

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Product name : VECTAIR AIROMA CITRUS MANGO AERO-43  
Product code : 1254880

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

Application : Professional use. (SU22). Airfreshener. (PC3).

### 1.3. Details of the supplier of the safety data sheet

Supplier : Vectair System LTD  
Unit 3, Trident Centre, Armstrong Road  
RG248NU BASINGSTOKE, HAMPSHIRE, Great Britain  
Telephone : +44 1256 319500  
Fax : +44 1256 319520  
E-mail : msds@vectairsystems.com  
Website : <http://www.vectairsystems.com>

### 1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:

GB - Telephone : +44 1256 319500 (During office hours only)

EMERGENCY TELEPHONE NUMBER (for DOCTORS only):  
(24/7)

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP classification (1272/2008/EC) : Aerosols, category 1. Eye irritation, category 2. Specific target organ toxicity after single exposure, category 3. Hazardous to the aquatic environment — Chronic category 3.

Human health hazards : Causes serious eye irritation. May cause drowsiness or dizziness. May produce an allergic reaction. Exposure to high vapour concentrations may result in a narcotic effect. Use only as directed. Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

Physical/chemical hazards : Extremely flammable. Keep away from sources of ignition — No smoking. Do not spray on a naked flame or any incandescent material. Do not spray near fire, sources of heat or live electrical equipment. Aerosol may explode from internal pressure build-up when exposed to temperatures exceeding 50 °C.

Environmental hazards : Harmful to aquatic life with long lasting effects.

Other information : Keep out of the reach of children. Caution: Do not breathe spray. Use only in well-ventilated areas. Spray in short intervals for a short period only. Ventilate well after use. Harmful to house pets.

### 2.2. Label elements

Label elements (1272/2008/EC):

Hazard pictograms :



Signal word : Danger

H- and P-phrases : H222 Extremely flammable aerosol.

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H229	Pressurised container: May burst if heated.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains ... May produce an allergic reaction. Reference is made to additional labelling for full text of EUH208*.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
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.
P261 spray	Avoid breathing spray.
P403	Store in a well-ventilated place.

Additional labelling

- : \* Contains d-Limonene ; Citral . May produce an allergic reaction.
- : Contains: Propan-2-ol

## 2.3. Other hazards

Other information : The classification of this product is based on the non-aerosolised form of the mixture (on basis of section 1.1.3.7. of Regulation (EC) No 1272/2008). Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### 3.2. Mixtures

Product description : Mixture.

Information on hazardous substances:

Substance name	Concentration (w/w) (%)	CAS nr.	EC number	REACH nr.	OEL
Isobutane Flam. Gas 1; Press. Gas H220; H280	50 - 75	75-28-5	200-857-2	01-2119485395-27	#
Ethanol Flam. Liq. 2; Eye Irrit. 2 H225; H319	10 - < 20	64-17-5	200-578-6	01-2119457610-43	#
Propane Flam. Gas 1; Press. Gas H220; H280	10 - < 20	74-98-6	200-827-9	01-2119486944-21	#
Propan-2-ol Flam. Liq. 2; Eye Irrit. 2; STOT SE 3 H225; H319; H336	5 - < 10	67-63-0	200-661-7	01-2119457558-25	#
Propane-1,2-diol ----- -----	1 - < 5	57-55-6	200-338-0	01-2119456809-23	#
Butane Flam. Gas 1; Press. Gas H220: H280	1 - < 5	106-97-8	203-448-7	01-2119474691-32	#
d-Limonene Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1B; Asp. Tox. 1; Aquatic Acute 1; Aquatic Chronic 1 H226; H304; H315; H317; H410	0,1 - < 1	5989-27-5	227-813-5	01-2119529223-47	#
Citral	0,1 - < 1	5392-40-5	226-394-6	01-2119462829-23	

Product name : Vectair Airoma Citrus Mango AERO-43

Date of issue : 15-06-2015

Replaces issue dated : ---

Page 2/13

CHESSOL MSDS

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1 H319; H315; H317					
Benzyl benzoate Acute Tox. 4; Aquatic chronic 2 H302; H411	0,1 - < 1	120-51-4	204-402-9		
Benzyl alcohol Acute Tox. 4; Eye Irrit. 2 H332; H302; H319	0,1 - < 1	100-51-6	202-859-9	01-2119492630-38	#
Alpha,alpha-dimethylphenylethyl butyrate Aquatic Chronic 2 H411	< 0,1	10094-34-5	233-221-8		
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno(5,6-c)pyran Aquatic Acute 1; Aquatic Chronic 1 H400; H410	< 0,1	1222-05-5	214-946-9	01-2119488227-29	

Reference is made to chapter 16 for full text of each relevant H phrase. Substance(s) with an Occupational Exposure Limit are marked with #. Occupational exposure limit(s) are listed in section 8.

## SECTION 4 FIRST-AID MEASURES

### 4.1. Description of first aid measures

#### First aid measures

- Inhalation : Move victim into fresh air. Consult a doctor if victim feels unwell.
- Skin contact : Take off contaminated clothing. Wash off skin with plenty of water and soap before product dries up. Consult a doctor if irritation occurs.
- Eye contact : Wash out with (lukewarm) water for at least 15 minutes. Remove contact lenses. Consult a doctor.
- Ingestion : Aerosol/mist: Ingestion is unlikely to occur.

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

#### Effects and symptoms

- Inhalation : May cause headache, dizziness and a feeling of sickness. May cause irritation to respiratory airways and coughing.
- Skin contact : May produce an allergic reaction. May cause dry skin and redness.
- Eye contact : Irritant. May cause redness and pain.
- Ingestion : Aerosol/mist: Ingestion is unlikely to occur.

### 4.3. Indication of any immediate medical attention and special treatment needed

- Note to physicians : None known.

## SECTION 5 FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

#### Extinguishing media

- Suitable : Carbondioxide (CO2). Alcohol resistant foam. Dry chemical. Water fog.
- Not suitable : Water jet.

### 5.2. Special hazards arising from the substance or mixture

- Special exposure hazards : Aerosol may explode from internal pressure build-up when exposed to temperatures exceeding 50 °C. Do not expose emergency personnel to overheated aerosol containers. Water may be used to cool container and prevent explosion of the aerosol.

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

## 5.3. Advice for firefighters

Special protective equipment for fire-fighters : Fight a fire where aerosols are involved from a protected position. Use adequate respiratory equipment in case of insufficient ventilation.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Danger of slipping. Clean up spills immediately. Wear shoes with non-slip soles. Avoid contact with spilled or released material. Do not breathe vapours and/or spray. Keep away from sources of ignition — No smoking. Build up of highly flammable gasses involves an explosion risk. Vapours are heavier than air. Build up (of gasses) in low areas involves risk of suffocation.

### 6.2. Environmental precautions

Environmental precautions : Avoid release of product into sewers, surface water and/or ground water.  
Other information : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spilled material in containers. Collect cans in an approved container. Do not pierce aerosols. Wash away remainder with plenty of water and soap.

### 6.4. Reference to other sections

Reference to other sections : For guidance on selection of personal protective equipment see section 8. For guidance on disposal of spilled material see section 13.

## SECTION 7 HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas. Important: Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Keep away from sources of ignition — No smoking. Do not spray on a naked flame or any incandescent material. Do not spray near fire, sources of heat or live electrical equipment. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Do not breathe spray. Do not breathe vapour. Avoid contact with skin and eyes.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep frost-free, in a cool (< 35°), dry and well-ventilated place. Protect from sunlight and keep away from heat.  
Recommended packaging : Not applicable.

### 7.3. Specific end use(s)

Use : Use only as directed.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

Occupational exposure limits : Occupational exposure limits have not been established for this product. Derived no-effect levels (DNEL) have not been established for this product. Predicted no-effect concentrations (PNEC) have not been established for this product.

Occupational exposure limits (mg/m<sup>3</sup>):

Chemical name	Country	TWA 8 hour (mg/m <sup>3</sup> )	STEL 15 min (mg/m <sup>3</sup> )	Comments
Isobutane		1900	2400	
Ethanol	GB	1920	-	
Ethanol		260	1900	Mac: NL
Propane		1800	-	
Propan-2-ol	GB	999	1250	
Propane-1,2-diol	GB	474	-	Total Vapour and Particulates
Propane-1,2-diol		474	-	MAC UK: Total Vapour and Particulates
Butane	GB	1450	1810	
Butane		1450	1810	
d-Limonene		110	-	MAC: DE, CH, NL
Benzyl alcohol		5	-	

Derived no-effect level (DNEL) for workers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Ethanol	Dermal				343 mg/kg bw/day
	Inhalation	1900 mg/m <sup>3</sup>			950 mg/m <sup>3</sup>
Propan-2-ol	Dermal				888 mg/kg bw/day
	Inhalation			10 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>
Propane-1,2-diol	Inhalation				168 mg/m <sup>3</sup>
d-Limonene	Inhalation				33,3 mg/m <sup>3</sup>
Citral	Dermal				1,7 mg/kg bw/day
	Inhalation				9 mg/m <sup>3</sup>
Benzyl alcohol	Dermal		47 mg/kg bw		9,5 mg/kg bw/day
	Inhalation		450 mg/m <sup>3</sup>		90 mg/m <sup>3</sup>
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno(5,6-c)pyran	Dermal				28,85 mg/kg bw/day
	Inhalation				5,29 mg/m <sup>3</sup>

Derived no-effect level (DNEL) for consumers:

Chemical name	Route of exposure	DNEL, short-term		DNEL, long-term	
		Local effect	Systemic effect	Local effect	Systemic effect
Ethanol	Dermal				206 mg/kg bw/day
	Inhalation	950 mg/m <sup>3</sup>			114 mg/m <sup>3</sup>
	Oral				87 mg/kg bw/day
Propan-2-ol	Dermal				319 mg/kg bw/day
	Inhalation			10 mg/m <sup>3</sup>	89 mg/m <sup>3</sup>
	Oral				26 mg/kg bw/day
Propane-1,2-diol	Inhalation				50 mg/m <sup>3</sup>
d-Limonene	Inhalation				8,33 mg/m <sup>3</sup>
	Oral				4,76 mg/kg bw/day
Citral	Dermal				1 mg/kg bw/day
	Inhalation				2,7 mg/m <sup>3</sup>
	Oral				0,6 mg/kg bw/day
Benzyl alcohol	Dermal		28,5 mg/kg bw		5,7 mg/kg bw/day
	Inhalation		40,55 mg/m <sup>3</sup>		8,11 mg/m <sup>3</sup>
	Oral		25 mg/kg bw		5 mg/kg bw/day
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno(5,6-c)pyran	Dermal				14,43 mg/kg bw/day

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

	Inhalation			1,3 mg/m <sup>3</sup>
	Oral			0,75 mg/kg bw/day

Predicted no-effect concentration (PNEC):

Chemical name	Route of exposure	Fresh water	Marine water	
Ethanol	Water	0,96 mg/l	0,79 mg/l	
	Sediment	3,6 mg/kg	2,9 mg/kg	
	Intermittent water			2,75 mg/l
	STP			580 mg/l
	Soil			0,63 mg/kg
Propan-2-ol	Oral			0,72 mg/kg food
	Water	140,9 mg/l	140,9 mg/l	
	Sediment	552 mg/kg	552 mg/kg	
	Intermittent water			140,9 mg/l
	STP			2251 mg/l
Propane-1,2-diol	Soil			28 mg/kg
	Oral			160 mg/kg food
	Water	260 mg/l	26 mg/l	
	Sediment	572 mg/kg	57,2 mg/kg	
	Intermittent water			183 mg/l
d-Limonene	STP			20000 mg/l
	Soil			50 mg/kg
	Oral			1133 mg/kg food
	Water	0,0054 mg/l	0,0005 mg/l	
	Sediment	1,32 mg/kg	0,13 mg/kg	
Citral	STP			1,8 mg/l
	Soil			0,262 mg/kg
	Oral			3,33 mg/kg food
	Water	0,0067 mg/l	0,0006 mg/l	
	Sediment	0,125 mg/kg	0,0125 mg/kg	
Benzyl alcohol	Intermittent water			0,0678 mg/l
	STP			1,6 mg/l
	Soil			0,0209 mg/kg
	Water	1 mg/l	0,1 mg/l	
	Sediment	5,27 mg/kg	0,527 mg/kg	
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno(5,6-c)pyran	Intermittent water			2,3 mg/l
	STP			39 mg/l
	Soil			0,456 mg/kg
	Water	0,0044 mg/l	0,0004 mg/l	
	Sediment	2 mg/kg	0,394 mg/kg	
	Intermittent water			0,047 mg/l
	STP			1 mg/l
	Soil			0,31 mg/kg
	Oral			3,3 mg/kg food

## 8.2. Exposure controls

Engineering measures : Use only in well-ventilated areas. Comply with standard precautionary measures for working with chemicals.

Hygienic measures : When using do not eat, drink or smoke.

Personal protective equipment:

The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.

Body protection : Use of specific protective industrial clothing is not required under normal conditions of use. In case of large scale exposure wear suitable protective clothing, overalls or suit, and similar boots. Suitable material: butyl. Indication of permeation breakthrough time: not known.

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

- Respiratory protection : Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.
- Hand protection : Under normal conditions of use specific gloves are not required. Wear appropriate gloves in case of frequent or prolonged use and in case of large scale exposure. Suitable material: butyl.  $\pm$  0,5 mm. Indication of permeation breakthrough time: not known.
- Eye protection : Wear appropriate safety glasses with side shields, in accordance with EN 166, when there is danger of possible eye contact.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Appearance	: Aerosol.	
Colour	: Colourless.	
Odour	: Perfumed.	
Odour threshold	: Not known.	
pH	: Not applicable.	Almost waterfree product.
Solubility in water	: Soluble.	
Partition coefficient (n-octanol/water)	: Not known.	
Flash point	: Not applicable.	Not measurable.
Flammability (solid, gas)	: Extremely flammable.	
Auto ignition temperature	: Not applicable.	Aerosol container explodes before reaching the auto-ignition point.
Boiling point/boiling range	: Not known.	Not measurable.
Melting point/melting range	: < 0 °C	
Explosive properties	:	Pressurised container: May burst if heated.
Explosion limits (in air)	: Not known.	Lower explosion limit in air (%): 1,3 ( Butane )
	:	Upper explosion limit in air (%): 19 Ethanol
	:	Does not contain oxidizing substances.
Oxidising properties	: Not applicable.	
Decomposition temperature	: Not applicable.	
Viscosity (20°C)	: Not known.	
Viscosity (40°C)	: Not known.	
Vapour pressure (20°C)	: 360000 Pa	
Vapour density (20°C)	: > 1	(air = 1)
Relative density (20°C)	: 0,617 g/ml	
Evaporation rate	: not known	(n-butyl acetate = 1)

## SECTION 10 STABILITY AND REACTIVITY

### 10.1. Reactivity

Reactivity : See sub-sections below.

### 10.2. Chemical stability

Stability : Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

### 10.4. Conditions to avoid

Conditions to avoid : Keep away from sources of ignition and sources of heat. See section 7.

### 10.5. Incompatible materials

Materials to avoid : Not applicable.

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

## 10.6. Hazardous decomposition products

Hazardous decomposition : Not known.  
products

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

No toxicological research has been carried out on this product.

#### Inhalation

- Acute toxicity : Calculated LC50: > 10 mg/l. Ingredients of unknown toxicity: 2 %. ATE: > 5 mg/l. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause headache, dizziness and a feeling of sickness. May cause damage to organs. Target organ(s): Central nervous system. Effect(s): Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.
- Corrosion/irritation : May cause irritation to respiratory airways and coughing. Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

#### Skin contact

- Acute toxicity : Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Slight irritation possible. Not classified - based on available data, the classification criteria are not met.
- Sensitisation : May produce an allergic reaction.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

#### Eye contact

- Corrosion/irritation : Irritant.

#### Ingestion

- Acute toxicity : Aerosol/mist: Ingestion is unlikely to occur. Calculated LD50: > 872 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause hampered eyesight.
- Corrosion/irritation : Aerosol/mist: Ingestion is unlikely to occur. May cause a feeling of sickness, vomiting and diarrhoea. Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Aerosol/mist: Ingestion is unlikely to occur. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Aerosol/mist: Ingestion is unlikely to occur. Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

#### Toxicological information:

Chemical name	Property		Method	Test animal
Ethanol	Skin irritation	Non-irritant	OECD 404	Rabbit
	LD50 (dermal)	15800 mg/kg bw	-----	Rabbit
	NOAEL (inhalation)	23000 mg/m3		Rat
	NOAEL (oral)	1730 mg/kg bw/d	OECD 408	Rat
	NOAEL (fertility, oral)	20000 mg/kg bw/d	OECD 415	Rat
	Skin sensitisation	Not sensitizing	OECD 406	Guinea pig
	NOAEL (development, oral)	6400 mg/kg bw/d		
	LD50 (oral)	10470 mg/kg bw	OECD 401	Rat
	LC50 (inhalation)	117000 mg/m3	OECD 403	Rat



# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

Propan-2-ol	Eye irritation	Irritant	OECD 405	Rabbit	
	NOEL (carcinogenicity, oral)	> 4400 mg/kg bw/d		Mouse	
	Genotoxicity - in vivo	Not genotoxic	OECD 478	Mouse	
	NOEL (carcinogenicity, inh.)	13 mg/m3			
	Genotoxicity - in vitro	Not genotoxic	OECD 476		
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium	
	NOAEL (oral)	870 mg/kg bw/d	----	Rat	
	LD50 (oral)	4396 mg/kg bw	----	Rat	
	LD50 (dermal)	12800 mg/kg bw	----	Rat	
	LC50 (inhalation)	46600 mg/m3	----	Rat	
	Skin irritation	Slightly irritant	OECD 404	Rabbit	
	Eye irritation	Irritant	OECD 405	Rabbit	
	NOAEL (fertility, oral)	407 mg/kg bw/d		Rat	
	NOAEL (development, oral)	400 mg/kg bw/d		Rat	
	NOEL (carcinogenicity, oral)	Not carcinogenic	OECD 416	Rat	
	d-Limonene	Skin sensitisation	Not sensitizing	OECD 406	Guinea pig
		Mutagenicity	Negative	OECD 471	
NOAEL (inhalation)		12500 mg/m3	OECD 451	Rat	
Genotoxicity - in vivo		Not genotoxic	OECD 474	Mouse	
NOEL (carcinogenicity, inh.)		12500 mg/m3		Mouse	
Genotoxicity - in vitro		Not genotoxic	OECD 476		
NOEL (carcinogenicity) - estimate		Not carcinogenic	----	----	
NOEL (carcinogenicity, oral)		> 75 mg/kg bw/d	OECD 451	Rat	
LC50 (inhalation) - estimate		> 5000 mg/m3	----	----	
Genotoxicity - in vivo		> 2000 mg/kg bw/d		Rat	
Citral	Eye irritation	Non-irritant	OECD 405	Rabbit	
	Mutagenicity	Negative	OECD 471		
	Skin sensitisation	10075 ug/cm2	OECD 429	Mouse	
	NOAEL (development, oral)	600 mg/kg bw/d		Rat	
	Skin irritation	Irritant	----	----	
	NOAEL (oral)	30 mg/kg bw/d		Rat	
	NOEL (oral)	5 mg/kg bw/d	----	Rat	
	LD50 (dermal)	> 2000 mg/kg bw	----	Rabbit	
	LD50 (oral)	4400 mg/kg bw	----	Rat	
	Genotoxicity - in vitro	Not genotoxic			
	NOAEL (fertility, oral)	> 1000 mg/kg bw/d	OECD 421	Rat	
	Genotoxicity - in vivo	Negative	OECD 474	Mouse	
	Eye irritation	Slightly irritant	OECD 405	Rabbit	
Skin irritation	Moderately irritant		Rabbit		
Skin irritation	Irritant		Human		
Skin sensitisation	Sensitizing.	OECD 406	Guinea pig		
NOAEL (developmental toxicity, inh.)	423 mg/m3	----	Rat		
NOEL (carcinogenicity, oral)	> 100 mg/kg bw/d	OECD 453	Rat		
Mutagenicity	Negative	OECD 471			
LD50 (oral)	4960 mg/kg bw	----	Rat		
Genotoxicity - in vitro	Not genotoxic				
NOAEL (oral)	833 mg/kg bw/d	----	Rat		

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

	LD50 (dermal) NOAEL (development, oral)	2250 mg/kg bw 200 mg/kg bw/d	----- OECD 421	Rabbit Rat
--	---	---------------------------------	-------------------	---------------

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1. Toxicity

No ecotoxicological research has been carried out on this product.

Ecotoxicity : Harmful to aquatic organisms. Calculated LC50 (fish): 107 mg/l. Calculated EC50 (waterflea): 85 mg/l. Contains 0 % of components with unknown hazards to the aquatic environment.

### 12.2. Persistence and degradability

Persistence – degradability : May cause long-term adverse effects in the aquatic environment.

### 12.3. Bioaccumulative potential

Bioaccumulative potential : Contains bioaccumulating substances.

### 12.4. Mobility in soil

Mobility : Not applicable.

### 12.5. Results of PBT and vPvB ass

PBT/vPvB assessment : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

### 12.6. Other adverse effects

Other information : Not applicable.

Ecological information:

Chemical name	Property		Method	Test animal
d-Limonene	LC50 (fish)	0,720 mg/l	OECD 203	Pimephales promelas
	EC50 (waterflea)	0,36 mg/l	OECD 202	Daphnia magna
	Ultimate aerobic biodegradation (%)	> 92 %		
	NOEC (waterflea) - chronic	0,15 mg/l.d		Daphnia magna
	Log P(ow)	4,38		
	BCF	683		
Benzyl benzoate	LC0 (fish)	1,9 mg/l	OECD 203	Brachydanio rerio
	LC100 (fish)	2,84 mg/l	OECD 203	Brachydanio rerio
	Ultimate aerobic biodegradation (%)	94 %	OECD 301 F	
	LC50 (fish) - estimate	> 1 mg/l		
	Log P(ow)	3,97		
	BCF	24		
Alpha,alpha-dimethylphenylethyl butyrate	Log P(ow)	3,99		
	LC50 (fish)	1,36 mg/l	OECD 204	Lepomis macrochirus
1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno(5,6-c)pyran	EC50 (waterflea)	0,47 mg/l	-----	-----
	NOEC (waterflea) - chronic	0,111 mg/l.d	OECD 202	Daphnia magna
	NOEC (fish)	0,068 mg/l.d	OECD 210	Pimephales promelas
	IC50 (algae)	> 0,85 mg/l	OECD 201	Pseudokirchnerella subcapitata

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

	Ultimate aerobic biodegradation (%)	2 %	OECD 301 B	
	Log P(ow)	5,9		
	BCF	1584		

## SECTION 13 DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

- Product residues : Recyclable metal container. Do not puncture or burn even after use. Do not dispose empty pack with waste produced by households. Containers may be recycled. Treat product residues and non-empty pack as hazardous waste.
- Additional warning : Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
- European waste catalogue : Dispose hazardous waste in accordance with Directive 91/689/EEC under acknowledgement of a waste code according to Commission Decision 2000/532/EC to an official chemical waste depot.
- Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

## SECTION 14 TRANSPORT INFORMATION

### 14.1. UN number

UN nr. : UN 1950

### 14.2. UN proper shipping name

Transport name : AEROSOLS

### 14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID/ADN (road/railway/inland waterways)

- Class : 2  
Classification code : 5F  
Packaging group : -  
Danger label : 2,1



Other information : Not intended for carriage by inland waterways in tank-vessels.

IMDG (sea)

- Class : 2  
Packaging group : -  
EmS (fire / spill) : F - D / S - U  
Marine pollutant : No

IATA (air)

- Class : 2

### 14.6. Special precautions for user

Other information : Country specific variations may apply. It is possible that a "Limited Quantity" exemption applies to the transport of this product.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

## SECTION 15 REGULATORY INFORMATION

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

Community regulations : Regulation (EC) No 453/2010 (REACH), Regulation (EC) No 1272/2008 (CLP), 75/324/EEC (aerosols) and other regulations.

: In the UK it is recommended that all aerosols should be labelled on the back with the warning about the dangers of volatile solvent abuse. The label should contain the badge 'Solvent Abuse Can Kill Instantly' accompanied by the phrase 'Use only as directed'.

### 15.2. Chemical safety assessment

Chemical safety assessment : Not applicable.

## SECTION 16 OTHER INFORMATION

### 16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EC) No 453/2010 dated 20 May 2010 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (\*).

Full text of H-phrases mentioned in section 3:

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Full text of hazard classes mentioned in section 3:

Flam. Gas 1	: Flammable gas, category 1.
Press. Gas	: Compressed gas.
Flam. Liq. 2	: Flammable liquid, category 2.
Flam. Liq. 3	: Flammable liquid, hazard category 3.
Acute Tox. 4	: Acute toxicity, category 4.
Skin Irrit. 2	: Skin irritation, category 2.
Eye Irrit. 2	: Eye irritation, category 2.
Skin Sens. 1	: Skin sensitization, category 1.
STOT SE 3	: Specific target organ toxicity after single exposure, category 3.
Asp. Tox. 1	: Aspiration hazard, category 1.
Aquatic Chronic 1	: Hazardous to the aquatic environment — Chronic category 1.

# MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

---

Aquatic Chronic 2 : Hazardous to the aquatic environment — Chronic category 2.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
DNEL	Derived no-effect level
ECETOC TRA	European centre for ecotoxicology and toxicology of chemicals. Targeted risk assessment
EU	European Union
EUSES	European Union System for the Evaluation of Substances
IBC code	Intermediate Bulk Container
LD50 LC50	Lethal Dose/Concentration for 50% of a population
NOAEL	No Observed (Adverse) Effect Level
NOEC	No observed effect concentration
OEL	Occupational exposure limit
PBT	Persistent, Bioaccumulative and Toxic
PC	Chemical product category
PNEC	Predicted no-effect concentration
STP	Sewage Treatment Plant
SU	Sector of Use
SVHC	Substance of very high concern
TWA/STEL	Time-Weighted Average/Short Term Exposure Limit
vPvB	Very Persistent and Very Bioaccumulative

Number format : "," used as decimal separator.