Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

SAFETY DATA SHEET

EF-2202 No Clean Flux 25Ltrs

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

1.1 Product identifier

Product name : **EF-2202 No Clean Flux 25Ltrs**

Product code : 142810.0025

Product description : Not available.

Product type : Liquid.

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

Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Head Office :
Alpha, Alent plc
Forsyth Road
Sheerwater
Woking
Surrey
England
GU21 5RZ
Tel: +44(0)1483 758400
Fax: +44(0)1483 728837

Manufacturer :
Alpha, Alent plc
Koenendelseweg 29
5222 BG
's-Hertogenbosch
The Netherlands
Tel: +31 73 6280 111
Fax: +31 73 6219 283

Contact person : **shosken@alent.com**

Emergency phone: **+44 1483 758400**

Material uses : soldering

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Directive 1999/45/EC [DPD]

Europe

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Repr. Cat. 2; R61

Human health hazards : May cause harm to the unborn child.

Denmark

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Repr. Cat. 2; R61

Human health hazards : May cause harm to the unborn child.

Norway

SECTION 2: Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Repr. Cat. 2; R61

Human health hazards : May cause harm to the unborn child.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard symbol or symbols :

Indication of danger : Toxic

Risk phrases : R61- May cause harm to the unborn child.

Safety phrases : S53- Avoid exposure - obtain special instructions before use.

Hazardous ingredients : bis(2-(2-methoxyethoxy)ethyl) ether

Supplemental label elements : Contains glutaral. May produce an allergic reaction.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Europe					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]
			See Section 16 for the full text of the R-phrases declared above.	**See Section 16 for the full text of the H statements declared above.**	
Austria					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Belgium

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Bulgaria

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	
Croatia					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]
Czech Republic					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Denmark					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Estonia

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Finland

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1] [2]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	
France					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Germany					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Greece					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Hungary

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]

Ireland

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1] [2]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	
Italy					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]
Latvia					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Lithuania					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Netherlands

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]

Norway

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1] [2]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	
Poland					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Portugal					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Romania					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1]

Slovakia

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Slovenia

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1] [2]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	
Spain					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Sweden					
bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]
Switzerland					

SECTION 3: Composition/information on ingredients

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

Turkey

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	[1] [2]

United Kingdom (UK)

bis(2-(2-methoxyethoxy) ethyl) ether	REACH #: 01-2119958965-16 EC: 205-594-7 CAS: 143-24-8	>=0.5 - <5	Repr. Cat. 2; R61 Repr. Cat. 3; R62	Repr. 1B, H360FD (Fertility and Unborn child)	[1]
glutaric acid	EC: 203-817-2 CAS: 110-94-1	>=1 - <5	Xi; R36	Eye Irrit. 2, H319	[1]
succinic acid	REACH #: 01-2119896114-34 EC: 203-740-4 CAS: 110-15-6	>=1 - <5	Xi; R41	Eye Dam. 1, H318	[1]
glutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.5	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334	[1] [2]

SECTION 3: Composition/information on ingredients

				Skin Sens. 1, H317 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

SECTION 4: First aid measures

Inhalation : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

SECTION 6: Accidental release measures

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
Europe	
No exposure limit value known.	
Austria	
glutaral	**GKV_MAK (Austria, 12/2011). Skin sensitiser.** CEIL: 0.2 mg/m³ 15 minutes. CEIL: 0.05 ppm 15 minutes. TWA: 0.2 mg/m³ 8 hours. TWA: 0.05 ppm 8 hours.
Belgium	
glutaral	**Lijst Grenswaarden / Valeurs Limites (Belgium, 11/2011).** M: 0.21 mg/m³ M: 0.05 ppm
Bulgaria	
No exposure limit value known.	
Croatia	
glutaral	**MinGoRP GVI/KGVI (Croatia, 1/2009).** STELV: 0.2 mg/m³ 15 minutes. STELV: 0.05 ppm 15 minutes. ELV: 0.2 mg/m³ 8 hours. ELV: 0.05 ppm 8 hours.
Czech Republic	
glutaral	**MZCR PEL/NPK-P (Czech Republic, 2/2012). Skin sensitiser.** STEL: 0.4 mg/m³ 15 minutes. STEL: 0.0976 ppm 15 minutes. TWA: 0.2 mg/m³ 8 hours. TWA: 0.0488 ppm 8 hours.
Denmark	
glutaral	**Arbejdstilsynet (Denmark, 10/2012).** CEIL: 0.8 mg/m³ CEIL: 0.2 ppm
Estonia	
glutaral	**Sotsiaalminister (Estonia, 10/2007). Skin sensitiser.** *: 0.8 mg/m³ *: 0.2 ppm
Finland	
glutaral	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 12/2011).** CEIL: 0.42 mg/m³ CEIL: 0.1 ppm
France	
glutaral	**Ministère du travail (France, 7/2012). Notes: Ministry of Labour (Brochure INRS Ed 984, July 2012). Indicative exposure limits** STEL: 0.8 mg/m³ 15 minutes. STEL: 0.2 ppm 15 minutes. TWA: 0.4 mg/m³ 8 hours. TWA: 0.1 ppm 8 hours.
Germany	
glutaral	**TRGS900 AGW (Germany, 9/2012). Skin sensitiser.** TWA: 0.2 mg/m³ 8 hours. TWA: 0.05 ppm 8 hours. PEAK: 0.4 mg/m³ 15 minutes. PEAK: 0.1 ppm 15 minutes.
Greece	

SECTION 8: Exposure controls/personal protection

glutaral	**Υπουργείο Εργασίας και Κοινωνικών Υποθέσεων (Greece, 2/2012).** STEL: 0.8 mg/m³ 15 minutes. STEL: 0.2 ppm 15 minutes. TWA: 0.8 mg/m³ 8 hours. TWA: 0.2 ppm 8 hours.
Hungary	
No exposure limit value known.	
Ireland	
glutaral	**NAOSH (Ireland, 5/2010). Skin sensitiser.** OELV-15min: 0.2 mg/m³ 15 minutes. OELV-15min: 0.05 ppm 15 minutes.
Italy	
No exposure limit value known.	
Latvia	
glutaral	**Ministru kabineta - AER (Latvia, 2/2011).** TWA: 5 mg/m³ 8 hours.
Lithuania	
glutaral	**Lietuvos Higienos Normos HN 23 (Lithuania, 10/2007). Skin sensitiser.** CEIL: 0.8 mg/m³ CEIL: 0.2 ppm
Netherlands	
No exposure limit value known.	
Norway	
glutaral	**Arbeidstilsynet (Norway, 12/2011). Skin sensitiser.** CEIL: 0.8 mg/m³ CEIL: 0.2 ppm
Poland	
glutaral	**Rozporządzenie Ministra Pracy i Polityki Społecznej (Dz. U. 2002 Nr 217, poz. 1833, z pózn. zm.) (Poland, 12/2011).** STEL: 0.6 mg/m³ 15 minutes. TWA: 0.4 mg/m³ 8 hours.
Portugal	
glutaral	**Instituto Português da Qualidade (Portugal, 3/2007). Skin sensitiser.** CEIL: 0.05 ppm
Romania	
No exposure limit value known.	
Slovakia	
glutaral	**Nariadenie Vlády Slovenskej republiky (Slovakia, 12/2011). Skin sensitiser.** STEL: 0.2 mg/m³ 15 minutes. TWA: 0.2 mg/m³ 8 hours. TWA: 0.05 ppm 8 hours. STEL: 0.05 ppm 15 minutes.
Slovenia	
glutaral	**Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Slovenia, 12/2010).** TWA: 0.42 mg/m³ 8 hours. TWA: 0.1 ppm 8 hours. KTV: 0.42 mg/m³, 4 times per shift, 15 minutes. KTV: 0.1 ppm, 4 times per shift, 15 minutes.
Spain	

SECTION 8: Exposure controls/personal protection

glutaral	**INSHT (Spain, 1/2012). Skin sensitiser. Inhalation sensitiser.** STEL: 0.2 mg/m³ 15 minutes. STEL: 0.05 ppm 15 minutes.
Sweden	
glutaral	**AFS 2011:18 (Sweden, 12/2011). Skin sensitiser.** CEIL: 0.4 mg/m³ 15 minutes. CEIL: 0.1 ppm 15 minutes.
Switzerland	
glutaral	**SUVA (Switzerland, 1/2013). Skin sensitiser. Notes: not temporary** STEL: 0.42 mg/m³ 15 minutes. STEL: 0.1 ppm 15 minutes. TWA: 0.21 mg/m³ 8 hours. TWA: 0.05 ppm 8 hours.
Turkey	
glutaral	**NIOSH REL (United States, 1/2013).** CEIL: 0.8 mg/m³ CEIL: 0.2 ppm
United Kingdom (UK)	
glutaral	**EH40/2005 WELs (United Kingdom (UK), 12/2011). Skin sensitiser. Inhalation sensitiser.** STEL: 0.2 mg/m³ 15 minutes. STEL: 0.05 ppm 15 minutes. TWA: 0.2 mg/m³ 8 hours. TWA: 0.05 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 8: Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields EN 166 1F

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): disposable vinyl

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: None assigned.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Colourless.

Odour : Odourless.

pH : 2.6 [Conc. (% w/w): 5%]

Melting point/freezing point : 0°C

Initial boiling point and boiling range : 100°C

Flash point : [Product does not sustain combustion.]

Upper/lower flammability or explosive limits : Not available.

Relative density : 1.01

Solubility(ies) : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

VOC content : 2 % (w/w) [ISO % 11890-2]

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
bis(2-(2-methoxyethoxy) ethyl) ether	LD50 Oral	Rat	5140 mg/kg	-
glutaric acid	LD50 Dermal	Rabbit	>10000 mg/kg	-
	LD50 Oral	Rat	2750 mg/kg	-
succinic acid	LD50 Oral	Rat	2260 mg/kg	-
glutaral	LC50 Inhalation Vapour	Rat	480 mg/m³	4 hours
	LD50 Oral	Rat	134 mg/kg	-

Conclusion/Summary : Not available.

Route	ATE value

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
glutaric acid	Skin - Mild irritant	Rabbit	-	0.5 Grams	-
succinic acid	Eyes - Severe irritant	Rabbit	-	750 Micrograms	-
glutaral	Eyes - Severe irritant	Rabbit	-	24 hours 250 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	1 milligrams	-
	Skin - Severe irritant	Human	-	72 hours 6 milligrams Intermittent	-
	Skin - Mild irritant	Rabbit	-	13 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

SECTION 11: Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Eye contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Eye contact : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May cause birth defects.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
succinic acid	Acute EC50 374200 to 400000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
glutaral	Acute EC50 0.75 to 1 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5.4 ppm Fresh water	Fish - Pimephales promelas	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
glutaric acid	-0.29	-	low
succinic acid	-0.59	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste product residues should not be disposed of via the sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

European waste catalogue (EWC)

Waste code	Waste designation
16 03 04	inorganic wastes other than those mentioned in 16 03 03

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG
14.1 UN number	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-
14.3 Transport hazard class(es)	-	-
14.4 Packing group	-	-

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

Other EU regulations

Europe inventory : Not determined.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
bis(2-(2-methoxyethoxy) ethyl) ether	-	-	Repr. Cat. 2; R61	Repr. Cat. 3; R62

National regulations

Austria

Belgium

Bulgaria

Croatia

Czech Republic

Denmark

Estonia

Finland

France

Germany

Hazard class for water : nwg Appendix No. 4

Greece

Hungary

Ireland

Italy

Latvia

Lithuania

Netherlands

Norway

Poland

SECTION 15: Regulatory information

Portugal

Romania

Slovakia

Slovenia

Spain

Sweden

Switzerland

Turkey

United Kingdom (UK)

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

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Notice to reader

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Irrit. 2, H319
Repr. 1B, H360FD (Fertility and Unborn child)

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Irrit. 2, H319	Calculation method
Repr. 1B, H360FD (Fertility and Unborn child)	Calculation method

Europe

Full text of abbreviated H statements :

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 (Respiratory tract irritation)	May cause respiratory irritation. (Respiratory tract irritation)
H360FD (Fertility and Unborn child)	May damage fertility. May damage the unborn child.
H400	Very toxic to aquatic life.

Full text of classifications [CLP/GHS] :

Acute Tox. 1, H330	ACUTE TOXICITY (inhalation) - Category 1
Acute Tox. 3, H301	ACUTE TOXICITY (oral) - Category 3
Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Repr. 1B, H360FD (Fertility and Unborn child)	TOXIC TO REPRODUCTION (Fertility and Unborn child) - Category 1B
Resp. Sens. 1, H334	RESPIRATORY SENSITIZATION - Category 1
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
STOT SE 3, H335 (Respiratory tract irritation)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Full text of abbreviated R phrases :

R61- May cause harm to the unborn child.
R62- Possible risk of impaired fertility.
R23/25- Also toxic by inhalation and if swallowed.
R34- Causes burns.
R41- Risk of serious damage to eyes.
R36- Irritating to eyes.
R42/43- May cause sensitisation by inhalation and skin contact.
R50- Very toxic to aquatic organisms.

Full text of classifications [DSD/DPD] :

Repr. Cat. 2 - Toxic to reproduction category 2
Repr. Cat. 3 - Toxic to reproduction category 3
T - Toxic
C - Corrosive
Xi - Irritant
N - Dangerous for the environment

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.