosion. 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. Head/neck protection. 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. Head/neck protection. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2 Environmental precautions:

Dam up the liquid spill. Use appropriate containment to avoid environmental contamination.

6.3 Methods and material for containment and cleaning up:

Take up liquid spill into 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:

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Remove contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Storage temperature: < 50 °C. Store at room temperature. Keep out of direct sunlight. Ventilation at floor level. Fireproof storeroom. Protect against frost. Meet the legal requirements. Max. storage time: 1 year(s).

7.2.2 Keep away from:

Heat sources, ignition sources.

7.2.3 Suitable packaging material:

Aerosol.

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

Carbon dioxide	Time-weighted average exposure limit 8 h	5000 ppm	Indicative occupational exposure limit value
	Time-weighted average exposure limit 8 h	9000 mg/m³	Indicative occupational exposure limit value
Cyclohexane	Time-weighted average exposure limit 8 h	200 ppm	Indicative occupational exposure limit value
	Time-weighted average exposure limit 8 h	700 mg/m³	Indicative occupational exposure limit value
n-Hexane	Time-weighted average exposure limit 8 h	20 ppm	Indicative occupational exposure limit value
	Time-weighted average exposure limit 8 h	72 mg/m³	Indicative occupational exposure limit value

Belgium

Carbone (dioxyde de)	Time-weighted average exposure limit 8 h	5000 ppm (A)	A: La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce
	Time-weighted average exposure limit 8 h	9131 mg/m³ (A)	A: La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce
	Short time value	30000 ppm (A)	A: La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce
	Short time value	54784 mg/m³ (A)	A: La mention "A" signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce
Cyclohexane	Time-weighted average exposure limit 8 h	100 ppm	
	Time-weighted average exposure limit 8 h	350 mg/m³	
Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4)	Time-weighted average exposure limit 8 h	1000 ppm	
n-Hexane	Time-weighted average exposure limit 8 h	20 ppm	
	Time-weighted average exposure limit 8 h	72 mg/m³	

USA (TLV-ACGIH)

Butane, all isomers	Time-weighted average exposure limit 8 h	1000 ppm	TLV - Adopted Value
Carbon dioxide	Time-weighted average exposure limit 8 h	5000 ppm	TLV - Adopted Value
	Short time value	30000 ppm	TLV - Adopted Value
Cyclohexane	Time-weighted average exposure limit 8 h	100 ppm	TLV - Adopted Value
n-Hexane	Time-weighted average exposure limit 8 h	50 ppm	TLV - Adopted Value

France

Carbone (dioxyde de)	Time-weighted average exposure limit 8 h	5000 ppm	VRI: Valeur réglementaire indicative
	Time-weighted average exposure limit 8 h	9000 mg/m³	VRI: Valeur réglementaire indicative
Cyclohexane	Time-weighted average exposure limit 8 h	200 ppm	VRC: Valeur réglementaire
	Time-weighted average exposure limit 8 h	700 mg/m³	VRC: Valeur réglementaire

Cyclohexane	Short time value	375 ppm	VL: Valeur non réglementaire indicative
	Short time value	1300 mg/m³	VL: Valeur non réglementaire indicative
n-Butane	Time-weighted average exposure limit 8 h	800 ppm	VL: Valeur non réglementaire indicative
	Time-weighted average exposure limit 8 h	1900 mg/m³	VL: Valeur non réglementaire indicative
n-Hexane	Time-weighted average exposure limit 8 h	20 ppm	VRC: Valeur réglementaire
	Time-weighted average exposure limit 8 h	72 mg/m³	VRC: Valeur réglementaire

UK

Butane	Time-weighted average exposure limit 8 h	600 ppm	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	1450 mg/m³	Workplace exposure limit (EH40/2005)
	Short time value	750 ppm	Workplace exposure limit (EH40/2005)
	Short time value	1810 mg/m³	Workplace exposure limit (EH40/2005)
Carbon dioxide	Time-weighted average exposure limit 8 h	5000 ppm	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	9150 mg/m³	Workplace exposure limit (EH40/2005)
	Short time value	15000 ppm	Workplace exposure limit (EH40/2005)
	Short time value	27400 mg/m³	Workplace exposure limit (EH40/2005)
Cyclohexane	Time-weighted average exposure limit 8 h	100 ppm	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	350 mg/m³	Workplace exposure limit (EH40/2005)
	Short time value	300 ppm	Workplace exposure limit (EH40/2005)
	Short time value	1050 mg/m³	Workplace exposure limit (EH40/2005)
n-Hexane	Time-weighted average exposure limit 8 h	20 ppm	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	72 mg/m³	Workplace exposure limit (EH40/2005)

b) National biological limit values

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

8.1.2 Sampling methods

If applicable and available it will be listed below.

n-hexane

Product name	Test	Number
n-Hexane	NIOSH	95-117
n-Hexane	OSHA	7
n-Hexane (Hydrocarbons, BP36 to 126C)	NIOSH	1500
n-Hexane (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
n-Hexane (Volatile Organic compounds)	NIOSH	2549

cyclohexane

Product name	Test	Number
Cyclohexane	NIOSH	95-117
Cyclohexane	OSHA	7
Cyclohexane (Hydrocarbons, BP36 to 126C)	NIOSH	1500

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 DNEL/PNEC values

DNEL - Workers

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Effect level (DNEL/DMEL)	Type	Value	Remark
		2085 mg/m³	
DNEL	Long-term systemic effects dermal	300 mg/kg bw/day	

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5306 mg/m³	
	Long-term systemic effects dermal	13964 mg/kg bw/day	

n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	11 mg/kg bw/day	
	Long-term systemic effects inhalation	75 mg/m³	

cyclohexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects inhalation	700 mg/m³	
	Acute local effects inhalation	700 mg/m³	
	Long-term systemic effects dermal	2016 mg/kg bw/day	
	Long-term systemic effects inhalation	700 mg/m³	
	Long-term local effects inhalation	700 mg/m³	

DNEL - General population

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	447 mg/m³	
	Long-term systemic effects dermal	149 mg/kg bw/day	
	Long-term systemic effects oral	149 mg/kg bw/day	

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1131 mg/m³	
	Long-term systemic effects dermal	1377 mg/kg bw/day	
	Long-term systemic effects oral	1301 mg/kg bw/day	

n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	5.3 ng/kg bw/day	
	Long-term systemic effects inhalation	16 mg/m³	
	Long-term systemic effects oral	4 mg/kg bw/day	

cyclohexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects inhalation	412 mg/m³	
	Acute local effects inhalation	412 mg/m³	
	Long-term systemic effects dermal	1186 mg/kg bw/day	
	Long-term systemic effects inhalation	206 mg/m³	
	Long-term systemic effects oral	59.4 mg/kg bw/day	
	Long-term local effects inhalation	206 mg/m³	

PNEC

cyclohexane

Compartments	Value	Remark
Fresh water	0.207 mg/l	
Marine water	0.207 mg/l	
Aqua (intermittent releases)	0.207 mg/l	
STP	3.24 mg/l	
Fresh water sediment	3.627 mg/kg sediment dw	
Marine water sediment	3.627 mg/kg sediment dw	
Soil	2.99 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

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly.

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:

Wear gas mask with filter type A if conc. in air > exposure limit.

b) Hand protection:

Gloves.

c) Eye protection:

Protective goggles.

d) Skin protection:

Head/neck protection. Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical form	Aerosol
Odour	Characteristic odour
Odour threshold	No data available
Colour	Variable in colour, depending on the composition
Particle size	No data available
Explosion limits	1.1 - 9.5 vol %
Flammability	Extremely flammable aerosol.
Log Kow	Not applicable (mixture)
Dynamic viscosity	1 mPa.s ; 20 °C

Kinematic viscosity	1 mm²/s ; 20 °C
Melting point	No data available
Boiling point	-140 / 95 °C
Flash point	Not applicable
Evaporation rate	7 ; butyl acetate
Relative vapour density	> 1
Vapour pressure	8530 hPa ; 20 °C
Solubility	water ; insoluble
Relative density	0.721 ; 20 °C
Decomposition temperature	No data available
Auto-ignition temperature	No data available
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available

Physical hazards

Flammable aerosol

9.2 Other information:

Absolute density	721 kg/m³ ; 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity:

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. No data available.

10.2 Chemical stability:

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5 Incompatible materials:

No data available.

10.6 Hazardous decomposition products:

Upon combustion: CO and CO2 are formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Test results

Acute toxicity

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50	Other	>5840 mg/kg bw		Rat	Male/female	Read-across
Dermal	LD50	Other	>2800 mg/kg bw	24 week(s)	Rat	Male/female	Read-across
Inhalation (vapours)	LC50	Equivalent to OECD 403	>23.3 mg/l	4 h	Rat	Male/female	Read-across

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50	Equivalent to OECD 401	>16750 mg/kg bw		Rat	Male/female	Read-across
Dermal	LD50	Equivalent to OECD 402	3350 mg/kg bw	4 h	Rabbit	Male	Read-across
Inhalation (vapours)	LC50	Equivalent to OECD 403	73680 ppm	4 h	Rat	Male	Read-across

n-hexane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50		25000 mg/kg		Rat		Literature study
Dermal	LD50		3000 mg/kg		Rabbit		Literature study
Inhalation	LC50		48000 ppm	4 h	Rat		Literature study

cyclohexane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
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 (vapours)	LC50	Equivalent to OECD 403	> 32.88 mg/l air	4 h	Rat	Male/female	Experimental value
Inhalation (vapours)	LC50	Equivalent to OECD 403	>19.07 mg/l	4 h	Rat	Male/female	Experimental value

Judgement is based on the relevant ingredients

Conclusion

Not classified for acute toxicity

Corrosion/irritation

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Not irritating	Other			Rabbit	Read-across
Skin	Irritating	Equivalent to OECD 404	4 h	24; 48; 72 hours	Rabbit	Read-across

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Not irritating	Equivalent to OECD 405	72 h		Rabbit	Read-across
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value

n-hexane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Irritating	Equivalent to OECD 405		72 hours	Rabbit	Read-across
Dermal	Irritating	Equivalent to OECD 404	24 h	24; 72 hours	Rabbit	Read-across

cyclohexane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Slightly irritating	Equivalent to OECD 405		24 hours	Rabbit	Weight of evidence
Skin	Not irritating	EU Method B.4	4 h	24; 48; 72 hours	Rabbit	Weight of evidence
Skin	Not irritating	Equivalent to OECD 404		24; 72 hours	Rabbit	Weight of evidence
Inhalation	Irritating					Literature study

Classification is based on the relevant ingredients

Conclusion

Irritating to skin.

Respiratory or skin sensitisation

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

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

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Skin	Not sensitizing	Equivalent to OECD 429			Mouse	Male/female	Read-across

n-hexane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Skin	Not sensitizing	Equivalent to OECD 429			Mouse		Read-across

cyclohexane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Skin	Not sensitizing	EU Method B.6	6 h	24; 48 hours	Guinea pig	Male/female	Experimental value

Judgement is based on the relevant ingredients

Conclusion

Not sensitizing for skin

Specific target organ toxicity

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Inhalation (vapours)	NOAEC	Other	12470 mg/m³ air	Central nervous system	No effect	16 weeks (daily)	Rat	Male	Read-across
Inhalation (vapours)	LOAEL	Equivalent to OECD 413	1650 mg/m³ air	Central nervous system	CNS depression	26 weeks (6h/day, 5 days/week)	Rat	Male/female	Read-across

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	2984 ppm		No effect	13 weeks (6h/day, 5 days/week)	Rat	Male	Read-across

n-hexane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Oral	NOAEL		567-1135 mg/kg bw/day		No effect	13 weeks (5 days/week)	Rat	Male	Experimental value
Oral	LOAEL		3956 mg/kg bw/day	Central nervous system	neurotoxic effects	17 weeks (5 days/week)	Rat	Male	Experimental value
Inhalation (vapours)	LOAEC	Equivalent to OECD 413	500 ppm		Impairment of the nervous system	13 weeks (6h/day, 5 days/week)	Mouse	Female	Experimental value
Inhalation (vapours)	LOAEC		3000 ppm		Impairment of the nervous system	16 weeks (daily)	Rat	Male	Experimental value
Inhalation (vapours)			STOT SE cat.3		Drowsiness, dizziness				Literature study

cyclohexane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Inhalation	NOAEL		434 ppm	Liver; kidney		10 weeks (6h/day, 5 days/week)	Rabbit		Experimental value
Inhalation	LOAEL		786 ppm	Liver; kidney		10 weeks (6h/day, 5 days/week)	Rabbit		Experimental value
Inhalation	NOAEL		1243 ppm	General	No effect	7 weeks (6h/day, 7 days/week)	Monkey		Experimental value
Inhalation (vapours)	NOAEC	US EPA	7000 ppm		Clinical signs; mortality; body weight; food consumption	14 weeks (6h/day, 5 days/week)	Rat	Male/female	Experimental value

Classification is based on the relevant ingredients

Conclusion

Vapours may cause drowsiness and dizziness.

Mutagenicity (in vitro)

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Result	Method	Test substrate	Effect	Value determination
Negative	Equivalent to OECD 473	Rat liver cells	No effect	Read-across
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Read-across
Negative	OECD 476		No effect	Read-across

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Result	Method	Test substrate	Effect	Value determination
Negative	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Read-across
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Read-across
Negative	OECD 476	Chinese hamster ovary (CHO)	No effect	Read-across

n-hexane

Result	Method	Test substrate	Effect	Value determination
Negative	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value
Positive	OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value

cyclohexane

Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value
Negative	Equivalent to OECD 473	Chinese hamster ovary (CHO)		Experimental value
Negative	Equivalent to OECD 486	Human lymphocytes		Experimental value

Mutagenicity (in vivo)

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Result	Method	Exposure time	Test substrate	Gender	Organ	Value determination
Negative	Equivalent to OECD 475	5 days (6h/day)	Rat	Male/female		Experimental value

n-hexane

Result	Method	Exposure time	Test substrate	Gender	Organ	Value determination
Negative		8 weeks (6h/day, 5 days/week)	Mouse	Male		Experimental value

cyclohexane

Result	Method	Exposure time	Test substrate	Gender	Organ	Value determination
Negative	Genome mutation	5 days (6h/day)	Rat	Male/female		Experimental value

Carcinogenicity

Brake Cleaner

No (test)data on the mixture available

n-hexane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination	Organ	Effect
Inhalation (vapours)	NOAEC	Equivalent to OECD 451	3000 ppm	101 weeks (6h/day, 5 days/week)	Mouse	Female	Read-across		No effect
Inhalation (vapours)	LOAEC	Equivalent to OECD 451	9018 ppm	101 weeks (6h/day, 5 days/week)	Mouse	Female	Read-across	Liver	Tumor formation
Inhalation (vapours)	NOAEC	Equivalent to OECD 451	9018 ppm	101 weeks (6h/day, 5 days/week)	Mouse	Male	Read-across		No effect

Reproductive toxicity

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEC	Other	≥1200 ppm	10 days (6h/day)	Rat		No effect		Read-across
	NOAEL	Equivalent to OECD 414	3000 ppm	10 days (6h/day)	Mouse		No effect		Read-across
	LOAEL	Equivalent to OECD 414	9000 ppm	10 days (6h/day)	Mouse		Minor skeletal variations	Skeleton	Read-across
Maternal toxicity	NOAEC		1200 ppm		Rat	Female	No effect		Read-across
	NOAEL	Equivalent to OECD 414	900 ppm	10 days (6h/day)	Rat	Female	No effect		Read-across
	LOAEL	Equivalent to OECD 414	3000 ppm	10 days (6h/day)	Rat	Female	Lung tissue affection/degeneration	Lungs	Read-across
Effects on fertility	NOAEL (P/F1)	Equivalent to OECD 416	9000 ppm		Rat	Male/female	No effect		Read-across

hydrocarbons, C6, isoalkanes, < 5% n-hexane

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	3000 ppm	10 days (6h/day)	Mouse		No effect		Read-across
	LOAEL	Equivalent to OECD 414	9000 ppm	10 days (6h/day)	Mouse		Minor skeletal variations	Skeleton	Read-across
Maternal toxicity	NOAEC		1200 ppm		Rat	Female	No effect		Read-across
	NOAEL	Equivalent to OECD 414	900 ppm	10 days (6h/day)	Rat	Female	No effect		Read-across
	LOAEL	Equivalent to OECD 414	3000 ppm	10 days (6h/day)	Rat	Female	Lung tissue affection/degeneration	Lungs	Read-across
Effects on fertility	NOAEL (P/F1)	Equivalent to OECD 416	9000 ppm		Rat	Male/female	No effect		Read-across

n-hexane

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEC		200 ppm	15 day(s)	Mouse		Weight reduction	Foetus	Experimental value
	LOAEC		1000 ppm	15 day(s)	Mouse		Weight reduction	Foetus	Experimental value
	LOAEC		200 ppm	15 day(s)	Mouse		Maternal toxicity		Experimental value
Effects on fertility	LOAEC		>5000 ppm	25 h	Rat	Male	No effect		Experimental value
	NOAEL	Equivalent to OECD 416	9000 ppm		Rat	Male/female	Reproductive performance		Read-across
	LOAEL	Equivalent to OECD 416	9000 ppm		Rat	Male/female	Weight reduction	General	Read-across

cyclohexane

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEC (F1)	Equivalent to OECD 414	7000 ppm	10 days (6h/day)	Rat		No effect		Experimental value
	NOAEC (P)	Equivalent to OECD 414	2000 ppm	10 days (6h/day)	Rat		No effect		Experimental value
Effects on fertility	NOAEC	Equivalent to OECD 416	7000 ppm	>11 weeks (6h/day, 5 days/week)	Rat	Male/female	No effect		Experimental value

Judgement is based on the relevant ingredients

Conclusion CMR

Not classified for carcinogenicity
Not classified for mutagenic or genotoxic toxicity
Not classified for reprotoxic or developmental toxicity

Toxicity other effects

Brake Cleaner
No (test)data on the mixture available

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
NOAEC	Equivalent to OECD 424	9000 ppm	Central nervous system	Overall effects	13 weeks (6h/day, 5 days/week)	Rat	Male/female	Experimental value

cyclohexane

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
NOAEC	Other	2000 ppm		neurotoxic effects	6 h	Rat	Male	Experimental value
LOAEC	Other	7000 ppm		neurotoxic effects	6 h	Rat	Male	Experimental value

Chronic effects from short and long-term exposure

Brake Cleaner

No effects known.

SECTION 12: Ecological information

12.1 Toxicity:

Brake Cleaner

No (test)data on the mixture available

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LL50	OECD 203	>13.4 mg/l WAF	96 h	Oncorhynchus mykiss	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity invertebrates	EL50	OECD 202	3.0 mg/l WAF	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	30 - 100 mg/l WAF	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	ErC50	OECD 201	13 mg/l WAF	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Read-across; GLP
Long-term toxicity fish	NOELR		1.534 mg/l	28	Oncorhynchus mykiss		Fresh water	QSAR
Long-term toxicity aquatic invertebrates	NOEC		0.17 mg/l	21 day(s)	Daphnia magna			Literature
	LOEC		0.32 mg/l	21 day(s)	Daphnia magna			Literature
Toxicity aquatic micro-organisms	EL50		26.81 mg/l	48 h	Tetrahymena pyriformis		Fresh water	QSAR; Growth rate

hydrocarbons, C6, isoalkanes, < 5% n-hexane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LL50		18.27 mg/l	96 h	Oncorhynchus mykiss		Fresh water	QSAR
Acute toxicity invertebrates	EL50		31.9 mg/l	48 h	Daphnia magna		Fresh water	QSAR
Long-term toxicity fish	NOELR		4.089 mg/l	28 day(s)	Oncorhynchus mykiss		Fresh water	QSAR
Toxicity aquatic micro-organisms	EC50		70.68 mg/l	48 h	Tetrahymena pyriformis		Fresh water	QSAR; Growth rate

n-hexane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		2.5 mg/l	96 h	Pimephales promelas			
Acute toxicity invertebrates	EC50		2.1 mg/l	48 h	Daphnia magna			
Toxicity algae and other aquatic plants	EbC50	OECD 201	26 mg/l	72 h	Pseudokirchneriella subcapitata	Static system		Read-across; GLP
	ErC50	OECD 201	55 mg/l	72 h	Pseudokirchneriella subcapitata	Static system		Read-across; GLP
	NOEL	OECD 201	30 mg/l	72 h	Pseudokirchneriella subcapitata	Static system		Read-across; GLP
	EC50		114 mg/l		Chlorophyta			Photosynthesis

cyclohexane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	4.53 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Measured concentration
Acute toxicity invertebrates	EC50	OECD 202	0.9 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EbC50	OECD 201	3.428 mg/l	72 h	Selenastrum capricornutum			Experimental value; GLP
	NOEC	OECD 201	0.925 mg/l	72 h	Selenastrum capricornutum			Experimental value; Biomass
	ErC50	OECD 201	9.317 mg/l	72 h	Selenastrum capricornutum			Experimental value; GLP
	NOEC	OECD 201	0.94 mg/l	72 h	Selenastrum capricornutum			Experimental value; Growth rate
Toxicity aquatic micro-organisms	IC50		29 mg/l	15 h	Aerobic micro-organisms			Experimental value

	Parameter	Method	Value	Duration	Species	Value determination
Toxicity soil macro-organisms	LC50	OECD 207	>1000 µg/cm²	48 h	Eisenia fetida	Experimental value

Classification is based on the relevant ingredients

Conclusion

Toxic to aquatic organisms

Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability:

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	98 %	28 day(s)	Experimental value

hydrocarbons, C6, isoalkanes, < 5% n-hexane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	98 %	28 day(s)	Experimental value

n-hexane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C: Modified MITI Test (I)	100 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
			Experimental value

cyclohexane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	6 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	7.49E-12 cm³/molecule.s		Experimental value

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
	28 - 180 day(s)		Literature study

Conclusion

Contains non readily biodegradable component(s)

12.3 Bioaccumulative potential:

Brake Cleaner

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Log Kow

Method	Remark	Value	Temperature	Value determination
		> 3		

hydrocarbons, C6, isoalkanes, < 5% n-hexane

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		501.187		Pimephales promelas	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
		3.6	20 °C	Calculated

n-hexane

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	Other	501.187		Pimephales promelas	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
		3.5 - 3.94		Calculated

cyclohexane

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		31 - 129	8 week(s)	Cyprinus carpio	Literature study

Log Kow

Method	Remark	Value	Temperature	Value determination
		3.09 - 3.79		Experimental value

Conclusion

Contains bioaccumulative component(s)

12.4 Mobility in soil:

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	96 %	0 %	1.8 %	0.55 %	1.4 %	Calculated value

hydrocarbons, C6, isoalkanes, < 5% n-hexane

(log) Koc

Parameter	Method	Value	Value determination
Koc		2184.76	QSAR
log Koc		3.34	QSAR

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	93.6 %	0 %	2.1 %	0.5 %	3.8 %	Calculated value

n-hexane

(log) Koc

Parameter	Method	Value	Value determination
Koc		2187.76	QSAR
log Koc		3.34	QSAR

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
1.8 atm m³/mol		25 °C		Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	91.6 %	0 %	0.7 %	2.8 %	4.9 %	Calculated value
Mackay level I	99.978 %			0.005 %	0.016 %	Calculated value

cyclohexane

(log) Koc

Parameter	Method	Value	Value determination
log Koc	Other	2.89	QSAR
Koc	Other	770	QSAR

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
0.15 atm m³/mol		25 °C		Experimental value
14900 Pa.m³/mol		20 °C		Calculated value

Conclusion

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:

Brake Cleaner

Global warming potential (GWP)

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006)

Ozone-depleting potential (ODP)

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

cyclohexane

Ground water

Ground water pollutant

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

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
20 01 29* (separately collected fractions (except 15 01): detergents containing dangerous substances). Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Directive 2008/98/EC.

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. Specific treatment. Do not discharge into drains or the environment.

13.1.3 Packaging/Container

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	1950

14.2 UN proper shipping name:

Proper shipping name	Aerosols

14.3 Transport hazard class(es):

Hazard identification number	
Class	2
Classification code	5F

14.4 Packing group:

Packing group	
Labels	2.1

14.5 Environmental hazards:

Environmentally hazardous substance mark	yes

14.6 Special precautions for user:

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
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	1950

14.2 UN proper shipping name:

Proper shipping name	Aerosols

14.3 Transport hazard class(es):

Hazard identification number	23
Class	2
Classification code	5F

14.4 Packing group:

Packing group	
Labels	2.1

14.5 Environmental hazards:

Environmentally hazardous substance mark	yes

14.6 Special precautions for user:

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
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	1950

14.2 UN proper shipping name:

Proper shipping name	Aerosols

14.3 Transport hazard class(es):

Class	2
Classification code	5F

14.4 Packing group:

Packing group	
Labels	2.1

14.5 Environmental hazards:

Environmentally hazardous substance mark	yes

14.6 Special precautions for user:

Special provisions	190
Special provisions	327
Special provisions	344
Special provisions	625
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	1950

14.2 UN proper shipping name:

Proper shipping name	Aerosols

14.3 Transport hazard class(es):

Class	2.1

14.4 Packing group:

Packing group	
Labels	2.1

14.5 Environmental hazards:

Marine pollutant	P
Environmentally hazardous substance mark	yes

14.6 Special precautions for user:

Special provisions	63
Special provisions	190
Special provisions	277
Special provisions	327
Special provisions	344
Special provisions	959
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 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Annex II of MARPOL 73/78	Not applicable

Air (ICAO-TI/IATA-DGR)

14.1 UN number:

UN number	1950

14.2 UN proper shipping name:

Proper shipping name	Aerosols, flammable

14.3 Transport hazard class(es):

Class	2.1

14.4 Packing group:

Packing group	
Labels	2.1

14.5 Environmental hazards:

Environmentally hazardous substance mark	yes

14.6 Special precautions for user:

Special provisions	A145
Special provisions	A167
Special provisions	A802
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	30 kg G

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	remarks
95 %	

VOC content Directive 2004/42/EC

VOC content	remarks
619.85 g/l	

Plant protection products - listed ingredient

Contains component(s) included in implementing Regulation (EU) No 540/2011

Ingredients according to Regulation (EC) No 648/2004 and amendments

≥30% aliphatic hydrocarbons

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
· hydrocarbons, C7, n-alkanes, isoalkanes, cyclics · hydrocarbons, C6, isoalkanes, < 5% n-hexane · n-hexane · cyclohexane	Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are 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 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.’
· hydrocarbons, C7, n-alkanes, isoalkanes, cyclics · hydrocarbons, C6, isoalkanes, < 5% n-hexane · n-hexane · cyclohexane	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, — “whoopee” 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.
· cyclohexane	Cyclohexane	1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of neoprene-based contact adhesives in concentrations equal to or greater than 0,1 % by weight in package sizes greater than 350 g.2. Neoprene-based contact adhesives containing cyclohexane and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010.3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that neoprene-based contact adhesives containing cyclohexane in concentrations equal to or greater than 0,1 % by weight that are placed on the market for supply to the general public after 27 December 2010 are visibly, legibly and indelibly marked as follows: "— This product is not to be used under conditions of poor ventilation. — This product is not to be used for carpet laying.".

National legislation The Netherlands

Brake Cleaner

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 06
Waterbezwaarlijkheid	6

n-hexane

SZW - List of reprotoxic substances (fertility)	Possible risk of impaired fertility

National legislation France

Brake Cleaner

No data available

National legislation Belgium

Brake Cleaner

No data available

15.2 Chemical safety assessment:

No chemical safety assessment is required.

SECTION 16: Other information

Full text of any R-phrases referred to under headings 2 and 3:

R38 Irritating to skin
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation
R50 Very toxic to aquatic organisms
R51 Toxic to aquatic organisms
R53 May cause long-term adverse effects in the aquatic environment
R62 Possible risk of impaired fertility
R65 Harmful: may cause lung damage if swallowed
R67 Vapours may cause drowsiness and dizziness

Full text of any H-statements referred to under headings 2 and 3:

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapour.
H229 Pressurised container: May burst if heated.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
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
PBT-substances = persistent, bioaccumulative and toxic substances
DSD Dangerous Substance Directive
DPD Dangerous Preparation Directive
CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

Specific concentration limits CLP

n-hexane	C ≥ 5 %	STOT RE 2; H373	CLP Annex VI (ATP 0)

Specific concentration limits DSD

n-hexane	C ≥ 5 %	Xn; R48/20	Annex VI

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. Old versions must be destroyed. 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.