SAFETY DATA SHEET

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

Soudafoam 1K

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

1.1 Product identifier:

Product name : Soudafoam 1K
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

polyurethane

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
Tel: +32 14 42 42 31
Fax: +32 14 44 39 71
msds@soudal.com

Manufacturer of the product

SOUDAL N.V.
Everdongenlaan 18-20
B-2300 Turnhout
Tel: +32 14 42 42 31
Fax: +32 14 44 39 71
msds@soudal.com

1.4 Emergency telephone number:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification according to Regulation EC No 1272/2008

The classification of the mixture is not yet evaluated according to CLP

Class	Category	Hazard statements
Flam. Aerosol	category 1	H222: Extremely flammable aerosol.
Carc.	category 2	H351: Suspected of causing cancer.
STOT RE	category 2	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H335: May cause respiratory irritation.
Skin Irrit.	category 2	H315: Causes skin irritation.
Resp. Sens.	category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens.	category 1	H317: May cause an allergic skin reaction.

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

Carc. Cat. 3; R40 - Limited evidence of a carcinogenic effect

F+; R12 - Extremely flammable.

Xn; R20 - 48/20 - Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Xi; R36/37/38 - Irritating to eyes, respiratory system and skin.

R42/43 - May cause sensitisation by inhalation and skin contact.

2.2 Label elements:

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

Contains polymethylene polyphenyl isocyanate.

Signal word Danger

H-statements

H222	Extremely flammable aerosol.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

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/sparks/open flames/hot surfaces. - No smoking.
P251	Pressurized container: Do not pierce or burn, even after use.
P280	Wear protective gloves and eye protection/face protection.
P260	Do not breathe spray.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P410 + P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C/ 122°F.
P501	Dispose of contents/container to manufacturer/competent authority.

Supplemental information

- Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
- Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
- This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

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

Labels

Extremely flammable

Harmful

Contains: polymethylene polyphenyl isocyanate.

R-phrases

20	Harmful by inhalation
36/37/38	Irritating to eyes, respiratory system and skin
40	Limited evidence of a carcinogenic effect
42/43	May cause sensitisation by inhalation and skin contact
48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation

S-phrases

(02)	(Keep out of the reach of children)
16	Keep away from sources of ignition - No smoking
23	Do not breathe spray
36/37	Wear suitable protective clothing and gloves
45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
51	Use only in well-ventilated areas
(63)	(In case of accident by inhalation: remove casualty to fresh air and keep at rest)

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.
Contains isocyanates. See information supplied by the manufacturer.

- Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
- Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
- This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

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
tris(2-chloro-1-methylethyl) phosphate (01-2119447716-31)	13674-84-5 237-158-7	1%<C<25%	Xn; R22	Acute Tox. 4; H302	(1)(10)	Constituent
polymethylene polyphenyl isocyanate (-)	9016-87-9	C>25%	Carc. Cat. 3; R40 Xn; R20 - 48/20 Xi; R36/37/38 R42/43	Carc. 2; H351 Acute Tox. 4; H332 STOT RE 2; H373 Eye Irrit. 2; H319 STOT SE 3; H335 Skin Irrit. 2; H315 Resp. Sens. 1; H334 Skin Sens. 1; H317	(1)(2)(10)	UVCB
propane (-)	74-98-6 200-827-9	1%<C<10%	F+; R12	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
isobutane (-)	75-28-5 200-857-2	1%<C<20%	F+; R12	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
dimethyl ether (01-2119472128-37)	115-10-6 204-065-8	1%<C<10%	F+; R12	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(2)(10)	Propellant
(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
(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. Take victim to a doctor if irritation persists.

After eye contact:

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

After ingestion:

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. 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:

Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Runny nose. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible inflammation of the respiratory tract. Risk of lung oedema. Respiratory difficulties.

After skin contact:

Tingling/irritation of the skin.

After eye contact:

Irritation of the eye tissue. Lacrimation.

After ingestion:

Not applicable.

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:

Quantities of water. 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:

On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide). May polymerize on exposure to temperature rise. On heating: release of toxic/combustible gases/vapours (hydrogen cyanide).

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. Dilute toxic gases with water spray.

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 solid spill. Use appropriate containment to avoid environmental contamination.

6.3 Methods and material for containment and cleaning up:

Allow product to solidify and remove it by mechanical means. Carefully collect the spill/leftovers. Clean (treat) contaminated surfaces with acetone. 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. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Storage temperature: < 50 °C. Store in a cool area. Keep out of direct sunlight. Ventilation at floor level. Fireproof storeroom. Unauthorized persons are not admitted. Meet the legal requirements. Max. storage time: 1 year(s).

7.2.2 Keep away from:

Heat sources, ignition sources, (strong) acids, (strong) bases, amines.

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.

The Netherlands

Dimethylether	Short time value	783 ppm 1500 mg/m³	Public occupational exposure limit value
	Time-weighted average exposure limit 8 h	496 ppm 950 mg/m³	Public occupational exposure limit value

EU

Dimethylether	Time-weighted average exposure limit 8 h	1000 ppm 1920 mg/m³	Indicative occupational exposure limit value

Belgium

Oxyde de diméthyle	Time-weighted average exposure limit 8 h	1000 ppm 1920 mg/m³	
Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4)	Time-weighted average exposure limit 8 h	1000 ppm	
	Time-weighted average exposure limit 8 h	1000 ppm	

USA (TLV-ACGIH)

Aliphatic hydrocarbon gases - alkanes(C1-C4)	Time-weighted average exposure limit 8 h	1000 ppm	TLV - Adopted Value

Germany

Isobutan	Time-weighted average exposure limit 8 h	1000 ppm 2400 mg/m³	TRGS 900
Dimethylether	Time-weighted average exposure limit 8 h	1000 ppm 1900 mg/m³	TRGS 900
Propan	Time-weighted average exposure limit 8 h	1000 ppm 1800 mg/m³	TRGS 900

France

Oxyde de diméthyle	Time-weighted average exposure limit 8 h	1000 ppm 1920 mg/m³	VRI: Valeur réglementaire indicative

UK

Isocyanates, all (as -NCO) Except methyl isocyanate	Short time value	0.07 mg/m³	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	0.02 mg/m³	Workplace exposure limit (EH40/2005)
Dimethyl ether	Short time value	500 ppm 958 mg/m³	Workplace exposure limit (EH40/2005)
	Time-weighted average exposure limit 8 h	400 ppm 766 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

Product name	Test	Number
Isocyanates	NIOSH	5522
Isocyanates	NIOSH	5521

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

tris(2-chloro-1-methylethyl) phosphate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects dermal	0.528 mg/kg bw/day	
	Acute systemic effects inhalation	0.93 mg/m³	
	Long-term systemic effects dermal	0.528 mg/kg bw/day	
	Long-term systemic effects inhalation	0.93 mg/m³	

dimethyl ether

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1894 mg/m³	

DNEL - General population

tris(2-chloro-1-methylethyl) phosphate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects dermal	0.264 mg/kg bw/day	
	Acute systemic effects inhalation	0.23 mg/m³	
	Acute -systemic effects oral	0.33 mg/kg bw/day	
	Long-term systemic effects dermal	0.264 mg/kg bw/day	
	Long-term systemic effects inhalation	0.23 mg/m³	
	Long-term systemic effects oral	0.33 mg/kg bw/day	

dimethyl ether

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	471 mg/m³	

PNEC

dimethyl ether

Compartments	Value	Remark
Fresh water	0.155 mg/l	
Salt water	0.016 mg/l	
Aqua (intermittent releases)	1.549 mg/l	
Wastewater treatment plant	160 mg/l	
Fresh water sediment	0.681 mg/kg	
Marine water sediment	0.069 mg/kg	
Soil	0.045 mg/kg	

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. 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 very strict hygiene - avoid contact. 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.

Materials	Breakthrough time	Thickness
LDPE (Low Density Poly Ethylene)	10 minutes	0.025 mm

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	No data available
Flammability	Extremely flammable aerosol.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Evaporation rate	No data available
Vapour pressure	No data available
Relative vapour density	> 1
Solubility	water ; insoluble
	organic solvents ; soluble
Relative density	0.95
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	950 kg/m³

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:

May polymerize with many compounds e.g.: (strong) bases and amines. Reacts violently with (some) acids/bases.

10.4 Conditions to avoid:

Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5 Incompatible materials:

(strong) acids, (strong) bases, amines.

10.6 Hazardous decomposition products:

On heating: release of toxic/combustible gases/vapours (hydrogen cyanide). On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, nitrous vapours, hydrogen chloride, carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Test results

Acute toxicity

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50	Equivalent to OECD 401	1011-1824 mg/kg bw		Rat	Male/female	Experimental value
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rabbit	Male/female	Experimental value
Inhalation (aerosol)	LC50	Equivalent to OECD 403	> 5 mg/l air	4 h	Rat	Male/female	Weight of evidence

polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50		> 10000 mg/kg		Rat		Literature study
Dermal	LD50		> 5000 mg/kg		Rabbit		Literature study
Inhalation (vapours)	LD50		10-20 mg/l	4 h			Literature study

propane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Inhalation (gases)	LC50		> 800000 ppm	15 minutes	Rat	Male/female	Experimental value
Inhalation (gases)	Dose level		1000 ppm	8 h	Human		Read-across

isobutane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Inhalation	LC50		> 50 mg/l	4 h	Rat		Literature study

dimethyl ether

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral							Not relevant, expert judgement
Dermal							Not relevant, expert judgement
Inhalation	LC50		309 mg/l	4 h	Rat		Literature study
Inhalation	LC50		163991 ppm	4 h	Rat		Literature study

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion

Low acute toxicity by the dermal route

Low acute toxicity by the oral route

Low acute toxicity by the inhalation route

Corrosion/irritation

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

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

polymethylene polyphenyl isocyanate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Irritating					Literature study
Skin	Irritating					Literature study
Inhalation	Irritating					Literature study

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion

May cause respiratory irritation.

Causes skin irritation.

Causes serious eye irritation.

Respiratory or skin sensitisation

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Skin	Not sensitizing	OECD 429			Mouse		Experimental value

polymethylene polyphenyl isocyanate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Skin	Sensitizing						Literature study
Inhalation	Sensitizing						Literature study

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Specific target organ toxicity

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Oral	LOAEL	Equivalent to OECD 408	800 ppm	Liver	Weight gain	13 weeks (daily)	Rat	Male	Experimental value
Oral	NOAEL	Equivalent to OECD 408	2500 ppm		No effect	13 weeks (daily)	Rat	Female	Experimental value

polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Inhalation			STOT RE cat.2						Literature study

propane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Oral									Data waiving
Dermal									Data waiving
Inhalation	LOAEC	OECD 422	12000 ppm	General	Body weight reduction	6 weeks (6h/day, 7 days/week)	Rat	Male	Experimental value
Inhalation	NOAEC	OECD 422	12000 ppm	Central nervous system	No effect	6 weeks (6h/day, 7 days/week)	Rat	Male/female	Experimental value
Inhalation	Dose level		500 ppm	Central nervous system	No effect	10 days (8h/day)	Human		Read-across

dimethyl ether

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Inhalation	NOAEC	Equivalent to OECD 452	47106 mg/m³		No effect	2 year(s) (6h/day, 5 days/week)	Rat		Literature study

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion

May cause damage to organs through prolonged or repeated exposure if inhaled.

Low sub-chronic toxicity by the dermal route

Mutagenicity (in vitro)

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

Result	Method	Test substrate	Effect	Value determination
Negative		Chinese hamster lung fibroblasts	No effect	Weight of evidence
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Weight of evidence
Negative	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Weight of evidence

propane

Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)	No effect	Read-across
Negative with metabolic activation, negative without metabolic activation	OECD 473	Human lymphocytes	No effect	Read-across

dimethyl ether

Result	Method	Test substrate	Effect	Value determination
Negative	Ames test			Literature study
Negative	OECD 473			Literature study

Mutagenicity (in vivo)

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

Result	Method	Exposure time	Test substrate	Gender	Organ	Value determination
Negative	Equivalent to OECD 475		Rat	Male		Weight of evidence

propane

Result	Method	Exposure time	Test substrate	Gender	Organ	Value determination
Negative	OECD 474	13 weeks (6h/day, 5 days/week)	Rat	Male/female		Read-across

Carcinogenicity

Soudafoam 1K

No (test)data on the mixture available

polymethylene polyphenyl isocyanate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination	Organ	Effect
Inhalation (aerosol)			STOT RE cat.2		Rat		Literature study		Neoplastic effects

Reproductive toxicity

Soudafoam 1K

No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	LOAEL (P)	OECD 416	99 mg/kg bw	>10 weeks (daily)	Rat	Female	Body weight, organ weight, food consumption	Female reproductive organ	Experimental value
	NOAEL (P)	OECD 416	85 mg/kg bw	>10 weeks (daily)	Rat	Male	No effect		Experimental value
	NOAEL	Equivalent to OECD 414	1000 mg/kg bw	70 day(s)	Rat	Female	No effect		Experimental value

propane

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 422	9000 ppm	6 weeks (6h/day, 7 days/week)	Rat	Male/female	No effect		Read-across
	NOAEC	OECD 422	21394 mg/m³ air	6 weeks (6h/day, 7 days/week)	Rat	Male/female	No effect		Read-across
	NOAEC	OECD 414	10000 ppm	2 weeks (6h/day, 7 days/week)	Rat	Female	No effect		Read-across
Effects on fertility	NOAEC	OECD 422	3000 ppm	6 weeks (6h/day, 7 days/week)	Rat	Male/female	No effect		Read-across

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion CMR

Suspected of causing cancer.
Not classified for mutagenic or genotoxic toxicity
Not classified for reprotoxic or developmental toxicity

Toxicity other effects

Soudafoam 1K
No (test)data on the mixture available

Chronic effects from short and long-term exposure

Soudafoam 1K
ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Feeling of weakness. Itching. Skin rash/inflammation. May stain the skin. Dry skin. Coughing. Possible inflammation of the respiratory tract. Respiratory difficulties.

11.1.2 Other information

Soudafoam 1K

EC carc cat	3
CLP carc cat	category 2

polymethylene polyphenyl isocyanate

EC carc cat	3
CLP carc cat	category 2
IARC - classification	3 (Polymethylene polyphenyl isocyanate)
MAK - Krebserzeugend Kategorie	4

propane

TLV - Carcinogen	()

SECTION 12: Ecological information

12.1 Toxicity:

Soudafoam 1K
No (test)data on the mixture available

tris(2-chloro-1-methylethyl) phosphate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		56.2 mg/l	96 h	Brachydanio rerio	Static system	Fresh water	Experimental value; GLP
Acute toxicity invertebrates	EC50	OECD 202	65 - 335 mg/l	48 h	Daphnia magna			Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	73 mg/l	96 h	Selenastrum capricornutum			Experimental value; Growth rate

polymethylene polyphenyl isocyanate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity other aquatic organisms	LC50		>1000 mg/l	96 h				Literature study
Toxicity aquatic micro-organisms	EC50	OECD 209	>100 mg/l		Activated sludge			Literature study

propane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		24 mg/l	96 h	Pisces			Literature study
Acute toxicity invertebrates	EC50		7 mg/l	48 h	Daphnia magna			Literature study
Toxicity algae and other aquatic plants	IC50		8 mg/l	72 h	Algae			Literature study
Acute toxicity other aquatic organisms	EC50		10 - 100 mg/l		Activated sludge			Estimated value
Long-term toxicity fish	EC0		2.4 - 3.7 mg/l	768 h	Pimephales promelas			QSAR
Long-term toxicity aquatic invertebrates	EC0		1.1 - 2.0 mg/l	504 h	Daphnia magna			QSAR

dimethyl ether

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Other	> 4100 mg/l	96 h	Poecilia reticulata	Semi-static	Fresh water	Experimental value
Acute toxicity invertebrates	EC50	Other	> 4400 mg/l	48 h	Daphnia magna			Experimental value
Toxicity algae and other aquatic plants	EC0	ECOSAR v1.00	154.9 mg/l	96 h	Algae			QSAR
Acute toxicity other aquatic organisms	LC50		> 4400 mg/l	48 h	Daphnia magna			Experimental value
Toxicity aquatic micro-organisms	EC10		> 1600 mg/l		Pseudomonas putida	Static system	Fresh water	Literature study

Classification of the mixture is based on the relevant ingredients of the mixture

Conclusion

Not classified as dangerous for the environment according to the criteria of Directive 1999/45/EC

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2 Persistence and degradability:

tris(2-chloro-1-methylethyl) phosphate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301E: Modified OECD Screening Test	14 %	28 day(s)	Experimental value
OECD 301C: Modified MITI Test (I)	0 %	28 day(s)	Experimental value

polymethylene polyphenyl isocyanate

Biodegradation water

Method	Value	Duration	Value determination
OECD 302C: Inherent Biodegradability: Modified MITI Test (II)	< 60 %		Experimental value

propane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301E: Modified OECD Screening Test	70 %		Experimental value
Other	70 %	< 10 day(s)	Experimental value

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
Not applicable			

isobutane

Biodegradation water

Method	Value	Duration	Value determination
	72.6 %	35 day(s)	Literature study

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
Not applicable			

dimethyl ether

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	5 %	28 day(s)	Experimental value

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
Not applicable (gas)			

Conclusion

Contains non readily biodegradable component(s)

12.3 Bioaccumulative potential:

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

tris(2-chloro-1-methylethyl) phosphate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		0.8 - 4.6		Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
		2.59		Experimental value

polymethylene polyphenyl isocyanate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		1		Pisces	Literature study

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

propane

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		9 - 25		Pisces	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
		2.36		

isobutane

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		20 - 52		Pisces	QSAR

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF		20 - 52		Daphnia magna	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
		2.76 - 2.88		Experimental value

dimethyl ether

Log Kow

Method	Remark	Value	Temperature	Value determination
		0.10		Experimental value

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4 Mobility in soil:

dimethyl ether

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
518.6 Pa.m³/mol				Literature study

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

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:

Soudafoam 1K

Global warming potential (GWP)

None of the known components is included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No. 1272/2008 and 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

Waste material code (Directive 2008/98/EC, decision 2000/0532/EC).
08 04 09* (waste adhesives and sealants containing organic solvents or other dangerous substances). Depending on branch of industry and production process, also other EURAL 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	no

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	no

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	no

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)

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	-
Environmentally hazardous substance mark	no

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, based on available data

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	no

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:

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
· tris(2-chloro-1-methylethyl) phosphate · polymethylene polyphenyl isocyanate	Liquid substances or mixtures, which are regarded as dangerous according to the definitions in Council Directive 67/548/EEC and Directive 1999/54/EC.	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.'
· propane · isobutane · dimethyl ether	Substances meeting the criteria of flammability in Directive 67/548/ EEC and classified as flammable, highly flammable or extremely flammable regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 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.
· polymethylene polyphenyl isocyanate	Methylenediphenyl diisocyanate (MDI)	1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging: (a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC; (b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures: "— Persons already sensitised to diisocyanates may develop allergic reactions when using this product. — Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. — This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used."2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.

Volatile organic compounds (VOC)

26 %

National legislation

- The Netherlands

Waterbezwaarlijkheid	Not applicable
Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 06

- Germany

WGK	1	Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
TA-Luft	propane	TA-Luft Klasse 5.2.5
TA-Luft	isobutane	TA-Luft Klasse 5.2.5
TA-Luft	dimethyl ether	TA-Luft Klasse 5.2.5

MAK (Germany)

Dimethylether	Time-weighted average exposure limit 8 h	1000 ppm 1900 mg/m³	
„polymeres MDI" (einatembare Fraktion)	Time-weighted average exposure limit 8 h	0.05 mg/m³ (E)	E: gemessen als einatembare Fraktion (vgl. Abschn. Vd) S. 191)
Propan	Time-weighted average exposure limit 8 h	1000 ppm 1800 mg/m³	
Butan (beide Isomeren)	Time-weighted average exposure limit 8 h	1000 ppm 2400 mg/m³	

15.2 Chemical safety assessment:

No chemical safety assessment has been conducted.

SECTION 16: Other information

Information based on classification according to CLP

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

R20 Harmful by inhalation
R22 Harmful if swallowed
R36/37/38 Irritating to eyes, respiratory system and skin
R40 Limited evidence of a carcinogenic effect
R42/43 May cause sensitisation by inhalation and skin contact
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation

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

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

(*) = 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)

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