



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 4.0

Revision: 05.07.2018

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

- **1.1 Product identifier**
- **Trade name:** *Reaktionstrennmittel FL 22*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU23 *Electricity, steam, gas water supply and sewage treatment*
- **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- **Application of the substance / the mixture** *Agent for reaction separation.*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*BEKO TECHNOLOGIES GMBH
Im Taubental 7
D - 41468 Neuss
Tel.: +49 (0) 2131 988-0
Fax: +49 (0) 2131 988-900
E-Mail: msds@beko-technologies.com*
- www.beko-technologies.com*
- **Informing department:**
Information available by telephone number for respective country given above.
- **1.4 Emergency telephone number:**
Informationszentrale gegen Vergiftungen Bonn Tel. +49 (0) 228 / 19240

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

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- **Hazard pictograms**



GHS05

- **Signal word** *Danger*

- **Hazard-determining components of labelling:**

Aluminium sulfate 14-hydrate

calcium dihydroxide

- **Hazard statements**

H315 Causes skin irritation.

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.

P332+P313 If skin irritation occurs: Get medical advice/attention.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

- **Description:** Mix of the substances listed below including additives not requiring identification.

- **Dangerous components:**

CAS: 16828-12-9 EINECS: 233-135-0 Reg.nr.: 01-2119531538-xxxx	Aluminium sulfate 14-hydrate ☠ Eye Dam. 1, H318	25-<50%
CAS: 1305-62-0 EINECS: 215-137-3 Reg.nr.: 01-2119475151-45-xxxx	calcium dihydroxide ☠ Eye Dam. 1, H318; ☠ Skin Irrit. 2, H315; STOT SE 3, H335	10-<25%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information**

Instantly remove any clothing soiled by the product.

Contaminated work clothing should not be allowed out of the workplace.

Wash contaminated clothing before reuse.

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.

- **After skin contact** Instantly wash with water and soap and rinse thoroughly.

- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.

- **After swallowing**

Rinse mouth.

In case of persistent symptoms consult doctor.

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

No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
The product itself does not burn.
Extinguishing powder, foam or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Sulphur dioxide (SO₂)
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Avoid contact with eyes and skin.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Collect mechanically.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of dust.
Avoid contact with eyes and skin.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Store cool and dry in tightly closed receptacles.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class** 13
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:

1305-62-0 calcium dihydroxide

WEL Long-term value: 5 mg/m³

· DNELs

1305-62-0 calcium dihydroxide

Inhalative	Worker - Long term - Local effects	1 mg/m ³
	Consumer - Long term - Local effects	1 mg/m ³
	Worker - Acute - Local effects	4 mg/m ³
	Consumer - Acute - Local effects	4 mg/m ³

· PNECs

1305-62-0 calcium dihydroxide

PNEC aqua (freshwater)	0.49 mg/l
PNEC Soil	1,080 mg/kg

· **Additional information:** The lists that were valid during the compilation were used as basis.

· 8.2 Exposure controls

· Personal protective equipment

· General protective and hygienic measures

Keep away from foodstuffs, beverages and food.

Avoid contact with the eyes and skin.

Wash hands during breaks and at the end of the work.

Take off immediately all contaminated clothing

· Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Filter P2

· Protection of hands:



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves** NR, ≥ 0.5 mm thick.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Powder
Colour:	Light grey
Odour:	Uncharacteristic.

· **pH-value at 20 °C:** 6.5 - 9

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- | | |
|--|--|
| · Change in condition
Melting point/freezing point: | Not determined |
| Initial boiling point and boiling range: | Not determined |
| · Flash point: | Not applicable |
| · Self-inflammability: | Product is not selfigniting. |
| · Explosive properties: | Product is not explosive. |
| · Density at 20 °C | 2.2 g/cm ³ |
| · Settled apparent density at 20 °C | 0.95 kg/m ³ |
| · Solubility in / Miscibility with Water: | Partly soluble. |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
None in case of intended use and storage in compliance with instructions.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

16828-12-9 Aluminium sulfate 14-hydrate

Oral	LD50	>2,000 mg/kg (Rat)
Dermal	LD50	>5,000 mg/kg (Rabbit)
Inhalative	LC50/4 h	>5 mg/l (Rat)

1305-62-0 calcium dihydroxide

Oral	LD50	>2,000 mg/kg (Rat) (OECD 425)
Dermal	LD50	>2,500 mg/kg (Rabbit) (OECD TG 402)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

16828-12-9 Aluminium sulfate 14-hydrate

EC50 (48 h)	>160 mg/l (Daphnia magna) (OECD TG 202)
LC50 (96 h)	>1,000 mg/l (Danio rerio) (OECD TG 203)

1305-62-0 calcium dihydroxide

EC50 (72 h)	184.57 mg/l (algae)
EC50 (48 h)	49.1 mg/l (Daphnia magna)
LC50 (96 h)	158 mg/l (Daphnia magna)
	50.6 mg/l (fish)
	160 mg/l (Gambusia affinis) (IUCLID)
NOEC (72 h)	48 mg/l (algae)

- **12.2 Persistence and degradability** No further relevant information available.

- **12.3 Bioaccumulative potential** No further relevant information available.

- **12.4 Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

The waste code numbers mentioned are recommendations based on the probable use of the product.

- **European waste catalogue**

19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
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- **Uncleaned packagings:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Dispose of packaging according to regulations on the disposal of packagings.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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SECTION 14: Transport information

· 14.1 UN-Number · ADR/RID/ADN, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR/RID/ADN, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR/RID/ADN, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR/RID/ADN, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Because the formulation was not available, the material safety data sheet is based on the information of the material safety data sheet of the supplier.

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
- **Department issuing data specification sheet:**
The safety data sheets were drawn up in cooperation with the Umweltkanzlei Dr.Rhein Beratungs- und Prüfgesellschaft mbH, Phone: +49 5066 900990.
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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*DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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