

## TECHNICAL INFORMATION : (MS16) Laponite RD

### Product name

Laponite RD

### General description

A synthetic inorganic colloid, free from crystalline silica impurities and environmentally inert.

### Uses

When dispersed in a liquid Laponite RD forms a thixotropic gel allowing water and/or chemicals to be applied to local areas of an object without adjacent areas being affected.

Laponite has been used with great effect to remove stains and adhesive residues from a variety of items including metal, wood, ceramics and paintings. Applied as a gel to the surface of the item and allowed to dry naturally over a course of days Laponite cracks and shrinks to around 50% of its original volume pulling out any staining as it does so (see User tips overleaf).

Reported applications include the removal of glue paste from the back of a painting that has been glue lined by applying water in local places ; the removal of corrosion products from bronze using alkaline glycerol; removal of heavy stains from wooden furniture and ceramics vessels.

Laponite RD was tested by the conservation research section of a leading British Museum (Dove, S. " Laponite RD as a gelling agent " , pp16 Conservation News No 24 , July 1984 \*) for suitability as a gelling agent for localised application of treatment solutions for metal objects and was found to be stable to acids , inert in organic solvents and non-corrosive to copper , lead or silver . The paste took several days to dry out .

# Rockwood Clay Based Additives

## SAFETY DATA SHEET



### Section 1: Identification of the substance/mixture and of the company/undertaking

#### Product identifier

Trade name of the substance	Laponite® RD
Identification Number	-
Registration number	01-2119489772-23-0000
Product registration number	Not available.
Synonyms	None.
Issue date	17-August-2009
Version number	03
Revision date	01-May-2012
Supersedes date	03-February-2012

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

Identified uses	Laponite® products are used to control viscosity and flow properties in water based formulations such as toothpaste, paint, personal care and household cleaning products. Laponite® can impart shear sensitive viscosity and improve syneresis control. Laponite® products are also used to produce antistatic coatings.
Uses advised against	None known

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

##### UK

Company name  
Address

Telephone  
e-mail

##### Germany

Company name  
Address

Telephone  
e-mail

#### Emergency number

#### Website

#### Manufacturer

### Section 2: Hazards identification

#### Classification of the substance or mixture

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

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This substance does not meet the criteria for classification according to Directive 67/548/EEC as amended.

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

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

#### Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Not classified for health hazards.

Environmental hazards Not classified for hazards to the environment.  
 Specific hazards For additional information on inhalation hazards, see Section 11 of this safety data sheet.  
 Main symptoms Not applicable

**Label elements**

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

Identification Number -  
 Hazard statements The substance does not meet the criteria for classification.

**Precautionary statements**

Prevention Not applicable  
 Response Not applicable  
 Storage Not applicable  
 Disposal Not applicable

Supplemental label information Not applicable.

Other hazards None known. Material can be slippery when wet.

**Section 3: Composition/information on ingredients**

**Substance**

**General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Silicic acid, lithium magnesium sodium salt	100	53320-86-8 258-476-2.	01-2119489772-23-0000	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</b> -				

CLP: Regulation No. 1272/2008.  
 DSD: Directive 67/548/EEC.  
 #: This substance has workplace exposure limit(s).  
 PBT: persistent, bioaccumulative and toxic substance.  
 vPvB: very persistent and very bioaccumulative substance.

**Section 4: First aid measures**

General information No hazards which require special first aid measures.

**Description of first aid measures**

Inhalation If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.  
 Skin contact Wash off with soap and water. Get medical attention if irritation develops or persists.  
 Eye contact Get medical attention if irritation develops or persists. Flush eyes with water as a precaution.  
 Ingestion Rinse mouth with water. If ingestion of a large amount does occur, seek medical attention.

Most important symptoms and effects, both acute and delayed None known.

Indication of any immediate medical attention and special treatment needed None known.

**Section 5: Firefighting measures**

General fire hazards Non-combustible, substance itself does not burn.  
 Material can be slippery when wet

**Extinguishing media**

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

Special hazards arising from the substance or mixture The product itself does not burn. No unusual fire or explosion hazards noted. Material can be slippery when wet.

#### Advice for firefighters

Special protective equipment for firefighters	Wear suitable protective equipment. Wear self-contained breathing apparatus and protective clothing.
Special firefighting procedures	No unusual fire or explosion hazards noted.

### Section 6: Accidental release measures

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

For non-emergency personnel	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits.
For emergency responders	Wear appropriate personal protective equipment. Avoid dust formation. Protect against water. Material can be slippery when wet

**Environmental precautions** Do not flush into surface water. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and material for containment and cleaning up** Stop the flow of material, if this is without risk. Sweep up or gather material and place in appropriate container for disposal. Avoid allowing water runoff to contact spilled material. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water. Contaminated surfaces will be extremely slippery.

**Reference to other sections** For personal protection, see section 8. For waste disposal, see section 13.

### Section 7: Handling and storage

**Precautions for safe handling** Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe dust from this material. Avoid contact with skin and eyes. Practice good housekeeping. Keep formation of airborne dusts to a minimum.

**Conditions for safe storage, including any incompatibilities** Store in a well-ventilated place. Keep container tightly closed. Avoid dust formation. Guard against dust accumulation of this material.

**Specific end use(s)** Not available.

### Section 8: Exposure controls/personal protection

#### Control parameters

#### Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Additional components	Type	Value	Form
Nuisance Dust (-)	TWA	10 mg/m <sup>3</sup>	Inhalable dust.
		4 mg/m <sup>3</sup>	Respirable dust.

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

**Recommended monitoring procedures** Follow standard monitoring procedures.

#### DNEL

Components	Type	Route	Value	Form
Silicic acid, lithium magnesium sodium salt (53320-86-8)	Industry	Dermal	40 mg/kg bw/day	as substance
		Inhalation	10 mg/kg bw/day	as substance

#### PNEC

Components	Type	Route	Value	Form
Silicic acid, lithium magnesium sodium salt (53320-86-8)	Not applicable	Water	0.1 mg/l	as substance

#### Exposure controls

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

**Individual protection measures, such as personal protective equipment**

<b>General information</b>	Material can be slippery when wet
<b>Eye/face protection</b>	Wear safety glasses with side shields. Use tight fitting goggles if dust is generated.
<b>Skin protection</b>	
- Hand protection	Use protective skin cream before handling the product. PVC or other plastic material gloves. Protective gloves are recommended.
- Other	Normal work clothing (long sleeved shirts and long pants) is recommended. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Wear a dust mask if dust is generated above exposure limits.
<b>Thermal hazards</b>	None known.
<b>Hygiene measures</b>	Do not breathe dust. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practices.
<b>Environmental exposure controls</b>	Avoid release to the environment. Not assigned.

**Section 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

<b>Appearance</b>	white crystalline powder
<b>Physical state</b>	Solid.
<b>Form</b>	Powder
<b>Colour</b>	White.
<b>Odour</b>	Odourless.
<b>pH</b>	9.8 2% dispersion in water
<b>Melting point/freezing point</b>	>= 900 Fuses
<b>Boiling point, initial boiling point, and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable
<b>Flammability limit - lower (%)</b>	Not applicable
<b>Flammability limit - upper (%)</b>	Not applicable
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Relative density</b>	2.37
<b>Relative density temperature</b>	22 °C (71.6 °F)
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Bulk density</b>	0.70 - 1.30 kg/m3

Viscosity	Not applicable
Percent volatile	0 % estimated
Other data	
Flammability	Not applicable
Flammability class	Not applicable
Surface tension	71.9 mN/m @ 20C and 1000mg/l
Other information	No relevant additional information available.

### Section 10: Stability and reactivity

Reactivity	None known. Material is stable under normal conditions.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Avoid spread of dust. Exposure to air or moisture over prolonged periods.
Incompatible materials	Incompatible with strong acids and oxidizing agents.
Hazardous decomposition products	No dangerous reaction known under conditions of normal use. No hazardous decomposition products are known.

### Section 11: Toxicological information

General information	This product has no known adverse effect on human health.
Information on likely routes of exposure	
Ingestion	Not applicable
Inhalation	Inhalation of dusts may cause respiratory irritation.
Skin contact	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Dust in the eyes will cause irritation. Not applicable
Symptoms	None known.
Information on toxicological effects	
Acute toxicity	Not classified

Product	Test results
Laponite® RD	Acute Dermal LD50 Rabbit: > 2000 mg/kg Acute Inhalation LC50 Rat: > 200 mg/l Acute Oral LD50 Rat: > 2000 mg/kg
Components	Test results
Silicic acid, lithium magnesium sodium salt (53320-86-8)	Dermal LLNA Mouse: 1.1 @ 10%w/w in propylene glycol Acute Dermal LD50 Rabbit: > 2000 mg/kg Acute Dermal PII Rabbit: 0.18 Acute Inhalation LC50 Rat: > 200 mg/l 1.00 hr Acute Oral LD50 Rat: > 2000 mg/kg

\* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified. Dust in the eyes will cause irritation.
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	This product has no known adverse effect on human health.

## Section 12: Ecological information

### Toxicity

Product	Test results
Laponite® RD	EC50 Algae: > 100 mg/l 72.00 hours similar substance LC50 Daphnia: > 100 mg/l 24.00 hours mortality LC50 Daphnia: > 100 mg/l 48.00 hours Mobility LC50 Fish: 100 mg/l 96.00 hours estimated LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss): > 100 mg/l
Components	Test results
Silicic acid, lithium magnesium sodium salt (53320-86-8)	EC50 Algae: > 100 mg/l 72.00 hours similar substance LC50 Daphnia: > 100 mg/l 24.00 hours mortality LC50 Daphnia: > 100 mg/l 48.00 hours Mobility LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss): > 100 mg/l 96.00 hours

\* Estimates for product may be based on additional component data not shown.

Persistence and degradability	Not inherently biodegradable. The methods for determining the biological degradability are not applicable to inorganic substances.
Bioaccumulative potential	Not applicable
Mobility	Not assigned.
Environmental fate - Partition coefficient	Not applicable
Mobility in soil	Not assigned.
Results of PBT and vPvB assessment	Not applicable
Other adverse effects	Not expected to be harmful to aquatic organisms. None known.

## Section 13: Disposal considerations

### Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Material should be recycled if possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Can be landfilled, when in compliance with local regulations.
Contaminated packaging	Empty containers can be landfilled, when in accordance with the local regulations.
EU waste code	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.

## Section 14: Transport information

### ADR

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

## Section 15: Regulatory information

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

### EU regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

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

Not listed.

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

Not listed.

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

Not listed.

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

Not listed.

Commission Decision 2000/479/EC on the implementation of a European pollutant emission register (EPER)

Not listed.

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

### Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. The product is classified and labelled in accordance with EC directives or respective national laws. The product does not need to be labelled in accordance with EC directives or respective national laws. This product is in compliance with Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronics equipment (RoHS).

### National regulations

This substance is not classified as dangerous according to European Union legislation.

### Chemical safety assessment

No Chemical Safety Assessment has been carried out.

### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

## Section 16: Other information

List of abbreviations Not applicable

References Not available.

Information on evaluation method leading to the classification of mixture Not available.



Full text of any statements or R-phrases and H-phrases under Sections 2 to 15	None.
Training information	Not available.
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