



# 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-Form 3500
Registration number	-
Synonyms	None.
Product code	LF3500
Issue date	27-February-2012
Version number	04
Revision date	11-September-2015
Supersedes date	23-December-2014

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

Identified uses	Electrical insulation and heat conduction.
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 Chanhassen, 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 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)** Electrical insulation and heat conduction.

## 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 <sup>3</sup>	Respirable fraction.
		5 mg/m <sup>3</sup>	Respirable fume.
	STEL	10 mg/m <sup>3</sup>	Inhalable fraction.
		20 mg/m <sup>3</sup>	Inhalable fraction.

**Austria. MAK List**

Components	Type	Value	Form
		10 mg/m <sup>3</sup>	Respirable fume.
		10 mg/m <sup>3</sup>	Respirable fraction.

**Belgium. Exposure Limit Values.**

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

**Czech Republic. OELs. Government Decree 361**

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

**Denmark. Exposure Limit Values**

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

**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 <sup>3</sup>	Inhalable dust.
		1,5 mg/m <sup>3</sup>	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 <sup>3</sup>	Inhalable fraction.
		1,25 mg/m <sup>3</sup>	Respirable fraction.

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

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

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m3	Respirable.

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	

**Ireland. Occupational Exposure Limits**

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

**Italy. OELs**

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m3	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/m3	Decomposition aerosol.
		4 mg/m3	

**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.

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m3	

**Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment**

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

**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

**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.

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

Components	Type	Value	Form
		0,1 mg/m <sup>3</sup>	

**Spain. Occupational Exposure Limits**

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

**Sweden. Occupational Exposure Limit Values**

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

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

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

**UK. EH40 Workplace Exposure Limits (WELs)**

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

**Physical state** Liquid.

<b>Form</b>	Liquid.
<b>Colour</b>	Grey.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not relevant.
<b>pH</b>	Not relevant.
<b>Melting point/freezing point</b>	Not relevant.
<b>Initial boiling point and boiling range</b>	Not relevant.
<b>Flash point</b>	Not relevant.
<b>Evaporation rate</b>	Not relevant.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	Not relevant.
<b>Vapour density</b>	Not relevant.
<b>Relative density</b>	3,1 - 3,2 g/cc (25 °C)
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not relevant.
<b>Auto-ignition temperature</b>	Not relevant.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidising.
<b>9.2. Other information</b>	
<b>VOC (Weight %)</b>	Not available.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	Hazardous polymerisation does not occur.
<b>10.4. Conditions to avoid</b>	Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents. Acids. Bases.
<b>10.6. Hazardous decomposition products</b>	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

<b>Inhalation</b>	Vapours may irritate throat and respiratory system and cause coughing.
<b>Skin contact</b>	Prolonged skin contact may cause temporary irritation.
<b>Eye contact</b>	May cause eye irritation on direct contact.
<b>Ingestion</b>	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

<b>Acute toxicity</b>	Under normal conditions of intended use, this material does not pose a risk to health.
<b>Skin corrosion/irritation</b>	Not classified.
<b>Serious eye damage/eye irritation</b>	Not classified.
<b>Respiratory sensitisation</b>	Not classified.
<b>Skin sensitisation</b>	Not classified.
<b>Germ cell mutagenicity</b>	Not classified.

<b>Carcinogenicity</b>	Not classified.
<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not classified.
<b>Mixture versus substance information</b>	None known.
<b>Other information</b>	None known.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	The product is not classified as environmentally hazardous.
<b>12.2. Persistence and degradability</b>	No data available.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not relevant.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	The product is insoluble in water.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	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.
<b>Contaminated packaging</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.
<b>EU waste code</b>	07 02 17 The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Dispose of contents/container in accordance with local/regional/national/international 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.

<b>14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	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**  
Not listed.

**Directive 94/33/EC on the protection of young people at work**  
Not listed.

#### Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives.

#### 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

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.