

## Safety data sheets of chemicals and consumable solutions



Silica Analyser

## Digox 602 *silica*

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If the Operating Instruction is translated into different languages, the German version shall be deemed the original one.

## General Information

This technical information contains instructions of the necessary chemicals and solutions of the Digox 601 *silica* analyser.

For reasons of clarity, this document may not provide all detailed information about all types or models or all possible cases of installation or operation of the device.

Please read this documentation thoroughly before carrying out any use, installation and commissioning work and pay attention to the safety guidelines. In case of damage caused by the non-observance of the operating instructions, Dr. Thiedig GmbH & Co KG shall not assume any liability. Warranty claims shall also become unenforceable if spare parts and operating chemicals are used which have not been supplied by Dr. Thiedig.

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The device support for the Digox 60x product line and its components is carried out by our subsidiary Dr. Leye GmbH.

Should you require further information or in case of any problems which are not extensively covered by this document, you can directly request such information from:

Dr. Thiedig GmbH & Co KG  
Prinzenallee 78-79  
13357 Berlin  
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[www.dr-leye.com](http://www.dr-leye.com)

We would also like to point out that any warranties in the sense of our general terms and conditions of delivery are only assumed if:

- the preparation of chemicals must be executed according the given advices into this manual only,
- only OEM chemicals must be used.

If these operating instructions are translated into another language, the German original shall take precedence at all times.

## Safety notes



Liability is excluded for damage to the wet section of the analyser or for measuring inaccuracies caused by the improper use of operating chemicals, such as confusion of chemicals, wrong mixing ratios, contaminated water, impure or aged chemicals.

### WARNING



Installation, connection work, adjustment work, commissioning, decommissioning and service of the device must be carried out exclusively by authorized and qualified personnel and according to all applicable safety regulation.  
Only tools which are suitable for the intended application may be used!

### DANGER



The safety information provided within the safety data sheets of the chemicals that are used for the device must be complied. The PPE (Personal Protective Equipment) has to be selected according to the safety data sheets and safety information and has to be worn when handling the device!



The Digox 602 *silica* may only be operated, commissioned, serviced or repaired by persons who are familiar with the correct handling of the analyser and have read and understood the instructions of this Operating Manual. We recommend keeping this Operating Manual handy for future reference at the location of the Digox 602 *silica*.

The reagent solutions or sets contain hazardous substances that may cause hazards to persons or to the environment if not properly used. Therefore, all relevant regulations in force in the respective country such as the Ordinance on Hazardous Substances (*Gef.StoffV*) in Germany must be strictly adhered to.

Each dry chemical container comes with a label that shows:

- the name and item number of the reagent,
- the hazard symbol and
- the date of manufacture.

To avoid confusion, the containers are also marked with coloured dots that correspond to the appropriate screw-in caps on the device.

## Storage of chemicals and consumable solutions

The necessary chemicals will be always delivered as dry chemical sets. Only the stock solution will be delivered in liquid form. The storage advices given from the safety data sheets must be observed.



Prepared liquid chemicals must be stored under dust free, dry and air-conditioned conditions. Prepared chemicals have a maximum durability of 6 months!

The delivered mixed-bed resin must be stored under the same conditions than the dry chemicals!

## List of chemicals and consumable solutions

Original chemicals provide Dr. Leye GmbH must be used only. Malfunctions causes by using of non-original chemicals are not covered by the warranty.

Description	Order no.	Remark
Set of reagents (dry chemicals) for Digox 602 silica Durability: 12 months (DB10007901)	10007901 [1003972]	Consumable material
Sulphuric acid 25% for analysis <b>(must be purchased locally!)</b> (TSDB-18)		Consumable material
Stock solution 25000 ppb SiO <sub>2</sub> (250 ml) for Digox 602 silica Durability: 6 months (TSDB-07)	10008264 [1004713]	Consumable material
Mixed bed resin (200 ml) Durability: 6 months (TSDB-11)	10001743 [1003563]	Consumable material

## Instructions for preparation of reagent solutions

Chemicals or consumable solutions are exclusively supplied and delivered as dry chemicals and must be dissolved in silicate-free water (ultra-pure water).



Any such work must be carried out by duly trained and authorized personnel only.

### DANGER



The safety information provided within the safety data sheets of the chemicals that are used for the device must be complied. The PPE (Personal Protective Equipment) resulting from the safety data sheets must be worn during preparation and handling of chemicals!

### WARNING



The PPE include, in any case, gloves and tightly fitting safety goggles. The material and the protective class of the gloves must be selected according to the safety data sheets.



### NOTICE



Before preparing new chemicals, the reagent containers must be thoroughly washed with silicate-free ultra-pure water. When mixing the chemicals, the reagent containers must be sealed with the original sealing caps included in the supply!

#### Dry chemicals kit (Art.-Nr.: 10007901 [1003972]) (marked green)

- Reagent 1 (for reagent solution RL1a)
- Reagent 2a (for reagent solution RL2)
- Reagent 2b (for reagent solution RL2)
- Reagent 3 (for reagent solution RL3)

#### To be procured locally

- 1 litre of 25% sulphuric acid, puriss. p.a. in a plastic bottle (f.e. MERCK 100716) (for reagent solutions RL1b und RL3)
- approx. 6 litre silicate-free ultra-pure water (cleaned water via a strongly alkaline anion exchanger or an appropriate mixed-bed ion exchanger)

#### Reagent solution 1a (RL 1a) – part of staining solution

Fill 0.5 litre of silicate-free ultra-pure water in the 1.0-litre polyethylene bottle. Then add reagent 1 (dry chemical), close the bottle tightly and mix by shaking vigorously until the dry chemical is fully dissolved. After that, fill the bottle up to 1,000 ml (⇒ marking) with silicate-free ultra-pure water, close it tightly and mix again by shaking.

**Reagent solution 1b (RL 1b) – part of staining solution**

Fill 0.5 litre of silicate-free ultra-pure water in the 1.0-litre polyethylene bottle. Then carefully add 370 ml of 25% sulphuric acid, close the bottle tightly and mix by shaking vigorously. After that, fill the bottle up to 1,000 ml ( $\Rightarrow$  marking) with silicate-free ultra-pure water, close it tightly and mix again by shaking.

**Reagent solution 2 (RL 2) – masking solution**

Fill 1.5 litre of silicate-free ultra-pure water in the 2.0-litre polyethylene bottle. Then add reagents 2a and 2b (dry chemical), close the bottle tightly and mix by shaking vigorously until the dry chemical will be fully dissolved. After that, fill the bottle up to 2,000 ml ( $\Rightarrow$  marking) with silicate-free ultra-pure water, close it tightly and mix again by shaking.

**Reagent solution 3 (RL 3) – reduction solution**

Fill 1.5 litre of silicate-free ultra-pure water in the 2.0-litre polyethylene bottle. Then carefully add 87 ml of 25% sulphuric acid. After that, add reagent 3 (dry chemical), close the bottle tightly and mix by shaking vigorously until the dry chemical will be fully dissolved. After that, fill the bottle up to 2,000 ml ( $\Rightarrow$  marking) with silicate-free ultra-pure water, close it tightly and mix again by shaking.

**Furthermore required consumption chemicals**

- 250 ml stock solution 25000 ppb  $\text{SiO}_2$  (item no.: 10008264)

## **Safety data sheets chemicals and consumable solutions**

The safety data sheets for the necessary chemicals and consumable solutions are included at the following pages.



**Set of reagents (dry substances)**

Version number: TL 1.0

DB10007901

Date of compilation: 11.12.2018

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**Set of reagents (dry substances)** (solid matter)

Registration number (REACH)

the substance is exempted from the obligation to register

Item number (Thiedig)

10007901, 10001739, 10009086

Item number (Leye)

1003899, 1003972, 1004500

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

Relevant identified uses

Laboratory and analytical use

**1.3 Details of the supplier of the safety data sheet**

Dr. Thiedig GmbH & Co KG  
Prinzenallee 78-79  
13357 Berlin  
Germany

Telephone: +49 (0) 30/49 77 69-0

Telefax: +49 (0) 30/49 77 69-25

e-mail: info@thiedig.com

Website: www.thiedig.com

National contact

Dr. Leye GmbH, Fr.-Engels-Str. 14, 09326 Geringswalde, Germany

Telephone: +49 (0) 37382/842-0

e-Mail: service@dr-leye.com

Website: www.dr-leye.com

e-mail (competent person)

poppitz@dr-leye.com (Elisabeth Poppitz)

**1.4 Emergency telephone number**

Emergency information service

+49 (0) 551/1 92 40

Giftinformationszentrum-Nord (GIZ-Nord), 24/7

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

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

Section	Hazard class	Cat-egory	Hazard class and category	Hazard state-ment
2.7	flammable solid	1	Flam. Sol. 1	H228
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.11	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16.

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### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

GHS02, GHS05, GHS07



- Hazard statements

H228 Flammable solid.  
 H302+H332 Harmful if swallowed or if inhaled.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.

- Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P240 Ground and bond container and receiving equipment.  
 P241 Use explosion-proof equipment.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.  
 P501 Dispose of contents/container to an authorized waste treatment facility.


### 2.3 Other hazards

of no significance

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

All ingredients are listed


Name of substance	Other names or synonyms	Identifier	Wt%	Classification acc. to GHS	Pictograms
Reagent 1	Sodium molybdate dihydrate	CAS No 10102-40-6 EC No 231-551-7	40 – 48		
Reagent 2a	Oxalic acid dihydrate	CAS No 6153-56-6 EC No 205-634-3	35 – 42	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Skin Corr. 1C / H314 Eye Dam. 1 / H318	
Reagent 3	Ammonium iron(II) sulphate hexahydrate	CAS No 7783-85-9 EC No 233-151-8	8 – 18		

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Name of substance	Other names or synonyms	Identifier	Wt%	Classification acc. to GHS	Pictograms
Reagent 2b	Sodium dodecyl sulfate	CAS No 151-21-3  EC No 205-788-1	2 – 4	Flam. Sol. 1 / H228 Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 3 / H335 Aquatic Chronic 3 / H412	

For full text of abbreviations: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

##### Following skin contact

Brush off loose particles from skin. Rinse skin with water/shower.

##### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Circulatory collapse. Irritant effects. Cough. Nausea. Vomiting. Cardiovascular disorders. Shortness of breath. Spasms. Disturbance of the central nervous system. Toxic effects on liver and kidneys.

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water, Foam, Alcohol resistant foam, ABC-powder

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

##### Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Sulphur dioxide (SO<sub>2</sub>), If heated: Vapours may form explosive mixtures with air

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance. Gases and vapours suppress with water spray.

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### SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety. Provision of sufficient ventilation.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

Advices on how to contain a spill

Covering of drains. Take up mechanically.

Advices on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Control of dust. Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Ground/bond container and receiving equipment.

- Specific notes/details

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Conditions of storage

Storage temperature of 5 °C and up to 30 °C. Store in a dry place.

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**- Ventilation requirements**

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.  
Use local and general ventilation.

**- Packaging compatibilities**

Only packagings which are approved (e.g. acc. to ADR) may be used.

**7.3 Specific end use(s)**

There is no additional information.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

These information are not available.

**8.2 Exposure controls**

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

**- Hand protection**

In the case of wanting to use the gloves again, clean them before taking off and air them well.

**- Material thickness**

0.11 mm

**- Breakthrough times of the glove material**

>480 minutes (permeation: level 6)

**- Recommended protective gloves (trademark/  
manufacturer)**

KCL 741 Dermatril® L  
KCL GmbH, D-36124 Eichenzell

**- Other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.  
Wash hands thoroughly after handling. Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

Physical state	solid
Colour	various
Odour	characteristic

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**Other safety parameters**

pH (value)	not applicable
Melting point	not determined
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	flammable solid in accordance with GHS criteria
Explosion limits of dust clouds	not determined
Vapour pressure	not determined
Density	not determined
Vapour density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined

**Partition coefficient**

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not relevant (solid matter)
Explosive properties	none
Oxidising properties	none

**9.2 Other information** there is no additional information

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains re-active substance(s). Risk of ignition.

If heated:

Risk of ignition

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Photosensitive. Release of water of crystallisation on heating.

**10.3 Possibility of hazardous reactions**

Chlorates, Sodium hypochlorite, Silver, Salts of halogenated oxygen acids, Alkalies, Ammonia (NH<sub>3</sub>), Mercury

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### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 10.5 Incompatible materials

Oxidisers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Harmful if swallowed. Harmful if inhaled.

##### - Acute toxicity estimate (ATE)

Oral	375 mg/kg
Inhalation: dust/mist	1,5 mg/l/4h

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

The classification criteria for these hazard classes are not met.

##### Germ cell mutagenicity

The classification criteria for this hazard class are not met.

##### Carcinogenicity

The classification criteria for this hazard class are not met.

##### Reproductive toxicity

The classification criteria for this hazard class are not met.

##### Specific target organ toxicity - single exposure

May cause respiratory irritation.

##### Specific target organ toxicity - repeated exposure

The classification criteria for this hazard class are not met.

##### Aspiration hazard

The classification criteria for this hazard class are not met.

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**SECTION 12: Ecological information****12.1 Toxicity**

Acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.  
Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 2, obviously hazardous to water (Germany)

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Other adverse effects**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Product residues should be disposed of in accordance with Directive 2008/98/EC on waste as well as national and regional regulations.

Waste treatment of containers/packages

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

**SECTION 14: Transport information**

- |  |   |
|--|---|
| <b>14.1 UN number</b>  | 3316  |
| <b>14.2 UN proper shipping name</b>  | CHEMICAL KIT  |
| <b>14.3 Transport hazard class(es)</b>   |   |
| Class  | 9 (miscellaneous dangerous substances and articles) |
| <b>14.4 Packing group</b>  | II (substance presenting medium danger)             |
| <b>14.5 Environmental hazards</b>  |   |
| <b>14.6 Special precautions for user</b>                                       |   |
| Provisions for dangerous goods (ADR) should be complied within the premises.   |   |
| <b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b> |   |
| The cargo is not intended to be carried in bulk.                               |   |



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### Information for each of the UN Model Regulations

#### **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

UN number	3316
Proper shipping name	CHEMICAL KIT
- Particulars in the transport document	UN3316, CHEMICAL KIT, 9, II, (E)
Class	9
Classification code	M11
Packing group	II
Danger label(s)	9



Special provisions (SP)	251, 340
Excepted quantities (EQ)	see SP340
Limited quantities (LQ)	see SP251
Transport category (TC)	2
Tunnel restriction code (TRC)	E

#### **International Maritime Dangerous Goods Code (IMDG)**

UN number	3316
Proper shipping name	CHEMICAL KIT
- Particulars in the shipper's declaration	UN3316, CHEMICAL KIT, 9, II
Class	9
Marine pollutant	-
Packing group	II
Danger label(s)	9



Special provisions (SP)	251, 340
Excepted quantities (EQ)	E0
Limited quantities (LQ)	-> SP 251
EmS	F-A, <u>S-P</u>
Stowage category	A

#### **International Civil Aviation Organization (ICAO-IATA/DGR)**

UN number	3316
Proper shipping name	Chemical kit
- Particulars in the shipper's declaration	UN3316, Chemical kit, 9, II
Class	9
Packing group	II
Danger label(s)	9

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Special provisions (SP)	A44, A163
Excepted quantities (EQ)	E0
Limited quantities (LQ)	1 kg

### SECTION 15: Regulatory information

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

##### National regulations (Germany)

**Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)**

Wassergefährdungsklasse, WGK 2 obviously hazardous to water  
(water hazard class)

##### Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK) 8 A (combustible corrosive materials)

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information

**Indication of changes (revised safety data sheet)** replaces version of:

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Sol.	Flammable solid

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Abbr.	Descriptions of used abbreviations
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STOT SE	Specific target organ toxicity - single exposure
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
vPvB	Very Persistent and very Bioaccumulative

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

Code	Text
H228	Flammable solid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**Stock solution 25000 ppb SiO<sub>2</sub>**Version number: TL 1.2  
Replaces version of: 04.08.2017

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Date of compilation: 15.08.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name	<b>Stock solution 25000 ppb SiO<sub>2</sub></b> (fluid)
Registration number (REACH)	the substance is exempted from the obligation to register not relevant (mixture)
Item number (Thiedig)	10008264, 10007900
Item number (Leye)	1004713, 1003902

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

Relevant identified uses	Laboratory and analytical use
--------------------------	-------------------------------

**1.3 Details of the supplier of the safety data sheet**

Dr. Thiedig GmbH & Co KG  
Prinzenallee 78-79  
13357 Berlin  
Germany

Telephone: +49 (0) 30/49 77 69-0  
Telefax: +49 (0) 30/49 77 69-25  
e-mail: info@thiedig.com

Website: www.thiedig.com

National contact  
Dr. Leye GmbH, Fr.-Engels-Str. 14, 09326 Geringswalde, Germany  
Telephone: +49 (0) 37382/842-0  
e-Mail: service@dr-leye.com  
Website: www.dr-leye.com

e-mail (competent person) poppitz@dr-leye.com (Elisabeth Poppitz)

**1.4 Emergency telephone number**

Emergency information service	+49 (0) 551/1 92 40 Giftinformationszentrum-Nord (GIZ-Nord), 24/7
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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)  
This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 (CLP)  
not required

**Stock solution 25000 ppb SiO<sub>2</sub>**

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**2.3 Other hazards**

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not relevant (mixture)

**3.2 Mixtures**

Aqueous solution of the substance.

Trade name

stock solution 25000 ppb SiO<sub>2</sub>

Hazardous ingredients acc. to EU regulation, Consideration of other advice

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

Following skin contact

Take off contaminated clothing.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth immediately and drink plenty of water.

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

Symptoms and effects are not known to date.

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

none

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO<sub>2</sub>)

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

Hazardous combustion products

None

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### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

Advices on how to contain a spill

Covering of drains

Advices on how to clean up a spill

Collect spillage: Sawdust, Kieselgur (diatomite), Sand, Universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

Control of effects

Protect against external exposure, such as

Frost

**Stock solution 25000 ppb SiO<sub>2</sub>**

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**Conditions of storage**

Storage temperature of 5 °C and up to 30 °C. Store in a dry place. Keep container tightly closed.

**7.3 Specific end use(s)**

See section 16 for a general overview.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

These information are not available.

**8.2 Exposure controls****Appropriate engineering controls**

General ventilation.

**Individual protection measures (personal protective equipment)****Eye/face protection**

Wear eye/face protection.

**Skin protection****- Hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

**- Type of material**

CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber

**- Material thickness**

0.11 mm

**- Breakthrough times of the glove material**

>480 minutes (permeation: level 6)

**- Recommended protective gloves  
(trademark/manufacturer)**

KCL GmbH, D-36124 Eichenzell

**- Other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls**

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

Physical state	liquid
Colour	colourless
Odour	odourless

**Other safety parameters**

pH (value)	not determined
Melting point	not determined
Initial boiling point and boiling range	100 °C at 1.013 hPa
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Vapour pressure	23 hPa at 20 °C
Density	1 g/cm <sup>3</sup> at 20 °C
Vapour density	this information is not available
Solubility(ies)	not determined

**Partition coefficient**

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidising properties	none



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**9.2 Other information**

Of no significance.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

No known hazardous reactions.

**10.4 Conditions to avoid**

Temperatures above the melting point.

**10.5 Incompatible materials**

There is no additional information.

**10.6 Hazardous decomposition products**

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Test data are not available for the complete mixture.

**Classification procedure**

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Classification according to GHS (1272/2008/EC, CLP)**

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**Acute toxicity**

The classification criteria for this hazard classes are not met.

**Skin corrosion/irritation**

The classification criteria for this hazard class are not met.

**Serious eye damage/eye irritation**

The classification criteria for this hazard class are not met.

**Respiratory or skin sensitisation**

The classification criteria for this hazard classes are not met.

**Germ cell mutagenicity**

The classification criteria for this hazard class are not met.

**Carcinogenicity**

The classification criteria for this hazard class are not met.

**Stock solution 25000 ppb SiO<sub>2</sub>**

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**Reproductive toxicity**

The classification criteria for this hazard class are not met.

**Specific target organ toxicity - single exposure**

The classification criteria for this hazard class are not met.

**Specific target organ toxicity - repeated exposure**

The classification criteria for this hazard class are not met.

**Aspiration hazard**

The classification criteria for this hazard class are not met.

**SECTION 12: Ecological information****12.1 Toxicity**

Acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment. nwg, non-hazardous to water

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Other adverse effects**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Waste treatment-relevant information**

Recycling/reclamation of other inorganic materials.

**Sewage disposal-relevant information**

Do not empty into drains. Avoid release to the environment. Product residues should be disposed of in accordance with Directive 2008/98/EC on waste as well as national and regional regulations.

**Waste treatment of containers/packagings**

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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**SECTION 14: Transport information**

- |  |   |
|--|---|
| <b>14.1 UN number</b>  | not subject to transport regulations                                  |
| <b>14.2 UN proper shipping name</b>  | not relevant  |
| <b>14.3 Transport hazard class(es)</b>   | none  |
| <b>14.4 Packing group</b>  | not relevant  |
| <b>14.5 Environmental hazards</b>  | non-environmentally hazardous acc. to the dangerous goods regulations |
| <b>14.6 Special precautions for user</b>                                       | There is no additional information.                                   |
| <b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b> | The cargo is not intended to be carried in bulk.                      |

**Information for each of the UN Model Regulations****Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

Not subject to ADR, RID and ADN.

**International Maritime Dangerous Goods Code (IMDG)**

Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR)**

Not subject to ICAO-IATA.

**SECTION 15: Regulatory information**

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- National regulations (Germany)**
- Ordinance on facilities for handling substances hazardous to water (AwSV, German ordinance on facilities for handling substances that are hazardous to water) (AwSV)**
- Water hazard class - WHC                      nwg   non-hazardous to water - is not to be classified  
(Wassergefährdungsklasse)
- Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)**
- Storage class (LGK)                              12 (non-combustible liquids)
- 15.2 Chemical Safety Assessment**
- Chemical safety assessments for substances in this mixture were not carried out.

## Stock solution 25000 ppb SiO<sub>2</sub>

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

replaces version of: 04.08.2017 ( 1 )

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes
3.2		Hazardous ingredients acc. to EU regulation, Consideration of other advice: This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.	yes
4.1		Following skin contact: Take off contaminated clothing.	yes
4.2		Most important symptoms and effects, both acute and delayed: Symptoms and effects are not known to date.	yes
11.1	Symptoms related to the physical, chemical and toxicological characteristics		yes
11.1	If in eyes: Risk of blindness		yes
16	Indication of changes (revised safety data sheet): replaces version of: 13.12.2011 ( L-00 5 )	Indication of changes (revised safety data sheet): replaces version of: 04.08.2017 ( 1 )	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

**Stock solution 25000 ppb SiO<sub>2</sub>**Version number: TL 1.2  
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Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
vPvB	Very Persistent and very Bioaccumulative

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Classification procedure**

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**Mixed-bed resin for Digox 60X silica**

Version number: TL 1.0

TSDB-11

Date of compilation: 04.08.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**Mixed-bed resin for Digox 60X silica** (particle)

Registration number (REACH)

the substance is exempted from the obligation to register not relevant (mixture)

Item number (Thiedig)

10001743

Item number (Leye)

1003563

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

Relevant identified uses

Laboratory and analytical use

**1.3 Details of the supplier of the safety data sheet**

Dr. Thiedig GmbH & Co KG  
Prinzenallee 78-79  
13357 Berlin  
Germany

Telephone: +49 (0) 30/49 77 69-0  
Telefax: +49 (0) 30/49 77 69-25  
e-mail: info@thiedig.com

Website: www.thiedig.com

National contact  
Dr. Leye GmbH, 09326 Geringswalde, Fr.-Engels-Str. 14, Germany  
Telephone: +49 (0) 37382/842-0  
e-Mail: service@dr-leye.com  
Website: www.dr-leye.com  
e-mail (competent person)

poppitz@dr-leye.com (Elisabeth Popnitz)

**1.4 Emergency telephone number**

Emergency information service

+49 (0) 551/1 92 40  
Giftinformationszentrum-Nord (GIZ-Nord), 24/7

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

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

Section	Hazard class	Cat-egory	Hazard class and category	Hazard state-ment
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations: see SECTION 16.

## Mixed-bed resin for Digox 60X silica

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### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

GHS05



- Hazard statements

H318 Causes serious eye damage.

- Precautionary statements

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

- Hazardous ingredients for labelling

Styrene-divinylbenzene copolymer w. sulphonic acid group in Hydrogen form, Styrene-divinylbenzene copolymer w. ammonium group in Hydroxide form

### 2.3 Other hazards

of no significance

## SECTION 3: Composition/information on ingredients

### 3.1 Substances



Not relevant (mixture)

### 3.2 Mixtures

Trade name

Mixed-bed resin for Digox 60X silica

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Styrene-divinylbenzene copolymer w. sulphonic acid group in Hydrogen form	CAS No 69011-20-7  EC No 614-895-6	20 – 30	Eye Dam. 1 / H318	
Styrene-divinylbenzene copolymer w. ammonium group in Hydroxide form	CAS No 69011-18-3  EC No 639-871-2	15 – 25	Eye Dam. 1 / H318	

For full text of abbreviations: see SECTION 16.

## Mixed-bed resin for Digox 60X silica

Version number: TL 1.0

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General notes

Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air. Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

##### Following skin contact

Take off contaminated clothing. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. If irritation persists: Call a physician immediately.

##### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Consult an ophthalmologist immediately.

##### Following ingestion

Rinse mouth with water (only if the person is conscious). Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. In case of unconsciousness place person in the recovery position. Never give anything by mouth. If irritation persists: Call a physician immediately.

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

Conjunctival redness of the eyes. Causes tears. Irritant effects. Nausea. Vomiting. Risk of blindness. Shortness of breath.

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water, Water mist, Foam, ABC-powder

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

##### Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

##### Special protective equipment for firefighters

Protective clothing against liquid chemicals, Wear self-contained breathing apparatus



## Mixed-bed resin for Digox 60X silica

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Date of compilation: 04.08.2017

### SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

Advices on how to contain a spill

Covering of drains, Take up mechanically

Advices on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

Control of effects

Protect against external exposure, such as

Frost

## Mixed-bed resin for Digox 60X silica

Version number: TL 1.0

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Date of compilation: 04.08.2017

### Conditions of storage

Storage temperature of 5 °C and up to 40 °C. Store in a dry place. Keep container tightly closed in a cool place. Keep container tightly closed. Protected from light.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

These information are not available.

### 8.2 Exposure controls

#### Appropriate engineering controls

Eye shower, emergency shower. General ventilation.

#### Individual protection measures (personal protective equipment)

##### Eye/face protection

Use safety goggle with side protection.

##### Skin protection

##### - Hand protection

Chemical protection gloves are suitable, which are tested according to EN 374.

##### - Type of material

PVC: polyvinyl chloride, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber

##### - Material thickness

0.11 mm

##### - Breakthrough times of the glove material

>60 minutes (permeation: level 3)

##### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Wear suitable protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

##### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	solid (particle)
Colour	red brown - grey
Odour	faintly perceptible

**Mixed-bed resin for Digox 60X silica**

Version number: TL 1.0

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Date of compilation: 04.08.2017

**Other safety parameters**

pH (value)	6 – 8
Melting point	not determined
Initial boiling point and boiling range	not determined
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Explosion limits of dust clouds	not determined
Vapour pressure	not determined
Density	1,13 kg/l
Vapour density	this information is not available
Bulk density	750 kg/m <sup>3</sup>
Solubility(ies)	not determined
- Water solubility	In water: insoluble
Partition coefficient	
- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not relevant (solid matter)
Explosive properties	none
Oxidising properties	none

**9.2 Other information**

Of no significance.

## Mixed-bed resin for Digox 60X silica

Version number: TL 1.0

TSDB-11

Date of compilation: 04.08.2017

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

#### 10.2 Chemical stability

See below "Conditions to avoid".

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

#### 10.5 Incompatible materials

Oxidisers

#### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

The classification criteria for this hazard classes are not met.

Skin corrosion/irritation

The classification criteria for this hazard class are not met.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

The classification criteria for this hazard classes are not met.

Germ cell mutagenicity

The classification criteria for this hazard class are not met.

Carcinogenicity

The classification criteria for this hazard class are not met.

Reproductive toxicity

The classification criteria for this hazard class are not met.

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Specific target organ toxicity - single exposure

The classification criteria for this hazard class are not met.

Specific target organ toxicity - repeated exposure

The classification criteria for this hazard class are not met.

Aspiration hazard

The classification criteria for this hazard class are not met.

Symptoms related to the physical, chemical and toxicological characteristics

If in eyes:

Causes serious eye damage

If inhaled:

Corrosive to the respiratory tract

### SECTION 12: Ecological information

#### 12.1 Toxicity

Acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Administrative Regulation on Substances Hazardous to Water (VwVwS). WGK 1, slightly hazardous to water (Germany)

#### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Other adverse effects

Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Product residues should be disposed of in accordance with Directive 2008/98/EC on waste as well as national and regional regulations.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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### SECTION 14: Transport information

- 14.1 UN number** not subject to transport regulations
- 14.2 UN proper shipping name** not relevant
- 14.3 Transport hazard class(es)**  
Class -
- 14.4 Packing group** not relevant
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**  
There is no additional information.
- 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**  
The cargo is not intended to be carried in bulk.

### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR, RID and ADN.

#### International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

##### Deco-Paint Directive (2004/42/EC)

VOC content	45 %
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##### Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content	45 %
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##### National regulations (Germany)

##### Administrative Regulation on Substances Hazardous to Water (VwVwS)

 Water hazard class - WHC 1 slightly hazardous to water - classification acc. to annex 3/annex 4 (VwVwS)  
 (Wassergefährdungsklasse)

##### Technical instructions on air quality control (Germany)

Number	Group of substances	Class	Conc.	Mass flow	Mass concentration	Notation
5.2.5	organic substances		≥ 25 wt%	0,5 kg/h	50 mg/m³	3)

Notation

3) a total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m³, each of which to be indicated as total carbon, shall not be exceeded (except organic particulate matter)

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### Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK) 11 (combustible solids)

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

**Indication of changes (revised safety data sheet)** replaces version of:

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

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**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Classification procedure**

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

Code	Text
H318	Causes serious eye damage.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.



Notes:

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