

**Trade name :** Lithofin RSG

Revision date : 30.05.2017  
Print date : 13.06.2017

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

### 1.1 Product identifier

Lithofin RSG

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

#### Relevant identified uses

Mixture containing hydrofluoric

#### Remark

The product is intended for professional use.

### 1.3 Supplier (manufacturer/importer/only representative/downstream user/distributor)

**Supplier :** Lithofin AG  
**Street :** Heinrich-Otto-Str. 36  
**Postal code/city :** 73240 Wendlingen  
**Telephone :** +49 (0)7024 9403-0  
**Telefax :** +49 (0)7024 9403-40  
**Contact :** Technical Department  
E-mail: info@lithofin.de

Emergency telephone number:  
+49 (0)7024 9403-0  
(Only available during office hours)

### 1.4 Emergency telephone number

see section 1.3

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Acute Tox. 4 ; H302 - Acute toxicity (oral) : Category 4 ; Harmful if swallowed.

Eye Dam. 1 ; H318 - Serious eye damage/eye irritation : Category 1 ; Causes serious eye damage.

Skin Corr. 1B ; H314 - Skin corrosion/irritation : Category 1B ; Causes severe skin burns and eye damage.

#### Additional information

This mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

#### Remark

Full text of H- and EUH-phrases: see section 16.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

##### Hazard pictograms



Corrosion (GHS05) · Exclamation mark (GHS07)

##### Signal word

Danger

##### Hazard components for labelling

AMMONIUM BIFLUORIDE ; CAS No. : 1341-49-7

FLUOROSILIC ACID 3 % ; CAS No. : 16961-83-4

##### Hazard statements

H314 Causes severe skin burns and eye damage.

H302 Harmful if swallowed.

##### Precautionary statements

P102 Keep out of reach of children.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P405 Store locked up.  
P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

### 2.3 Other hazards

#### Adverse human health effects and symptoms

Due to its pH value (see section 9), irritation of the skin and eyes cannot be ruled out.

### 2.4 Additional information

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous ingredients

AMMONIUM BIFLUORIDE ; REACH registration No. : 01-2119489180-38-xxxx ; EC No. : 215-676-4; CAS No. : 1341-49-7

Weight fraction :  $\geq 5 - < 10 \%$

Classification 1272/2008 [CLP] : Acute Tox. 3 ; H301 Skin Corr. 1B ; H314 Eye Dam. 1 ; H318

FLUOROSILIC ACID ; REACH registration No. : 01-2119488906-19-xxxx ; EC No. : 241-034-8; CAS No. : 16961-83-4

Weight fraction :  $\geq 1 - < 3 \%$

Classification 1272/2008 [CLP] : Skin Corr. 1B ; H314 Eye Dam. 1 ; H318

#### Additional information

All ingredients of this mixture are (pre)registered according to REACH regulation.

Full text of H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps. If unconscious place in recovery position and seek medical advice.

#### Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

#### In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Wash immediately with: Ca-Gluconate solution Immediately remove any contaminated clothing, shoes or stockings. Do not wash with: Cleaning agent, acidic Cleaning agent, alkaline Solvents/Thinner

#### After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### After ingestion

Call a physician immediately. Keep at rest. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

#### Self-protection of the first aider

First aider: Pay attention to self-protection!

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

No information available.

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

No information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water alcohol resistant foam ABC-powder Carbon dioxide (CO<sub>2</sub>) Water spray

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**Unsuitable extinguishing media**

High power water jet Strong water jet

**5.2 Special hazards arising from the substance or mixture**

**Hazardous combustion products**

Carbon monoxide Carbon dioxide (CO<sub>2</sub>) Hydrogen fluoride

**5.3 Advice for firefighters**

Use suitable breathing apparatus.

**Special protective equipment for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

**5.4 Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. The product itself does not burn. Coordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear personal protection equipment (refer to section 8). Provide adequate ventilation. Remove persons to safety.

**6.2 Environmental precautions**

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

**6.3 Methods and material for containment and cleaning up**

**For cleaning up**

Suitable material for taking up: Universal binder

**Other information**

Clear spills immediately.

**6.4 Reference to other sections**

Safe handling: see section 7 Disposal: see section 13 Personal protection equipment: see section 8

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

When using do not eat, drink, smoke, sniff.

**Protective measures**

All work processes must always be designed so that the following is excluded: Inhalation of vapours or spray/mists  
Skin contact Eye contact Wear personal protection equipment (refer to section 8). Always close containers tightly after the removal of product. Do not breathe gas/fumes/vapour/spray. Use only in well-ventilated areas. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

**Measures to prevent fire**

The product is not: Flammable Usual measures for fire prevention.

**Fire class :** -

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep/Store only in original container.

**Hints on joint storage**

**Storage class (TRGS 510) :** 8B

**Recommended storage temperature** 5 - 25 °C

**Further information on storage conditions**

Keep locked up and out of reach of children. Keep container tightly closed in a cool, well-ventilated place.

**7.3 Specific end use(s)**

**Recommendation**

Observe technical data sheet. Observe instructions for use.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

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AMMONIUM BIFLUORIDE ; CAS No. : 1341-49-7  
Limit value type (country of origin) : TRGS 900 ( D )  
Parameter : E: inhalable fraction  
Limit value : 2,5 mg/m<sup>3</sup>  
Peak limitation : 2(II)  
Version : 04.11.2017  
Limit value type (country of origin) : TRGS 903 ( D )  
Parameter : Fluoride / Urine (U) / End of exposure or end of shift  
Limit value : 7 mg/g Kr  
Version : 31.03.2004  
Limit value type (country of origin) : TRGS 903 ( D )  
Parameter : Fluoride / Urine (U) / Before next shift  
Limit value : 4 mg/g Kr  
Version : 31.03.2004  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 2,5 mg/m<sup>3</sup>  
Version : 08.06.2000  
FLUOROSILIC ACID ; CAS No. : 16961-83-4  
Limit value type (country of origin) : TWA ( EC )  
Limit value : 2,5 mg/m<sup>3</sup>  
Version : 08.06.2000

## 8.2 Exposure controls

### Personal protection equipment

#### Eye/face protection

##### Suitable eye protection

Eye glasses with side protection goggles

##### Required properties

DIN EN 166

#### Skin protection

##### Hand protection

**Suitable gloves type** : Gloves with long cuffs

**Suitable material** : Data apply to the main component. Butyl caoutchouc, 0,5mm, >8h; FKM (fluoro rubber), 0,7mm, >8h;

**Recommended glove articles** : Manufacturer KCL GmbH/Eichenzell-Germany; Ansell/Yarra City-Australia Or comparable articles from other companies.

**Additional hand protection measures** : Check leak tightness/impermeability prior to use.

**Remark** : Breakthrough times and swelling properties of the material must be taken into consideration. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Body protection

Protective clothing.

**Suitable protective clothing** : Chemical protection clothing Chemical resistant safety shoes

**Required properties** : acid-resistant.

**Recommended protective clothing articles** : DIN EN ISO 20345 DIN EN 13034 DIN EN 14605 DIN EN 14404

**Remark** : Barrier creams are not substitutes for body protection.

#### Respiratory protection

Usually no personal respiratory protection necessary. Respiratory protection necessary at: insufficient ventilation aerosol or mist formation. high concentrations spray application

##### Suitable respiratory protection apparatus

Combination filtering device (EN 14387) Half-face mask (DIN EN 140) ABEK-P1

##### Remark

Use only respiratory protection equipment with CE-symbol including four digit test number. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

#### General health and safety measures

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Wash contaminated clothing prior to re-use. Wash hands before breaks and after work. Apply skin care products after work.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance :** liquid

**Colour :** colourless

**Odour :** odourless

#### Safety relevant basis data

Freezing point :	( 1013 hPa )		-3 °C	
Initial boiling point and boiling range :	( 1013 hPa )	approx.	100 °C	
Decomposition temperature :	( 1013 hPa )		not determined	
Flash point :			not applicable	closed cup
Ignition temperature :			not determined	
Sustaining combustion			No	UN Test L2:Sustained combustibility test
Lower explosion limit :			not determined	
Upper explosion limit :			not determined	
Vapour pressure :	( 50 °C )	<	3000 hPa	
Density :	( 20 °C )	approx.	1 g/cm <sup>3</sup>	Pyknometer
Solvent separation test :	( 20 °C )	<	3 %	
Water solubility	( 20 °C )		miscible	
pH :		approx.	2	
log P O/W :			not determined	
Flow time :	( 23 °C )	<	15 s	ISO cup 4 mm
Odour threshold :			not determined	
Vapourisation rate :			not determined	
VOC-FR			not applicable	

### 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

### 10.4 Conditions to avoid

No hazardous reaction when handled and stored according to provisions.

### 10.5 Incompatible materials

The product develops hydrogen in an aqueous solution in contact with metals.

### 10.6 Hazardous decomposition products

Does not decompose when used for intended uses.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

##### Acute oral toxicity

Parameter :	LD50 ( AMMONIUM BIFLUORIDE ; CAS No. : 1341-49-7 )
Exposure route :	Oral
Species :	Rat
Effective dose :	130 mg/kg
Method :	OECD 401

##### Acute inhalation toxicity

Parameter :	LC50 ( AMMONIUM BIFLUORIDE ; CAS No. : 1341-49-7 )
Exposure route :	Inhalation
Species :	Mouse

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Effective dose : 342 mg/l  
Exposure time : 1 h

**Specific symptoms in animal studies**

No data available

**Irritant and corrosive effects**

**Assessment/classification**

Causes serious eye damage. Causes severe burns.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**Carcinogenicity**

No indication of human carcinogenicity.

**Germ cell mutagenicity**

**In vivo mutagenicity**

**Other information**

No experimental indications of in vivo mutagenicity exist.

**Human toxicological data**

**Other information**

No indications of human germ cell mutagenicity exist.

**Reproductive toxicity**

**Practical experience/human evidence**

No indications of human reproductive toxicity exist.

**Overall Assessment on CMR properties**

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity**

**Acute (short-term) fish toxicity**

Parameter :	LC50 ( AMMONIUM BIFLUORIDE ; CAS No. : 1341-49-7 )
Species :	Fish
Effective dose :	562 mg/l
Exposure time :	96 h
Parameter :	LC50 ( FLUOROSILIC ACID ; CAS No. : 16961-83-4 )
Species :	Fish
Effective dose :	50 mg/l
Exposure time :	96 h

**Sediment toxicity**

**Toxicity to soil macroorganisms**

**Acute earthworm toxicity**

**Chronical earthworm toxicity (reproduction)**

**Long-term toxicity of organisms living in the sediment**

**Effects in sewage plants**

Observe local regulations concerning effluent treatment. Before discharge into sewage plants the product normally needs to be neutralised.

**12.2 Persistence and degradability**

No data available

**Abiotic degradation**

**Abiotic degradation in Water**

**Hydrolysis**

**Biodegradation**

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

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#### 12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

#### 12.6 Other adverse effects

No data available

#### 12.7 Additional ecotoxicological information

##### Additional information

The product has not been tested.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Dispose according to legislation.

##### Product/Packaging disposal

###### Waste codes/waste designations according to EWC/AVV

###### Waste code product

Waste code (91/689/EEC) : 16 03 03\*

###### Waste code packaging

Waste code packaging: 15 01 10\*

###### Waste treatment options

29/35 - Do not empty into drains; dispose of this material and its container in a safe way. Delivery to an approved waste disposal company.

###### Appropriate disposal / Package

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of.

#### 13.2 Additional information

These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use.

### SECTION 14: Transport information

#### 14.1 UN number

UN 2922

#### 14.2 UN proper shipping name

##### Land transport (ADR/RID)

CORROSIVE LIQUID, TOXIC, N.O.S. ( AMMONIUM BIFLUORIDE · FLUOROSILICIC ACID )

##### Sea transport (IMDG)

CORROSIVE LIQUID, TOXIC, N.O.S. ( AMMONIUM BIFLUORIDE · FLUOROSILICIC ACID )

##### Air transport (ICAO-TI / IATA-DGR)

CORROSIVE LIQUID, TOXIC, N.O.S. ( AMMONIUM BIFLUORIDE · FLUOROSILICIC ACID · HYDROFLUORIC ACID )

#### 14.3 Transport hazard class(es)

##### Land transport (ADR/RID)

Class(es) : 8  
Classification code : CT1  
Hazard identification number (Kemler No.) : 86  
Tunnel restriction code : E  
Special provisions : LQ 11 · E 2  
Hazard label(s) : 8 / 6.1

##### Sea transport (IMDG)

Class(es) : 8  
EmS-No. : F-A / S-B  
Special provisions : LQ 11 · E 2 · Segregation Group 1 - Acids · Segregation Group 2 - Ammonium Compounds  
Hazard label(s) : 8 / 6.1

##### Air transport (ICAO-TI / IATA-DGR)

Class(es) : 8 / 6.1  
Special provisions : E 2  
Hazard label(s) : 8 / 6.1

#### 14.4 Packing group

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- 14.5 Environmental hazards**  
Land transport (ADR/RID) : No  
Sea transport (IMDG) : No  
Air transport (ICAO-TI / IATA-DGR) : No
- 14.6 Special precautions for user**  
None

**SECTION 15: Regulatory information**

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

**EU legislation**

REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (clp)

Directive 2008/98/EC of the European Parliament and of the Council on waste (2000/532/EC)

EN 2:1992 (DIN EN 2:2005-01)

**Other regulations (EU)**

Regulation (EC) No. 648/2004 (Detergents regulation) Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work. (Directive 2000/39/EC, Directive 2006/15/EC, Directive 2009/161/EC)

**National regulations**

Observe in addition any national regulations! TRGS 510

**Water hazard class (WGK)**

Class : 1 (Slightly hazardous to water) Classification according to VwVwS

**Other regulations, restrictions and prohibition regulations**

**VOCV-Regulation (CH)**

Maximum VOC content (Switzerland) : < 3 Wt % according to VOCV

**15.2 Chemical safety assessment**

No information available.

**15.3 Additional information**

**SECTION 16: Other information**

**16.1 Indication of changes**

03. Hazardous ingredients

**16.2 Abbreviations and acronyms**

None

**16.3 Key literature references and sources for data**

None

**16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]**

No information available.

**16.5 Relevant H- and EUH-phrases (Number and full text)**

H301 Toxic if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

**16.6 Training advice**

None

**16.7 Additional information**

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily



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valid for the new made-up material.

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