

SAFETY DATA SHEET

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

AIRCLEAN

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

1.1 Product identifier:

Product name : AIRCLEAN
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

Disinfectant

1.2.2 Uses advised against

No uses advised against known

1.3 Details of the supplier of the safety data sheet:

Supplier of the safety data sheet

Novatio International
Industrielaan 5D
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatio.be

Manufacturer of the product

Novatio International
Industrielaan 5D
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatio.be

1.4 Emergency telephone number:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

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 2	H223: Flammable aerosol.
Aerosol	category 2	H229: Pressurised container: May burst if heated.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H336: May cause drowsiness or dizziness.

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

R10 - Flammable.

Xi; R36 - Irritating to eyes.

R67 - Vapours may cause drowsiness and dizziness.

2.2 Label elements:

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



Contains: propan-2-ol.

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Signal word

Warning

H-statements

H223

Flammable aerosol.

H229

Pressurised container: May burst if heated.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

P-statements

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 eye protection/face protection.

P304 + P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P410 + P412

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122°F.

Supplemental information

EUH208

Contains: glyoxal. May produce an allergic reaction.

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

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
propan-2-ol 01-2119457558-25	67-63-0 200-661-7	30% <C<100%	F; R11 Xi; R36 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
acetone 01-2119471330-49	67-64-1 200-662-2	C<5 %	F; R11 Xi; R36 R66 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
glyoxal	107-22-2 203-474-9	0.1% <C<1%	Muta. Cat. 3; R68 Xn; R20 Xi; R36/38 R43	Muta. 2; H341 Acute Tox. 3; H331 Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1; H317	(1)(2)(8)(10)	Constituent

(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:

Rinse with water. Soap may be used. 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. Give milk to drink. 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:**

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EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Narcosis.

After skin contact:

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Cracking of the skin.

After eye contact:

Irritation of the eye tissue.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:

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: persistent risk of physical explosion.

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:

Dam up the liquid spill.

6.3 Methods and material for containment and cleaning up:

Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. 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. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe strict hygiene.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Storage temperature: < 50 °C. Fireproof storeroom. Ventilation at floor level. Meet the legal requirements. Keep only in the original container. Keep out of direct sunlight. Max. storage time: > 365 day(s).

7.2.2 Keep away from:

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

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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

2-Propanol	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	260 ppm
	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	650 mg/m ³
Aceton	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	501 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	1210 mg/m ³
	Short time value (Public occupational exposure limit value)	1002 ppm
	Short time value (Public occupational exposure limit value)	2420 mg/m ³

EU

Acetone	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	500 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1210 mg/m ³

Belgium

Acétone	Time-weighted average exposure limit 8 h	500 ppm
	Time-weighted average exposure limit 8 h	1210 mg/m ³
	Short time value	1000 ppm
	Short time value	2420 mg/m ³
Alcool isopropylique	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	500 mg/m ³
	Short time value	400 ppm
	Short time value	1000 mg/m ³
Glyoxal (vapeur et aérosol)	Time-weighted average exposure limit 8 h	0.1 mg/m ³

USA (TLV-ACGIH)

2-propanol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	400 ppm
Acetone	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	500 ppm
	Short time value (TLV - Adopted Value)	750 ppm
Glyoxal	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.1 mg/m ³ (IFV)

Germany

Aceton	Time-weighted average exposure limit 8 h (TRGS 900)	500 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	1200 mg/m ³
Propan-2-ol	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	500 mg/m ³

France

Acétone	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	500 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	1210 mg/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	1000 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	2420 mg/m ³

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Alcool isopropylique	Short time value (VL: Valeur non réglementaire indicative)	400 ppm
	Short time value (VL: Valeur non réglementaire indicative)	980 mg/m ³

UK

Acetone	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	500 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1210 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	1500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	3620 mg/m ³
Propan-2-ol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	400 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	999 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	1250 mg/m ³

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.

Acetone (ketones 1)	NIOSH	1300
Acetone (ketones I)	NIOSH	2555
Acetone (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
Acetone (Volatile Organic compounds)	NIOSH	2549
Acetone	OSHA	69
Isopropanol (Volatile Organic compounds)	NIOSH	2549
Isopropyl Alcohol (Alcohols I)	NIOSH	1400
Isopropyl Alcohol	OSHA	109

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

propan-2-ol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	888 mg/kg bw/day	
	Long-term systemic effects inhalation	500 mg/m ³	

acetone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Acute local effects inhalation	2420 mg/m ³	
	Long-term systemic effects dermal	186 mg/kg bw/day	
	Long-term systemic effects inhalation	1210 mg/m ³	

glyoxal

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5.29 mg/m ³	
	Long-term local effects inhalation	0.04 mg/m ³	
	Long-term systemic effects dermal	10.8 mg/kg bw/day	

DNEL - General population

propan-2-ol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	319 mg/kg bw/day	
	Long-term systemic effects inhalation	89 mg/m ³	
	Long-term systemic effects oral	26 mg/kg bw/day	

acetone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	62 mg/kg bw/day	
	Long-term systemic effects inhalation	200 mg/m ³	
	Long-term systemic effects oral	62 mg/kg bw/day	

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.3 mg/m ³	
	Long-term local effects inhalation	0.01 mg/m ³	
	Long-term systemic effects dermal	5.4 mg/kg bw/day	
	Long-term systemic effects oral	0.6 mg/kg bw/day	

PNEC

propan-2-ol

Compartment	Value	Remark
Fresh water	140.9 mg/l	
Marine water	140.9 mg/l	
Aqua (intermittent releases)	140.9 mg/l	
STP	2251 mg/l	
Fresh water sediment	552 mg/kg sediment dw	
Marine water sediment	552 mg/kg sediment dw	
Soil	28 mg/kg soil dw	
Oral	160 mg/kg food	

acetone

Compartment	Value	Remark
Fresh water	10.6 mg/l	
Marine water	1.06 mg/l	
Aqua (intermittent releases)	21 mg/l	
Fresh water sediment	30.4 mg/kg sediment dw	
Marine water sediment	3.04 mg/kg sediment dw	
Soil	29.5 mg/kg soil dw	
STP	100 mg/l	

glyoxal

Compartment	Value	Remark
Fresh water	0.319 mg/l	
Marine water	0.0319 mg/l	
Aqua (intermittent releases)	1.1 mg/l	
STP	4.1 mg/l	
Fresh water sediment	0.685 mg/kg sediment dw	
Marine water sediment	0.0685 mg/kg sediment dw	
Soil	4.06 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. 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 strict hygiene. 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

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Odour threshold	No data available
Colour	Colourless
Particle size	No data available
Explosion limits	No data available
Flammability	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
Relative vapour density	> 1
Vapour pressure	No data available
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. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5 Incompatible materials:

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

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

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No (test)data on the mixture available

propan-2-ol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	5840 mg/kg bw		Rat	Experimental value	
Dermal	LD50	Equivalent to OECD 402	16.4 ml/kg bw	24 h	Rabbit	Experimental value	
Inhalation (vapours)	LC50	Equivalent to OECD 403	>10000 ppm	6 h	Rat (male/female)	Experimental value	

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	5800 mg/kg		Rat (female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	20000 mg/kg		Rabbit (male)	Experimental value	
Dermal	LD50		>7426 mg/kg bw		Rabbit (female)	Weight of evidence	
Inhalation (vapours)	LC50	Other	76 mg/l	4 h	Rat (female)	Experimental value	
Inhalation (vapours)	LCL0	Other	16000 ppm	4 h	Rat	Experimental value	

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	3660 mg/kg bw		Rat (male)	Experimental value	
Oral	LD50	OECD 401	2960 mg/kg bw		Rat (female)	Experimental value	
Dermal	Percutaneous absorption rate	Other	6.4 %	8 h	Rat (male)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 2000 mg/kg	24 h	Rat (male/female)	Experimental value	Aqueous solution
Inhalation (aerosol)	LC50	OECD 403	2.47 mg/l air	4 h	Rat (male)	Experimental value	
Inhalation (aerosol)	LC50	OECD 403	2.41 mg/l air	4 h	Rat (female)	Experimental value	

Judgement is based on the relevant ingredients

Conclusion

Not classified for acute toxicity

Corrosion/irritation

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No (test)data on the mixture available

propan-2-ol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Highly irritating	OECD 405			Rabbit	Experimental value	Single treatment
Skin	Not irritating		4 h		Human	Experimental value	
Skin	Not irritating		4 h		Rabbit	Experimental value	

acetone

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405		24; 48; 72 hours	Rabbit	Weight of evidence	
Skin	Not irritating	Other	3 day(s)	24; 48; 72 hours	Guinea pig	Weight of evidence	
Inhalation	Slightly irritating	Human observation study	20 minutes		Human	Literature	

glyoxal

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Aqueous solution
Eye	Irritating; category 2					Annex VI	
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	Aqueous solution
Skin	Not corrosive	OECD 431	1 h	3 minutes; 1 hr	Reconstructed human epidermis	Experimental value	Aqueous solution
	Irritating; category 2					Annex VI	
Inhalation	Irritating	OECD 412	4 weeks (6h/day, 5 days/week)		Rat	Experimental value	

Classification is based on the relevant ingredients

Conclusion

Causes serious eye irritation.

Not classified as irritating to the skin

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

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No (test)data on the mixture available

propan-2-ol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406	3 weeks (6h/day, 1 day/week)	24; 48 hours	Guinea pig (male/female)	Experimental value	

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Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Guinea pig maximisation test		48 hours	Hamster (female)	Experimental value	
Skin	Not sensitizing	Human observation			Human	Literature	

glyoxal

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Sensitizing	OECD 406		48 hours	Guinea pig (female)	Experimental value	Aqueous solution

Judgement is based on the relevant ingredients

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

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No (test)data on the mixture available

propan-2-ol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation (vapours)	NOAEC	OECD 451	5000 ppm	General	No effect	104 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value
Inhalation (vapours)	Dose level	OECD 403	5000 ppm	Central nervous system	Drowsiness, dizziness	6 h	Rat (male/female)	Experimental value
Inhalation (vapours)	NOAEL	OECD 413	5000 ppm			13 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value

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Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	Equivalent to OECD 408	20 mg/l		No effect	13 week(s)	Mouse (male/female)	Experimental value
Dermal								Not relevant, expert judgement
Inhalation (vapours)	NOAEC	Other	19000 ppm		No effect	8 week(s)	Rat (male)	Literature
Inhalation (vapours)		Human observation study	361 ppm	Central nervous system	neurotoxic effects	2 day(s)	Human	Inconclusive, insufficient data

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Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	OECD 453	25 mg/kg bw/day		No effect	24 month(s)	Rat (male/female)	Experimental value
Dermal	NOAEL local effects		63 mg/kg bw/day	Skin	No effect	2 weeks (daily)	Mouse (male)	Experimental value
Dermal	NOAEL systemic effects		125 mg/kg bw/day		No effect	2 weeks (daily)	Mouse (male)	Experimental value
Inhalation	NOAEL	OECD 412	0.0004 mg/l air	Lungs	No effect	4 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value
Inhalation	LOAEL	OECD 412	0.002 mg/l air	Lungs	Histopathological changes	4 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value
Inhalation	NOAEL systemic effects	OECD 412	0.01 mg/l air		No effect	4 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value

Classification is based on the relevant ingredients

Conclusion

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May cause drowsiness or dizziness.
Not classified for subchronic toxicity

Mutagenicity (in vitro)

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No (test)data on the mixture available

propan-2-ol

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

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

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Result	Method	Test substrate	Effect	Value determination
Positive with metabolic activation, positive without metabolic activation	OECD 473	Chinese hamster ovary (CHO)	Chromosome aberrations	Experimental value
Ambiguous	OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value
Positive with metabolic activation, positive without metabolic activation	OECD 471	Bacteria (S.typhimurium)	Increased number of mutant colonies	Experimental value

Mutagenicity (in vivo)

AIRCLEAN

No (test)data on the mixture available

propan-2-ol

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

acetone

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative		13 week(s)	Mouse (male/female)		Literature

glyoxal

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	OECD 486		Rat (male/female)		Experimental value
Negative	OECD 474	2 day(s)	Mouse (male)		Experimental value
Positive			Rat (male)	Stomach	Experimental value

Carcinogenicity

AIRCLEAN

No (test)data on the mixture available

propan-2-ol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Inhalation (vapours)	NOEL	Equivalent to OECD 451	5000 ppm	104 weeks (6h/day, 5 days/week)	Mouse (male/female)	Experimental value		No carcinogenic effect

acetone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Dermal	NOEL	Other	79 mg	51 week(s)	Mouse (female)	Literature		No effect

glyoxal

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Oral (drinking water)	NOAEL	OECD 453	> 300 mg/kg bw/day	24 month(s)	Rat (male/female)	Experimental value		No effect

Reproductive toxicity

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No (test)data on the mixture available

propan-2-ol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	596 mg/kg bw/day	1 month(s)	Rat	No effect	Foetus	Experimental value
						No effect	Foetus	
						No effect	Thymus	
Maternal toxicity	NOAEL	Equivalent to OECD 414	596 mg/kg bw/day	1 month(s)	Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL	Equivalent to OECD 415	853 mg/kg bw/day	21-70 day(s)	Rat (male/female)	No effect		Experimental value

acetone

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	Equivalent to OECD 414	11000 ppm	6-19 days (gestation, daily)	Rat (male/female)			Experimental value
Effects on fertility	NOAEL	Other	900 mg/kg bw/day	13 week(s)	Rat (male)	No effect		Literature

glyoxal

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL (F1)	OECD 416	400 mg/kg bw/day		Rat (male/female)	No effect		Experimental value
	NOAEL (F2)	OECD 416	400 mg/kg bw/day		Rat (male/female)	No effect		Experimental value
Maternal toxicity	NOAEL	OECD 414	25 mg/kg bw/day	2 weeks (daily)	Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL (P/F1)	OECD 416	400 mg/kg bw/day		Rat (male/female)	No effect		Experimental value
	NOAEL	OECD 414	125 mg/kg bw/day	2 weeks (daily)	Rat (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

AIRCLEAN

No (test)data on the mixture available

acetone

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
			Skin	Skin dryness or cracking			Literature study

Chronic effects from short and long-term exposure

AIRCLEAN

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

SECTION 12: Ecological information

12.1 Toxicity:

AIRCLEAN

No (test)data on the mixture available

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propan-2-ol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	9640 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Lethal
Acute toxicity invertebrates	EC50	Other	13299 mg/l	48 h	Daphnia magna			Experimental value
	LC50	Equivalent to OECD 202	> 10000 mg/l	24 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	EC50	UBA	> 1000 mg/l	72 h	Scenedesmus subspicatus			Experimental value; Growth rate
Long-term toxicity aquatic invertebrates	EC0		141 mg/l	384 h	Daphnia magna			
Toxicity aquatic micro-organisms	EC50	ISO 8192	41676 mg/l	30 minutes	Bacteria			Experimental value; Activated sludge

acetone

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EU Method C.1	5540 mg/l	96 h	Salmo gairdneri	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity invertebrates	LC50	Other	12600 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	EC50		>7000 mg/l	96 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; Nominal concentration

glyoxal

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	DIN 38412-15	464 - 681 mg/l	96 h	Leuciscus idus	Static system	Fresh water	Experimental value
Acute toxicity invertebrates	EC50	EU Method C.2	404 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EC50	EU Method C.3	>100 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
Long-term toxicity fish	NOEC	OECD 210	112 mg/l	34 day(s)	Pimephales promelas	Flow-through system	Fresh water	Experimental value; GLP
Long-term toxicity aquatic invertebrates	NOEC	OECD 211	3.19 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50	DIN 38412-8	41 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; GLP
	EC20	OECD 209	1000 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Experimental value; GLP

	Parameter	Method	Value	Duration	Species	Value determination
Toxicity soil macro-organisms	EC50	OECD 207	>398 mg/kg soil dw	14 day(s)	Eisenia foetida	Experimental value
Toxicity terrestrial plants	NOEC	OECD 208	>= 400 mg/kg soil dw	21 day(s)	Brassica napus	Experimental value
	NOEC	OECD 208	>= 400 mg/kg soil dw	21 day(s)	Avena sativa	Experimental value
	NOEC	OECD 208	>= 400 mg/kg soil dw	21 day(s)	Vicia sativa	Experimental value

Judgement is based on the relevant ingredients of the mixture

Conclusion

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

12.2 Persistence and degradability:

propan-2-ol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301E: Modified OECD Screening Test	95 %	21 day(s)	Experimental value

acetone

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	90.9 %	28 day(s)	Experimental value

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glyoxal

Biodegradation water

Method	Value	Duration	Value determination
OECD 301A: DOC Die-Away Test	90 - 100 %; GLP	19 day(s)	Experimental value
OECD 306: Biodegradability in Seawater	90 - 100 %; GLP	53 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
Other	0.96 day(s)	1500000 /cm ³	Calculated value

Biodegradation soil

Method	Value	Duration	Value determination
Other	72 %; GLP	49 day(s)	Experimental value

Conclusion

Contains readily biodegradable component(s)

12.3 Bioaccumulative potential:

AIRCLEAN

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

propan-2-ol

Log Kow

Method	Remark	Value	Temperature	Value determination
Other		0.05	25 °C	Weight of evidence approach

acetone

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		0.69		Pisces	

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFWIN	3			Calculated value

Log Kow

Method	Remark	Value	Temperature	Value determination
		-0.24		Test data

glyoxal

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFWIN	3.2			QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-1.15	23 °C	Practical experience/observation

Conclusion

Does not contain bioaccumulative component(s)

12.4 Mobility in soil:

glyoxal

(log) Koc

Parameter	Method	Value	Value determination
log Koc	OECD 121	0.32	Experimental value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
<= 0.000338 Pa.m ³ /mol	Other	20 °C		Experimental value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	4 %				96 %	Calculated value

Conclusion

No (test)data on mobility of the components available

12.5 Results of PBT and vPvB assessment:

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

12.6 Other adverse effects:

AIRCLEAN

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)

propan-2-ol

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).

07 06 04* (wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics: other organic solvents, washing liquids and mother liquors)

. 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

Specific treatment. 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. Use appropriate containment to avoid environmental contamination.

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
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14.2 UN proper shipping name:

Proper shipping name	Aerosols
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14.3 Transport hazard class(es):

Hazard identification number	23
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AIRCLEAN

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/IMSBC)

14.1 UN number:

UN number	1950
-----------	------

14.2 UN proper shipping name:

Proper shipping name	Aerosols
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14.3 Transport hazard class(es):

Class	2.1
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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
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Air (ICAO-TI/IATA-DGR)

14.1 UN number:

AIRCLEAN

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:

VOC content Directive 2010/75/EU

VOC content	Remark
> 30 %	

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.

Reference legislation

See column 1: 3.

See column 1: 40.

National legislation The Netherlands

AIRCLEAN

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 06
Waterbezwaarlijkheid	11

National legislation Germany

AIRCLEAN

WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
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propan-2-ol

Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert ppm	2-Propanol; 200 ppm
MAK 8-Stunden-Mittelwert mg/m ³	2-Propanol; 500 mg/m ³
TA-Luft	5.2.5

acetone

Schwangerschaft Gruppe	D
MAK 8-Stunden-Mittelwert ppm	Aceton; 500 ppm
MAK 8-Stunden-Mittelwert mg/m ³	Aceton; 1200 mg/m ³
TA-Luft	5.2.5

glyoxal

MAK - Krebserzeugend Kategorie	3B
TA-Luft	5.2.5; I

National legislation France

AIRCLEAN

No data available

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National legislation Belgium

AIRCLEAN

No data available

Other relevant data

AIRCLEAN

No data available

propan-2-ol

IARC - classification	3; Isopropanol
TLV - Carcinogen	2-propanol; A4

acetone

TLV - Carcinogen	Acetone; A4
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glyoxal

TLV - Carcinogen	Glyoxal; A4
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15.2 Chemical safety assessment:

No chemical safety assessment is required.

SECTION 16: Other information

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

Labels



Irritant

R-phrases

- 10 Flammable
- 36 Irritating to eyes
- 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

Contains: glyoxal. May produce an allergic reaction.

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.

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

- R10 Flammable
- R11 Highly flammable
- R20 Harmful by inhalation
- R36 Irritating to eyes
- R36/38 Irritating to eyes and skin
- R43 May cause sensitisation by skin contact
- R66 Repeated exposure may cause skin dryness or cracking
- R67 Vapours may cause drowsiness and dizziness
- R68 Possible risk of irreversible effects

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

- H223 Flammable aerosol.
- H225 Highly flammable liquid and vapour.
- H229 Pressurised container: May burst if heated.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

DSD Dangerous Substance Directive

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

Specific concentration limits DSD

glyoxal	C ≥ 10 %	Xn; R20	DSD Annex VI (ATP 0)
	C ≥ 10 %	Xi; R36/38	DSD Annex VI (ATP 0)

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.

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