SAFETY DATA SHEET

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

RENOLIT ALKORPLAN 81038

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

1.1. Product identifier

Product name : RENOLIT ALKORPLAN 81038

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

Professional use

Sealing compound

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

RENOLIT Belgium NV
Industriepark De Bruwaan 43
B-9700 OUDENAARDE
☎ +32 55 33 97 11 fax +32 5531 9650
Renolit.belgium@renolit.com

1.4. Emergency telephone number

+44 (0)1235 239 670 (24 hours, 7 days)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Carc.	category 2	H351: Suspected of causing cancer.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H335: May cause respiratory irritation.

2.2. Label elements

Contains: tetrahydrofuran.

Signal word Danger

H-statements

H225	Highly flammable liquid and vapour.
H351	Suspected of causing cancer.
H319	Causes serious eye irrita on.
H335	May cause respiratory irrita on.

P-statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves and eye protection/face protection.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

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2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

Caution! Substance is absorbed through the skin

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
tetrahydrofuran	109-99-9 203-726-8	C<80 %	Flam. Liq. 2; H225 Carc. 2; H351 Eye Irrit. 2; H319 STOT SE 3; H335	(1)(2)(8)(10)	Constituent
silica, pyrogenic 01-2119379499-16	112945-52-5	C<5 %		(2)	Constituent
polyvinylchloride	9002-86-2	C<15 %		(2)	Constituent
bis(2-propylheptyl) phthalate 01-2119446694-30	53306-54-0 258-469-4	C<10 %		(2)	Constituent
titanium dioxide 01-2119489379-17	13463-67-7 236-675-5	C<5 %		(2)	Constituent

(1) For 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:

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:

Rinse with water. Take victim to a doctor if irritation persists.

After eye contact:

Rinse immediately with plenty of water. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. 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. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Headache. Nausea. EXPOSURE TO HIGH CONCENTRATIONS: Feeling of weakness. Central nervous system depression. Dizziness. Narcosis. Ringing in the ears. Sensorial disturbances. Disturbances of consciousness. Respiratory difficulties.

After skin contact:

Dry skin. Red skin.

After eye contact:

Irritation of the eye tissue.

After ingestion:

Dry/sore throat. Symptoms similar to those listed under inhalation.

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. Alcohol-resistant foam. BC powder. Carbon dioxide.

5.1.2 Unsuitable extinguishing media:

Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective goggles. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective goggles. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Contain leaking substance. Dam up the liquid spill. Try to reduce evaporation. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into a non combustible material e.g.: sand. 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 strict hygiene. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

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

7.2.2 Keep away from:

Heat sources, ignition sources.

7.2.3 Suitable packaging material:

Metal.

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

Ftalaatverbindingen (*) (inhaleerbaar)	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	10 mg/m³
Ftalaatverbindingen (*) (respirabel)	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	5 mg/m³
Respirabel PVC-stof	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	1 mg/m³
Tetrahydrofuraan	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	100 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	300 mg/m³
	Short time value (Public occupational exposure limit value)	200 ppm
	Short time value (Public occupational exposure limit value)	600 mg/m³
Titaandioxide	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	10 mg/m³

EU

Tetrahydrofuran	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	50 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	150 mg/m³
	Short time value (Indicative occupational exposure limit value)	100 ppm
	Short time value (Indicative occupational exposure limit value)	300 mg/m³

Belgium

Chlorure de polyvinyle (fraction alvéolaire)	Time-weighted average exposure limit 8 h	1 mg/m³
Tétrahydrofurane	Time-weighted average exposure limit 8 h	50 ppm
	Time-weighted average exposure limit 8 h	150 mg/m³
	Short time value	100 ppm
	Short time value	300 mg/m³
Titane (dioxyde de)	Time-weighted average exposure limit 8 h	10 mg/m³

USA (TLV-ACGIH)

Polyvinyl chloride (PVC)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	1 mg/m³ (R)
Tetrahydrofuran	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	50 ppm
	Short time value (TLV - Adopted Value)	100 ppm
Titanium dioxide	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	10 mg/m³

(R): Respirable fraction

Germany

Kieselsäuren, amorphe	Time-weighted average exposure limit 8 h (TRGS 900)	4 mg/m³
Tetrahydrofuran	Time-weighted average exposure limit 8 h (TRGS 900)	50 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	150 mg/m³

France

Tétrahydrofuranne	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	50 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	150 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	100 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	300 mg/m³
Titane (dioxyde de), en Ti	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³

UK

Polyvinyl chloride inhalable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Polyvinyl chloride respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Tetrahydrofuran	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	50 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	150 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	100 ppm
	Short time value (Workplace exposure limit (EH40/2005))	300 mg/m³

Titanium dioxide respirable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Titanium dioxide total inhalable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³

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.

fumed (silica, amorphous)	NIOSH	7501
Silica, Amorphous (Respirable)	NIOSH	7501
Tetrahydrofuran	NIOSH	1609
Tetrahydrofuran	OSHA	7
Titanium Dioxide	NIOSH	3(S385)

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/DMEL - Workers

tetrahydrofuran

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects inhalation	300 mg/m³	
	Acute local effects inhalation	300 mg/m³	
	Long-term systemic effects dermal	25 mg/m³	
	Long-term systemic effects inhalation	150 mg/m³	
	Long-term local effects inhalation	150 mg/m³	

silica, pyrogenic

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	4 mg/m³	

bis(2-propylheptyl) phthalate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	28.8 mg/m³	
	Long-term local effects inhalation	8.4 mg/m³	
	Long-term systemic effects dermal	102.08 mg/kg bw/day	

titanium dioxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	10 mg/m³	

DNEL/DMEL - General population

tetrahydrofuran

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute systemic effects inhalation	150 mg/m³	
	Acute local effects inhalation	150 mg/m³	
	Long-term systemic effects dermal	15 mg/m³	
	Long-term systemic effects inhalation	62 mg/m³	
	Long-term systemic effects oral	15 mg/m³	
	Long-term local effects inhalation	75 mg/m³	

bis(2-propylheptyl) phthalate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	61.25 mg/kg bw/day	
	Long-term systemic effects inhalation	8.52 mg/m³	
	Long-term systemic effects oral	4.9 mg/kg bw/day	
	Long-term local effects inhalation	2.5 mg/m³	

titanium dioxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	700 mg/kg bw/day	

PNEC

tetrahydrofuran

Compartments	Value	Remark
Fresh water	4.32 mg/l	
Marine water	0.432 mg/l	
Aqua (intermittent releases)	21.6 mg/l	
STP	4.6 mg/l	
Fresh water sediment	23.3 mg/kg sediment dw	
Marine water sediment	2.33 mg/kg sediment dw	
Soil	2.13 mg/kg soil dw	
Oral	67 mg/kg food	

bis(2-propylheptyl) phthalate

Compartments	Value	Remark
Soil	10 mg/kg soil dw	

titanium dioxide

Compartments	Value	Remark
Fresh water	0.184 mg/l	
Marine water	0.0184 mg/l	
Aqua (intermittent releases)	0.193 mg/l	
STP	100 mg/l	
Fresh water sediment	1000 mg/kg sediment dw	
Marine water sediment	100 mg/kg sediment dw	
Soil	100 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. Work under local exhaust/ventilation.

8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Keep container tightly closed. 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:

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	Liquid
Odour	Characteristic odour
Odour threshold	No data available
Colour	Colourless
Particle size	Not applicable (liquid)
Explosion limits	No data available
Flammability	Highly flammable liquid and vapour.
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
Relative vapour density	No data available

Vapour pressure	Not required: exemption according to REACH
Solubility	No data available
Relative density	No data available
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

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

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

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value		
Oral	LD50		2.3 ml/kg bw - 3.6				Experimental value	Remark
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male/female)		Experimental value	
Inhalation	LC50	Other	> 14.7 mg/l air	6 h	Rat (male/female)		Experimental value	

silica, pyrogenic

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value		
Oral	LD50		3160 mg/kg		Rat			Remark
Dermal	LD50		> 5000 mg/kg		Rabbit			

polyvinylchloride

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

bis(2-propylheptyl) phthalate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value		
Oral	LD50	Equivalent to OECD			Rat (male/female)	Experimental value		
Dermal	LD50	Equivalent to OECD	> 5000 mg/kg	24 h	Rabbit			
Inhalation (aerosol)	LC50	Equivalent to OECD	> 2000 mg/kg > 5 mg/l	4 h	Rat (male/female)	Experimental value		

titanium dioxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value		
Oral	LD50	OECD 425	> 5000 mg/kg bw		Rat (female)	Experimental value		
Dermal						Data waiving		
Inhalation	LC50	Other	> 6.82 mg/l	4 h	Rat (male)	Experimental value		

Judgement is based on the relevant ingredients

Conclusion

Not classified for acute toxicity

Corrosion/irritation

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye			24; 48; 72 hrs; 14 days	Rabbit	Experimental value	Single treatment
Eye	Irritating; category	Other					
Skin	Not irritating	OECD 402	24 h		Rat	Experimental value	
Inhalation	Irritating; STOT SE						

bis(2-propylheptyl) phthalate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405	24 h	1; 24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

titanium dioxide

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	Equivalent to OECD			Rabbit	Experimental value	

Classification is based on the relevant ingredients

Conclusion

Causes serious eye irritation.

May cause respiratory irritation.

Specific target organ toxicity, single exposure: classified as irritant to respiratory organs

Not classified as irritating to the skin

Respiratory or skin sensitisation

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

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

bis(2-propylheptyl) phthalate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD			Guinea pig	Experimental value	

titanium dioxide

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD					

Judgement is based on the relevant ingredients

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	Equivalent to				4 week(s)	Rat (female)	Experimental value
Inhalation	NOAEC	Subchronic	111.2 mg/kg		No effect	14 weeks (6h/day, 5 days/week) value	Rat	

bis(2-propylheptyl) phthalate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	OECD 408	39 mg/kg			3 month(s)	Rat	Experimental value

titanium dioxide

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOEL	Equivalent to				29 day(s)	Rat (male)	Experimental value
Inhalation	NOEC	Other	50 mg/m³ air				Rat	Experimental value

Judgement is based on the relevant ingredients

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Result	Method	Test substrate	Effect	Value determination
Negative	OECD 476	Chinese hamster ovary (CHO)	No effect	Experimental value

bis(2-propylheptyl) phthalate

Result	Method	Test substrate	Effect	Value determination
Negative	OECD 473	Chinese hamster lung fibroblasts	No effect	Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster ovary (CHO)	No effect	Experimental value

titanium dioxide

Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	OECD 473	Chinese hamster ovary (CHO)		Experimental value

Mutagenicity (in vivo)

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD			Blood	Experimental value

titanium dioxide

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	OECD 474		Rat (male/female)		Experimental value

Carcinogenicity

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	Carcinogenic	1800 ppm	105 weeks (6h/day; 5 days/week)	Rat	No carcinogenic		Experimental value

titanium dioxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	OECD 453	5 mg/m³ air	24 month(s)	Rat			Experimental value

Reproductive toxicity

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to	1800 ppm	20 days (6h/day)	Rat	No effect		Experimental value
	NOAEC		2500 ppm	21 days	Rat	No effect		Experimental value
Maternal toxicity	NOAEL	Equivalent to	1800 ppm	20 days (6h/day)	Rat	No effect		Experimental value
Effects on fertility	NOAEL (P/F1)	Equivalent to	9000 ppm	70 days (continuous) - 98 days (continuous)	Rat	No effect		Experimental value

bis(2-propylheptyl) phthalate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	OECD 414	200 mg/kg bw/day	20 day(s)	Rat	No effect	Foetus	Experimental value
	NOAEL	OECD 414	1000 mg/kg bw/day	20 day(s)	Rat	No effect		Experimental value
Maternal toxicity	NOAEL	OECD 414	200 mg/kg bw/day	20 day(s)	Rat	No effect		Experimental value
Effects on fertility	NOAEL (P)	OECD 416	600 mg/kg bw/day	126 day(s)	Rat			Experimental value
	NOAEL (F1)	OECD 416	600 mg/kg bw/day	131 day(s)	Rat	No effect		Experimental value

Classification is based on the relevant ingredients

Conclusion CMR

Suspected of causing cancer.

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

Chronic effects from short and long-term exposure

RENOLIT ALKORPLAN 81038

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Enlargement/affection of the liver. Affection of the renal tissue. Visual disturbances. Auditory disturbances.

SECTION 12: Ecological information

12.1. Toxicity

RENOLIT ALKORPLAN 81038

No (test)data on the mixture available

tetrahydrofuran

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt	
Acute toxicity fishes	LC50	Equivalent to OECD 203	2160 mg/l	96 h	Pimephales	system Lethal		Experimental value;
Acute toxicity invertebrates	LC50	Equivalent to OECD 202	3485 ppm	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	EC0	Other	3700 mg/l	8 day(s)	Scenedesmus			Experimental value; Growth rate
Long-term toxicity fish	NOEC	Other	216 mg/l	33 day(s)	Pimephales	system		Experimental value
Toxicity aquatic micro-			580 mg/l	168 h	Pseudomonas putida			Literature study
	IC50	Equivalent to OECD 209	460 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; Nominal concentration

polyvinylchloride

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt	
Acute toxicity fishes	LC50		≥ 100 mg/l	96 h	Pisces			

bis(2-propylheptyl) phthalate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt	
Acute toxicity fishes	LC50	OECD 203	> 10000 mg/l	96 h	Danio rerio	Static system	Fresh water	Experimental value; GLP
Acute toxicity invertebrates	EC50	EU Method		48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	EU Method		72 h	Desmodesmus			Experimental value; Growth rate
	EC50	EU Method		72 h	Desmodesmus			Experimental value; Biomass
Long-term toxicity aquatic		OECD 211	> 1 mg/l	21 day(s)	Daphnia magna	Semi-static		Experimental value
	NOEC	OECD 211	> 1 mg/l	21 day(s)	Daphnia magna	Semi-static		Experimental value
Toxicity aquatic micro-		OECD 209	> 1000 mg/l	180 minutes	Activated sludge			Experimental value
	EC50	EU Method		180 minutes	Activated sludge	Static system	Fresh water	Experimental value; GLP

titanium dioxide

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt	
Acute toxicity fishes	LC50	Equivalent to		96 h	Oncorhynchus			Experimental value
Acute toxicity invertebrates	LC50	Equivalent to		48 h	Daphnia magna	Static system	Fresh water	Weight of evidence
Toxicity algae and other aquatic plants	EC50	EPA 600/9-		72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
Long-term toxicity aquatic		OECD 211	≥ 2.92 mg/l	21 day(s)	Daphnia magna	Semi-static		Weight of evidence; GLP
	NOEC						Fresh water	

Judgement is based on the relevant ingredients

Conclusion

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

12.2. Persistence and degradability

tetrahydrofuran

Biodegradation water

Method	Value	Duration	Value determination
Equivalent or similar to OECD 301D	39 %; Oxygen consumption	28 day(s)	Experimental value

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
	5.7 day(s)		Literature study

bis(2-propylheptyl) phthalate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	80 % - 90 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
SRC AOP v1.92	14 h	500000 /cm³	Calculated value

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

tetrahydrofuran

Log Kow

Method	Remark	Value	Temperature	Value determination
Equivalent to OECD 107		0.45	25 °C	Experimental value

silica, pyrogenic

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable			

polyvinylchloride

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

bis(2-propylheptyl) phthalate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	< 14.4	56 day(s)	Cyprinus carpio	Read-across

Log Kow

Method	Remark	Value	Temperature	Value determination
		10.7		Calculated
		10.6 - 10.8	25 °C	Calculated

titanium dioxide

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

tetrahydrofuran

(log) Koc

Parameter	Method	Value	Value determination
log Koc	Other	1.26 - 1.37	Experimental value

bis(2-propylheptyl) phthalate

(log) Koc

Parameter	Method	Value	Value determination
log Koc	OECD 121	6.8	Experimental value
	OECD 121	> 5.63	Experimental value
Koc	OECD 121	> 426580	Experimental value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
3.72 Pa.m³/mol	SRC HENRYWIN v3.10	25 °C		Calculated value

Conclusion

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

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

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

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Global warming potential (GWP)

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

Ozone-depleting potential (ODP)

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

tetrahydrofuran

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

Hazardous waste according to Regulation (EU) No 1357/2014.
Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Recycle/reuse. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment.

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	2056

14.2. UN proper shipping name

Proper shipping name	Tetrahydrofuran, mixture

14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

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

Rail (RID)

14.1. UN number

UN number	2056

14.2. UN proper shipping name

Proper shipping name	Tetrahydrofuran, mixture

14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

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

Inland waterways (ADN)

14.1. UN number

UN number	2056

14.2. UN proper shipping name

Proper shipping name	Tetrahydrofuran, mixture

14.3. Transport hazard class(es)

Class	3
Classification code	F1

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

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

Sea (IMDG/IMSBC)

14.1. UN number

UN number	2056

14.2. UN proper shipping name

Proper shipping name	Tetrahydrofuran, mixture

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Marine pollutant -	
Environmentally hazardous substance mark	no

14.6. Special precautions for user

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

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

Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	2056

14.2. UN proper shipping name

Proper shipping name	Tetrahydrofuran, mixture

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	II
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	1 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
79 %	

Indicative occupational exposure limit values (Directive 98/24/EC, 2000/39/EC and 2009/161/EU)

Product name	Skin resorption
Tetrahydrofuran	Skin

European drinking water standards (Directive 98/83/EC)

polyvinylchloride

Parameter	Parametric value	Note	Reference
Vinyl chloride	0,5 µg/l		Listed in Annex I, Part B, of Directive 98/83/EC on the quality of water intended for human consumption.

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
· tetrahydrofuran	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.’
· tetrahydrofuran	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	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,

	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.	— 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.

National legislation The Netherlands

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Waste identification (the	
Waterbezwaarlijkheid	11 (NL (the Netherlands); KGA category: 04

National legislation Germany

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WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)

tetrahydrofuran

MAK - Krebserzeugend	
Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert	
MAK 8-Stunden-Mittelwert	Tetrahydrofuran; 50 ppm
TA-Luft	5.2.5; I

silica, pyrogenic

Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert	Kieselsäure (Fällungskieselssäure, Kieselgel) und ungebrannter Kieselgur; 4 mg/m³; gemessen als einatembare Fraktion (vgl. Abschn. Vd) S. 191)

polyvinylchloride

Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert	

bis(2-propylheptyl) phthalate

TA-Luft	5.2.5

titanium dioxide

MAK - Krebserzeugend	
TA-Luft	5.2.1

National legislation France

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No data available

National legislation Belgium

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No data available

Other relevant data

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No data available

tetrahydrofuran

TLV - Carcinogen	Tetrahydrofuran; A3

silica, pyrogenic

IARC - classification	3; Silica

polyvinylchloride

TLV - Carcinogen	Polyvinyl chloride (PVC); A4
IARC - classification	3; Vinyl chloride, polyvinyl chloride and vinyl chloride-vinyl acetate copolymers

titanium dioxide

TLV - Carcinogen	Titanium dioxide; A4
IARC - classification	2B; Titanium dioxide

15.2. Chemical safety assessment

No chemical safety assessment is required.

SECTION 16: Other information

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

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

Specific concentration limits CLP

tetrahydrofuran	C ≥ 25 %	STOT SE 3; H335	CLP Annex VI (ATP 3)
	C ≥ 25 %	Eye Irrit.2; H319	CLP Annex VI (ATP 3)

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.