



SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture: Liqui-Bond EA1805
Registration number: -
Synonyms: None.
Product code: Part A; GB 5, 7, 10 mils
Issue date: 06-February-2014
Version number: 04
Revision date: 12-October-2015
Supersedes date: 02-October-2015

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

Identified uses: Thermally conductive epoxy material used together with Part B.
Uses advised against: None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier: The Bergquist Company
Address: 18930 West 78th Street
Chanhausen, MN. 55317
Non-Emergency calls: 1-800-347-4572
Contact person: AEHMSDS@henkel.com

1.4. Emergency telephone number

Chemical Emergency
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (Collect Calls Accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.
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Hazard summary: Causes skin and eye irritation. May cause an allergic skin reaction. Dangerous for the environment if discharged into watercourses.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin)

Hazard pictograms



Signal word: Warning

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P261	Avoid breathing mist or vapour.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

Storage

Store away from incompatible materials.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Supplemental label information This product is hazardous according to Regulation (EC) No 1272/2008 as amended, therefore a hazard label does apply.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Phenol, polymer with formaldehyde, glycidyl ether	10-15	28064-14-4 -	-	-	
Classification:	Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Aquatic Chronic 2;H411				
Reaction product: bisphenol-A-(epichlorohydrin)	10-15	25068-38-6 500-033-5	-	603-074-00-8	
Classification:	Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Aquatic Chronic 2;H411				
Silane, dichlorodimethyl-, reaction products with silica	1-3	68611-44-9 271-893-4	-	-	
Classification:	-				

SECTION 4: First aid measures

General information

Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation	Move to fresh air. Get medical attention if symptoms occur.
Skin contact	Wash the skin immediately with soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for 15 minutes. Get medical attention if irritation persists.
Ingestion	Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. Sensitisation.

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

SECTION 5: Firefighting measures

General fire hazards	This product is not flammable.
5.1. Extinguishing media	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
5.2. Special hazards arising from the substance or mixture	None.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Avoid contact with skin and eyes.
For emergency responders	Avoid contact with skin and eyes. For personal protection, see Section 8 of the SDS.
6.2. Environmental precautions	Environmental manager must be informed of all major spillages.
6.3. Methods and material for containment and cleaning up	Sweep up or gather material and place in appropriate container for disposal.
6.4. Reference to other sections	For personal protection, see Section 8 of the SDS. For waste disposal, see Section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Provide adequate ventilation. Avoid contact with skin and eyes. Observe good industrial hygiene practices. Wear appropriate personal protective equipment (See Section 8). Persons with epoxy allergy should not work with this product.
7.2. Conditions for safe storage, including any incompatibilities	Store in closed original container in a dry place. Store away from incompatible materials.
7.3. Specific end use(s)	Thermally conductive silicone epoxy material used together with Part B.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAK	5 mg/m ³	Respirable fraction.
		5 mg/m ³	Respirable fume.
		10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.
		10 mg/m ³	Respirable fume.
		10 mg/m ³	Respirable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	Dust.
		1,5 mg/m ³	Respirable fraction.

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAC	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	0,1 mg/m ³	Respirable dust.

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	5 mg/m ³	Total
		2 mg/m ³	Respirable.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
Aluminium oxide (CAS 1344-28-1)	VME	10 mg/m ³

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Inhalable dust.
		1,5 mg/m ³	Respirable dust.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	AGW	10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Inhalable
		10 mg/m ³	Respirable.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Respirable.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.

Italy. OELs

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Decomposition aerosol.
		4 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Inhalable fraction.
		2 mg/m ³	Respirable fraction.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m ³

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	2,5 mg/m ³	Inhalable fraction.
		1,2 mg/m ³	Respirable fraction.

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	5 mg/m ³	Aerosol
	TWA	1,2 ppm	Aerosol
		2 mg/m ³	Aerosol
		0,5 ppm	Aerosol

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Inhalable fraction.
		1,5 mg/m ³	Respirable fraction.
		0,1 mg/m ³	

Spain. Occupational Exposure Limits

Components	Type	Value
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	24 mg/m ³	Fume and respirable dust.
	TWA	3 mg/m ³	Respirable dust.
		3 mg/m ³	Fume and respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.
Derived no-effect level (DNEL)	Not available.
Predicted no effect concentrations (PNECs)	Not available.
Exposure guidelines	No exposure standards allocated.
8.2. Exposure controls	
Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Individual protection measures, such as personal protective equipment	
General information	Use personal protective equipment as required. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Wear approved safety goggles.
Skin protection	
- Hand protection	Use suitable protective gloves if risk of skin contact. Suitable gloves can be recommended by the glove supplier.
- Other	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact chemical protective clothing manufacturer for specific information.
Respiratory protection	In case of inadequate ventilation, use respiratory protection.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Environmental exposure controls	Environmental manager should be informed of all releases, as necessary. Reporting of releases to appropriate regulatory agencies may be required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Colour	Grey.
Odour	Slight.
Odour threshold	Not relevant.
pH	Not relevant.
Melting point/freezing point	Not relevant.
Initial boiling point and boiling range	Not relevant.
Flash point	Not relevant.
Evaporation rate	Not relevant.
Flammability (solid, gas)	Not relevant.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.

Vapour pressure	Not relevant.
Vapour density	Not relevant.
Solubility(ies)	Insoluble
Partition coefficient (n-octanol/water)	Not relevant.
Auto-ignition temperature	Not relevant.
Decomposition temperature	Not relevant.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidising.

9.2. Other information

Bulk density	Not relevant.
Density	2,40 (25 °C)
VOC (Weight %)	Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	None.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Vapours may irritate throat and respiratory system and cause coughing.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion may cause irritation and malaise.

Symptoms Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. Sensitisation.

11.1. Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test results
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitisation	Not classified.	
Skin sensitisation	May cause an allergic skin reaction.	

Germ cell mutagenicity	Not classified.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available.
Other information	None known.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)		
Fish	LC50	Salmo gairdneri
		1,5 mg/l, 96 hours
Aquatic		
Crustacea	EC50	Daphnia magna
		2,7 mg/l, 48 hours

12.2. Persistence and degradability No data available.

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) Not relevant.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil The product is insoluble in water.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	07 02 17 Waste codes should be assigned by the user based on the application for which the product was used.
Disposal methods/information	Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose of in accordance with local regulations.

SECTION 14: Transport information

ADR	
14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID	
14.1. UN number	UN3082

14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally Hazardous Liquid, N.o.s. (Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
ERG Code	9L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Phenol, polymer with formaldehyde, glycidyl ether, Reaction product: bisphenol-A-(epichlorohydrin))
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended
Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended
Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended
Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)

Directive 94/33/EC on the protection of young people at work

Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.

References

Registry of Toxic Effects of Chemical Substances (RTECS)
HSDB® - Hazardous Substances Data Bank

Information on evaluation method leading to the classification of mixture

The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

Full text of any H-statements not written out in full under Sections 2 to 15

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.



SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture Liqui-Bond EA1805
Registration number -
Synonyms None.
Product code Part B; GB 5, 7, 10 mils
Issue date 06-February-2014
Version number 03
Revision date 12-October-2015
Supersedes date 06-February-2014

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

Identified uses Thermally conductive epoxy material used together with Part A.
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier The Bergquist Company
Address: 18930 West 78th Street
Chanhausen, MN. 55317
Non-Emergency calls: 1-800-347-4572
Contact person: AEHMSDS@henkel.com

1.4. Emergency telephone number

Chemical Emergency
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (Collect Calls Accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Hazard pictograms None.
Signal word Not applicable.
Hazard statements Not applicable.

Precautionary statements

Prevention Observe good industrial hygiene practices.
Response Wash thoroughly after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Supplemental label information This product is not hazardous according to Regulation (EC) No 1272/2008 as amended, therefore a hazard label does not apply.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

The components are not hazardous or are below required disclosure limits.

SECTION 4: First aid measures

General information Get medical attention if any discomfort develops.

4.1. Description of first aid measures

Inhalation Move to fresh air. Get medical attention if symptoms occur.
Skin contact Wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion Rinse mouth thoroughly. Get medical attention if any discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed Under normal conditions of intended use, this material does not pose a risk to health.

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

SECTION 5: Firefighting measures

General fire hazards This product is not flammable.

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture None.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Special fire fighting procedures Move containers from fire area if you can do so without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid contact with skin and eyes. For personal protection, see Section 8 of the SDS.
For emergency responders Keep unnecessary personnel away.

6.2. Environmental precautions Environmental manager must be informed of all major spillages.

6.3. Methods and material for containment and cleaning up Sweep up or gather material and place in appropriate container for disposal.

6.4. Reference to other sections For personal protection, see Section 8 of the SDS. For waste disposal, see Section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Provide adequate ventilation. Avoid contact with skin and eyes. Observe good industrial hygiene practices. Wear appropriate personal protective equipment (See Section 8).

7.2. Conditions for safe storage, including any incompatibilities Store in closed original container in a dry place. Store away from incompatible materials.

7.3. Specific end use(s) Thermally conductive silicone epoxy material used together with part A.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAK	5 mg/m ³	Respirable fraction.
		5 mg/m ³	Respirable fume.
	STEL	10 mg/m ³	Inhalable fraction.
		20 mg/m ³	Inhalable fraction.

Austria. MAK List

Components	Type	Value	Form
		10 mg/m3	Respirable fume.
		10 mg/m3	Respirable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Fiberglass (CAS 65997-17-3)	TWA	1000000 fibers/m3	Fiber.
		100000 fibers/m3	Respirable fibers.
		10 mg/m3	Fiber or dust.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	Dust.
Fiberglass (CAS 65997-17-3)	TWA	1,5 mg/m3 1 fibers/cm3	Respirable fraction. Respirable fraction.
		6 mg/m3	Inhalable fraction.

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	10 mg/m3	Fiber or dust.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	0,1 mg/m3	Respirable dust.
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm3	Respirable fibers.
		5 mg/m3	Dust.
		4 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	5 mg/m3	Total
Fiberglass (CAS 65997-17-3)	TLV	2 mg/m3 1 fibers/cm3	Respirable. Fiber.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
Fiberglass (CAS 65997-17-3)	TWA	10 mg/m3 1 fibers/mL	Total dust.

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm3	Respirable.

Finland. Workplace Exposure Limits

Components	Type	Value	Form
		5 mg/m ³	Inhalable dust.

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	
Aluminium oxide (CAS 1344-28-1)	VME	10 mg/m ³	

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Inhalable dust.
		1,5 mg/m ³	Respirable dust.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	AGW	10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Inhalable
		10 mg/m ³	Respirable.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Respirable.
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm ³	Fiber.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm ³	Fiber.
		1 fibers/cm ³	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.
Fiberglass (CAS 65997-17-3)	TWA	2 fibers/cm ³	
		5 mg/m ³	

Italy. OELs

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Decomposition aerosol.
		4 mg/m ³	
Fiberglass (CAS 65997-17-3)	TWA	2 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	0,2 fibers/cm3	Fiber.

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m3	Inhalable fraction.
		2 mg/m3	Respirable fraction.

Netherlands. OELs (binding)

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	0,5 fibers/cc	Respirable fibers.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m3	
Fiberglass (CAS 65997-17-3)	TLV	0,1 fibers/cm3	Fiber.
		5 mg/m3	Total dust.

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	2,5 mg/m3	Inhalable fraction.
		1,2 mg/m3	Respirable fraction.
Fiberglass (CAS 65997-17-3)	TWA	0,5 fibers/cm3	Respirable fibers.
		1 mg/m3	Inhalable fraction.

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Fiberglass (CAS 65997-17-3)	TWA	0,2 fibers/cm3	Fiber.
		5 mg/m3	Inhalable fraction.

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	5 mg/m3	Aerosol
		1,2 ppm	Aerosol
		2 mg/m3	Aerosol
	TWA	0,5 ppm	Aerosol

Romania. OELs/CMRs. Protection of workers from exposure to carcinogen and mutagen agents. Hotarâre Nr. 1093 din 16 august 2006, Annex 3

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm3	Respirable fibers.

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
		0,1 mg/m3	

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value
Fiberglass (CAS 65997-17-3)	TWA	2 fibers/cm ³

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	500000 fibers/cm ³	Dust.

Spain. Carcinogens and Mutagens with Limit Values (Table 2)

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	0,5 fibers/cm ³	Fiber.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm ³	Fiber.

Sweden

Components	Type	Value	Form
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/cm ³	Fiber.

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/mL	

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	24 mg/m ³	Fume and respirable dust.
	TWA	3 mg/m ³	Fume and respirable dust.
		3 mg/m ³	Respirable dust.
Fiberglass (CAS 65997-17-3)	TWA	0,5 fibers/mL	Fiber.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.
Fiberglass (CAS 65997-17-3)	TWA	1 fibers/mL	Fiber.
		5 mg/m ³	Fiber.

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines Follow standard monitoring procedures.

8.2. Exposure controls

Appropriate engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

General information	Use personal protective equipment as required. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Risk of contact: Wear approved safety goggles.
Skin protection	
- Hand protection	Use suitable protective gloves if risk of skin contact. Suitable gloves can be recommended by the glove supplier.
- Other	If prolonged or repeated contact is likely, chemical resistant clothing is recommended.
Respiratory protection	In case of inadequate ventilation, use respiratory protection.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Environmental exposure controls	Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Colour	Grey.
Odour	Slight.
Odour threshold	Not relevant.
pH	Not relevant.
Melting point/freezing point	Not relevant.
Initial boiling point and boiling range	Not relevant.
Flash point	Not relevant.
Evaporation rate	Not relevant.
Flammability (solid, gas)	Not relevant.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not relevant.
Solubility(ies)	Insoluble
Partition coefficient (n-octanol/water)	Not relevant.
Auto-ignition temperature	Not relevant.
Decomposition temperature	Not relevant.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidising.
9.2. Other information	
Bulk density	Not relevant.
Density	2,80 (25 °C)
VOC (Weight %)	Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
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10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	None.

SECTION 11: Toxicological information

General information Under normal conditions of intended use, this material does not pose a risk to health.

Information on likely routes of exposure

Inhalation Vapours may irritate throat and respiratory system and cause coughing.

Skin contact Prolonged skin contact may cause temporary irritation.

Eye contact May cause eye irritation on direct contact.

Ingestion Ingestion may cause irritation and malaise.

Symptoms Under normal conditions of intended use, this material does not pose a risk to health.

11.1. Information on toxicological effects

Acute toxicity Under normal conditions of intended use, this material does not pose a risk to health.

Skin corrosion/irritation Not classified.

Serious eye damage/eye irritation Not classified.

Respiratory sensitisation Not classified.

Skin sensitisation Not classified.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Mixture versus substance information None known.

Other information None known.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous.

12.2. Persistence and degradability No data available.

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) Not relevant.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil The product is insoluble in water.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Contaminated packaging Since emptied containers retain product residue, follow label warnings even after container is emptied.

EU waste code 07 02 17

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions Dispose of in accordance with local regulations.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Fiberglass (CAS 65997-17-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

Fiberglass (CAS 65997-17-3)

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Fiberglass (CAS 65997-17-3)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Fiberglass (CAS 65997-17-3)

Directive 94/33/EC on the protection of young people at work

Fiberglass (CAS 65997-17-3)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.

References

ESIS (European chemical Substances Information System)
Registry of Toxic Effects of Chemical Substances (RTECS)
HSDB® - Hazardous Substances Data Bank

Information on evaluation method leading to the classification of mixture

The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

Full text of any H-statements not written out in full under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

Disclaimer

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