

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

- **1.1 Product identifier**
- Trade name: **BENAMIN Lang Granulat**
- Article number: 251224
- **1.2 Relevant identified uses of the substance or mixture and uses advised against -**
- Application of the substance / the mixture  
 Disinfectant  
 Water treatment
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 BWT AG  
 Walter Simmer Straße 4  
 A - 5310 Mondsee  
 AUSTRIA  
 Tel.: +43/6232/5011-0  
 Fax: +43/6232/4058  
 email: office@bwt.at
- **Further information obtainable from:**  
 Abteilung F&E - Chemikalienbeauftragter  
 Tel.: +43/6232/5011-1427  
 email: msds-info@bwt-group.com
- **1.4 Emergency telephone number:**  
 Vergiftungsinformation Wien  
 Tel.: +43/1-406 43 43

## SECTION 2: Hazards identification

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



GHS03 flame over circle

Ox. Sol. 2      H272 May intensify fire; oxidiser.



GHS05 corrosion

Skin Corr. 1B      H314 Causes severe skin burns and eye damage.

Eye Dam. 1      H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Acute Tox. 4      H302 Harmful if swallowed.

STOT SE 3      H335 May cause respiratory irritation.

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

(Contd. on page 2)

**Trade name: BENAMIN Lang Granulat**

(Contd. of page 1)

**Hazard pictograms**


GHS03 GHS05 GHS07 GHS09

**Signal word Danger**
**Hazard-determining components of labelling:**

 calcium hypochlorite  
 calcium dihydroxide

**Hazard statements**

 H272 May intensify fire; oxidiser.  
 H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H335 May cause respiratory irritation.  
 H400 Very toxic to aquatic life.

**Precautionary statements**

 P221 Take any precaution to avoid mixing with combustibles.  
 P260 Do not breathe dusts or mists.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.  
 P310 Immediately call a POISON CENTER/doctor.  
 P405 Store locked up.

**Additional information:**

EUH031 Contact with acids liberates toxic gas.








**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:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 7778-54-3 EINECS: 231-908-7	calcium hypochlorite	 Ox. Sol. 2, H272  Skin Corr. 1B, H314  Aquatic Acute 1, H400  Acute Tox. 4, H302	50-100%
CAS: 1305-62-0 EINECS: 215-137-3	calcium dihydroxide	 Eye Dam. 1, H318	2.5-10%
CAS: 10043-52-4 EINECS: 233-140-8	calcium chloride	 Eye Irrit. 2, H319	≤2.5%
CAS: 10137-74-3 EINECS: 233-378-2	calcium chlorate	 Ox. Liq. 2, H272	≤2.5%

(Contd. on page 3)

**Trade name: BENAMIN Lang Granulat**

(Contd. of page 2)

 · **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:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

 · **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

 · **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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

 · **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

Coughing

Nausea

Gastric or intestinal disorders

Breathing difficulty

 · **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:** Water

 · **For safety reasons unsuitable extinguishing agents:**

Carbon dioxide

Extinguishing powder

 · **5.2 Special hazards arising from the substance or mixture** No further relevant information available.

 · **5.3 Advice for firefighters**

 · **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

 \* **SECTION 6: Accidental release measures**

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

Ensure adequate ventilation

Keep away from ignition sources.

Avoid formation of dust.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

 · **6.2 Environmental precautions:**

Keep contaminated washing water and dispose of appropriately.

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

 · **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

(Contd. on page 4)

**Trade name: BENAMIN Lang Granulat**

(Contd. of page 3)

See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
 Use only in well ventilated areas.  
 Keep away from heat and direct sunlight.  
 Store in cool, dry place in tightly closed receptacles.  
 Thorough dedusting.
- **Information about fire - and explosion protection:**  
 The product is not flammable.  
 Substance/product is oxidising when dry.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.
- **Information about storage in one common storage facility:**  
 Store away from flammable substances.  
 Store away from reducing agents.  
 Do not store together with acids.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class:** 5.1B
- **7.3 Specific end use(s)** No further relevant information available.

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

- **Additional information about design of technical facilities:** No further data; see item 7.
  - **8.1 Control parameters**
  - **Ingredients with limit values that require monitoring at the workplace:**
- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>1305-62-0 calcium dihydroxide</b> |                                      |
| WEL                                  | Long-term value: 5 mg/m <sup>3</sup> |
- **Additional information:** The lists valid during the making were used as basis.
  - **8.2 Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.
  - **Respiratory protection:**  
 Use suitable respiratory protective device when high concentrations are present.  
 Filter P2  
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  - **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

**Trade name: BENAMIN Lang Granulat**

(Contd. of page 4)

**Material of gloves**

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**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 goggles

**Body protection:**

Apron

Boots

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

Form:	Granulate
Colour:	Whitish
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value at 20 °C: 11

**Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

Flash point: Not applicable.

Flammability (solid, gas): Contact with combustible material may cause fire.

**Ignition temperature:**

Decomposition temperature: 170-180 °C

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Not determined.

**Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

Vapour pressure: Not applicable.

Density at 20 °C:	1,1 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.

Solubility in / Miscibility with water at 20 °C: 18 %

Partition coefficient: n-octanol/water: Not determined.

(Contd. on page 6)

**Trade name: BENAMIN Lang Granulat**

(Contd. of page 5)

· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0,0 %
<b>Solids content:</b>	100,0 %
· <b>9.2 Other information</b>	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**  
 Reacts with alcohols, amines, aqueous acids and alkalis.  
 Reacts with flammable substances.  
 Reacts with strong oxidising agents.  
 Contact with acids releases toxic gases.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
 Chlorine  
 Poisonous gases/vapours

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
 Harmful if swallowed.

· <b>LD/LC50 values relevant for classification:</b>
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7778-54-3 calcium hypochlorite		
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Oral	LD50	850 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation**  
 Causes severe skin burns and eye damage.
- **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**  
 May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.

(Contd. on page 7)

**Trade name: BENAMIN Lang Granulat**



(Contd. of page 6)

- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Must not reach sewage water or drainage ditch undiluted or unneutralised.  
 Danger to drinking water if even small quantities leak into the ground.  
 Also poisonous for fish and plankton in water bodies.  
 Very toxic for aquatic organisms
- **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 be specially treated adhering to official regulations.  
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN2880
- **14.2 UN proper shipping name**
- **ADR** 1479 OXIDIZING SOLID, N.O.S.
- **IMDG** CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, MARINE POLLUTANT
- **IATA** CALCIUM HYPOCHLORITE, HYDRATED MIXTURE
- **14.3 Transport hazard class(es)**
- **ADR, IMDG**
- 

- **Class** 5.1 Oxidising substances.
- **Label** 5.1

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- **IATA**
- 
- **Class** 5.1 Oxidising substances.
- **Label** 5.1

(Contd. on page 8)



**Trade name: BENAMIN Lang Granulat**

(Contd. of page 7)

· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	<b>II</b>
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b> · <b>Special marking (ADR):</b>	<i>Product contains environmentally hazardous substances: calcium hypochlorite</i> <i>Yes</i> <i>Symbol (fish and tree)</i> <i>Symbol (fish and tree)</i>
· <b>14.6 Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Segregation groups</b>	<i>Warning: Oxidising substances.</i> <i>50</i> <i>F-H,S-Q</i> <i>Hypochlorites</i>
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	<i>Not applicable.</i>
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>  · <b>Transport category</b> · <b>Tunnel restriction code</b>	<i>1 kg</i> <i>Code: E2</i> <i>Maximum net quantity per inner packaging: 30 g</i> <i>Maximum net quantity per outer packaging: 500 g</i> <i>2</i> <i>E</i>
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	<i>1 kg</i> <i>Code: E2</i> <i>Maximum net quantity per inner packaging: 30 g</i> <i>Maximum net quantity per outer packaging: 500 g</i>
· <b>UN "Model Regulation":</b>	<i>UN1479, OXIDIZING SOLID, N.O.S., 5.1, II</i>

### 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.
- **Seveso category**  
*P8 OXIDISING LIQUIDS AND SOLIDS*  
*E1 Hazardous to the Aquatic Environment*
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Relevant phrases**  
*H272 May intensify fire; oxidiser.*  
*H302 Harmful if swallowed.*  
*H314 Causes severe skin burns and eye damage.*  
*H318 Causes serious eye damage.*  
*H319 Causes serious eye irritation.*

(Contd. on page 9)



**Trade name: BENAMIN Lang Granulat**

(Contd. of page 8)

*H400 Very toxic to aquatic life.*

· **Department issuing SDS:** *Abteilung Produktsicherheit*

· **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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Ox. Liq. 2: Oxidizing liquids – Category 2*

*Ox. Sol. 2: Oxidizing solids – Category 2*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*

· **\* Data compared to the previous version altered.**