

**1 Name of the substance/preparation and the company**

**1.1 Product information**

Product Code: ART. 1060 - Trade Name: SPIRITO LIBERO

**1.2 Relevant identified uses of the substance or mixture and uses not recommended**

Description/Usage: SMOOTHED WALL FACING BASED ON SLAKED LIME PUTTY

**1.3 Information on the supplier of the safety data sheet**

Supplier: Giorgio Graesan & Friends s.a.s. Di Shila Graesan, Via Bergamo 24  
20037 Paderno Dugnano MI (IT) - Phone: +39 02 99039560 - Fax: +39 02 99039590  
Email of the person responsible: tecnico@giorgiograesan.it

**1.4 Emergency telephone number:** For urgent inquiries refer to +39 0299039541

**2 Hazard Identification**

**2.1 Classification of the substance or mixture:** The product is not classified as hazardous as per Directive (EC) 1272/2008 (CLP) (and subsequent amendments), in accordance with Directive (EC) 1907/2006 and subsequent amendments.

**2.2 Directive 1272/2008 (CLP) and subsequent amendments**

Classification and hazard statements: Information not available.

**2.3 Label elements**

Danger pictograms		
Notices	WARNING	DANGER
Hazard statements	H315 It causes skin irritation	H318 It causes serious eye damage

**2.4 Safety - Warning - Prevention**

P264: Wash the body parts come into contact after use.  
P280: Wear protective gloves / protective clothing / Protect eyes / face.

**Response:**

P302 + P352: P302 + P352: IN CASE OF SKIN CONTACT: Wash with plenty of soap and water.  
P321: Specific treatment (see label).  
P332 + P313: In case of skin irritation: consult a doctor.  
P362: Take off contaminated clothing and wash before reuse.

**2.5 Safety - Risk - Prevention**

P280: Wear protective gloves / protective clothing / Protect eyes / face.  
**Response:** P305 + P351 + P338: IN CASE OF EYES CONTACT: Wash immediately, remove any contact lenses, then continue to wash with copious amounts of running water.  
P310: Immediately call a POISON CENTER or physician.  
SDS: Safety Data Sheet available on www.giorgiograesan.it

**2.6 Other hazards:** Information not available.

**3 Composition / Information on ingredients**

Chemical name	N° CAS	Classification (67/548/CEE)	Classification REG. (CE) N. 272/2008	Conc. [%]
Calcium hydroxide	1305-62-0	Xi, R36/38 e 41	Skin Irrit. 2; H315Eye Dam.1; H318	22 - 27

**4 First Aid Measures**

**4.1 Description of first aid measures**

EYES: Remove any contact lenses. Wash immediately thoroughly with water for at least 30/60 min. Consult a doctor.  
SKIN: Take off all contaminated clothing. Take a shower immediately. Consult a doctor.  
INGESTION: Make drink water as much as possible. Consult a doctor.  
INHALATION: Call a medic immediately. Rescuer must take adequate precautions.

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

No known episodes of damage to health attributable to the product.

**4.3 Whether you must seek immediate medical attention and special treatment**

Information not available.

**5 Fire Fighting Measures**

**5.1 Fire Extinguishing**

SUITABLE EXTINGUISHING MEDIA: Extinguishing media are the conventional: carbon dioxide, foam, powder and nebulised water.  
NOT SUITABLE EXTINGUISHING MEDIA: None in particular.

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

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE: Do not breathe combustion products.

**5.3 Advice for firefighters**

GENERAL INFORMATION: cool the containers by spraying with water to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention equipment. Collect extinguishing water to prevent the product to percolate in drains. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.  
EQUIPMENT: normal clothes to fight the fire, as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame-resistant gloves (EN 659) and Firefighter boots (HO A29 or A30).

**6 Accidental release measures**

6.1 Personal Protection, protective equipment and emergency procedures: If fumes or powders are released into the air, adopt a respiratory protection. These guidelines apply to both clerks and those who work for the emergency interventions.

6.2 Environmental precautions: Do not allow the product to percolate in drains, watercourses, or open water.

6.3 Methods and materials for containment and cleaning up: Remove most of the material and eliminate the remainder using jets of water. The disposal of contaminated material must be made in accordance with section 13.

6.4 Reference to other sections: Any information on personal protection and disposal is given in sections 8 and 13.

**7 Handling and Storage**

7.1 Precautions for safe handling: Handle the product after consulting all other sections in this security sheet. Avoid dispersal of the product in the environment. Do not eat, drink or smoke while handling it.

7.2 Conditions for safe storage, including any incompatibilities: Keep the product in clearly labeled containers.

Store containers away from any incompatible materials, checking section 10.

7.3 Specific end use: Information not available.

**8 Exposure control / personal protection equipment**

8.1 Control parameters: Information not available.

8.2 Exposure controls: Observe the safety measures used in handling chemical substances.

HANDS PROTECTION: Not required.

SKIN PROTECTION: Not required.

EYES PROTECTION: Not required.

PROTECTION OF RESPIRATORY TRACTS: In case of exceeding the threshold value (eg. TLV-TWA) of the substance or one or more of the substances present in the product, consider wearing a mask with type A filter, whose class (1, 2 or 3) will be chosen according to the maximum concentration of use. (Ref. EN 14387). In the case were present gases or vapors of a different nature and/or gases or vapors with particles (aerosols, fumes, mists, etc.) you should make use of combined type filters. The use of means of respiratory protection is required if the technical measures taken are not sufficient to limit worker exposure to the considered threshold values. The protection provided by masks is in any case limited. In the case where the substance in question is odorless or its olfactory threshold is higher than the relative TLV-TWA and in case of emergency, wear an open circuit compressed air breathing apparatus (ref. Standard EN 137) or an outside air breathing apparatus (ref. standard EN 138). For the correct choice of respiratory protection device, refer to Standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS: Emissions from production processes, including those from ventilation should be checked for the purposes of compliance with environmental protection.

**9 Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties**

Physical State: Very thick paste

Colour: Not available

Odour: Slight, typical

Olfactory threshold: Not available

PH: 12,5+/-0,2

Melting Point: 0°C.

Boiling Point: > 100°C

Boiling Range: Not available

Flashpoint: Non inflammable (water based)

Evaporation rate: Not available

Flammability of solids and gases: Non inflammable (water based)

Lower flammability limit: Not available

Upper flammability limit: Not available

Lower explosive limit: Not available

Upper explosive limit: Not available

Vapour Pressur: Not available

Density of vapours: Not available

Relative density: 1.56 +/-0.01 Kg/liter at 20°C

Solubility in water: Not available

Distribution coefficient/n-octano/water: Not available

Auto-ignition temperature: Not available

Decomposition temperature: 580°C

Viscosity: 30000 mPas (brookfield,sensor 7.10 rpm,20°C)

Explosive properties: Not available

Oxidizing properties: Not available

**9.2 Other information**

Dry weight: not applicable

VOC (Directive 2004/42/EC): 0 g/liter

VOC (volatile carbon): not applicable

**10 Stability and Reactivity**

10.1 Reactivity: In aqueous media Ca (OH) 2 dissociates to form calcium cations and hydroxyl

anions (when below the limit of solubility in water).

10.2 Chemical stability: This product is considered stable in normal usage and storage conditions.

10.3 Possibility of hazardous reactions: Calcium dihydroxide reacts exothermically with acids. When heated above 580°C, it decomposes producing calcium oxide and water:  $\text{Ca(OH)}_2 \rightarrow \text{CaO} + \text{H}_2\text{O}$ . The calcium oxide (CaO) reacts with water and generates heat, which can be a risk in the presence of flammable material.

10.4 Conditions to avoid: Minimize exposure to air and moisture to avoid degradation.

10.5 Incompatible materials: Calcium dihydroxide reacts exothermically with acids producing salts. In the presence of moisture reacts with aluminum and brass developing hydrogen.  $\text{Ca(OH)}_2 + 2\text{Al} + 6\text{H}_2\text{O} \rightarrow \text{Ca(Al(OH)}_4)_2 + 3\text{H}_2$ . The calcium oxide (CaO) reacts with water and generates heat, which can be a risk in the presence of flammable material.

10.6 Hazardous decomposition products: Calcium dihydroxide reacts with carbon dioxide to form calcium carbonate, a material commonly present in nature.

## 11 Toxicological information

11.1 Information on toxicological effects: Calcium dihydroxide is classified as irritating the skin and respiratory tract (if powder) and carries a risk of serious eye damage. The occupational exposure limit to prevent local irritation and sensitization and decreased lung function is: OEL (8h) = 1 mg/m<sup>3</sup> respirable dust.

11.2 Acute toxicity: Calcium dihydroxide is not acutely toxic. The classification for acute toxicity is not guaranteed.

11.3 Corrosion / skin irritation: The substance has a risk of serious damage to the eyes and is irritating to skin (by studies in vivo, rabbit). From data on humans it can be concluded that calcium dihydroxide is irritating to the respiratory tract (if powder). Based on available data, the substance is classified as irritating to skin [R38, irritating to skin; Skin Irrit 2 (H315 - Causes skin irritation)] is very irritating to the eye [R41, Risk of serious damage to eye; Eye Damage 1 (H318 - Causes serious eye damage)]. As a summary is valued in the SCOEL recommendation (Anonymous 2008).

11.4 Eye damage / severe eyes irritation: Calcium dihydroxide entails a serious risk of damage to the eyes and is irritating to skin (by studies in vivo, rabbit). From data on humans it can be concluded that the substance is irritating to the respiratory tract (if powder). Based on experimental data, Calcium dihydroxide requires classification as irritating to skin [R38, irritating to skin; Skin Irrit 2 (H315 - Causes skin irritation)] and as very irritating to the eye [R41, Risk of serious damage to eye; Eye Damage 1 (H318 - Causes serious eye damage)]. As a summary and evaluated in the SCOEL recommendation (Anonymous, 2008), from data on human calcium dihydroxide is classified as irritating to the respiratory tract if powder [R37, Irritating to respiratory system; STOT SE 3 (H335 - May cause respiratory irritation)].

11.5 Respiratory or skin sensitization: No data available. Calcium dihydroxide is not considered a skin sensitizer, based on the nature of the effect (pH shift) and the need for calcium in human nutrition. Classification for sensitization is not guaranteed.

11.6 Germ cell mutagenicity: Bacterial reverse mutation assay (Ames test, OECD 471): Negative. Mammalian chromosome aberration test: Negative. Because of the enormous diffusion and essentiality of Ca and the irrelevance from a physiological point of view of any pH shift caused by the calcium dihydroxide in aqueous media, the substance is devoid of any genotoxic properties. Classification for genotoxicity is not guaranteed.

11.7 Carcinogenicity: Calcium (administered as calcium lactate) is not carcinogenic (experimental data on rats). The effect of the hydroxide pH does not lead to an increase in cancer risk. Epidemiological data on humans support lack of any carcinogenic potential of the substance. The classification of carcinogenicity is not guaranteed.

11.8 Reproductive toxicity: Calcium (administered as calcium carbonate) is not toxic to reproduction (experimental data on rats). The effect of pH of the oxide does not lead to an increase in the risk of reprotoxicity. Epidemiological data on humans support lack of any potential reprotoxic calcium dihydroxide. Both in animal studies of human clinical trials with various calcium salts it was not detected any effects reported. Therefore calcium dihydroxide is not toxic to reproduction or development. The classification for the property to reproduction under Regulation (EC) 1272/2008 is not required.

11.9 The likely routes of exposure and toxicity for prolonged exposure: The toxicity of oral calcium is determined by upper intake levels (UL) for adults determined by "Scientific Committee on Food" (SCF), and are: UL = 2500 mg / d, corresponding to 36 mg / kg bw / d (70 kg person) for calcium. The toxicity of calcium dihydroxide dermal is not considered significant due to absorption through the skin and cause considerable local irritation as the primary cause of health hazards (shift of pH). The toxicity of calcium dihydroxide for inhalation (local effect, irritation of mucous membranes) is determined by an 8-h TWA determined by the "Scientific Committee on Occupational Exposure Limits" (SCOEL) of 1 mg/m<sup>3</sup> respirable dust (see section 8.1). Therefore it is not necessary the classification of the calcium dihydroxide to the toxicity of prolonged exposure.

LD50: oral (rat) > 2000 mg / kg bw (OECD 425, rat)

LD50: dermal > 2500 mg / kg bw (OECD 402, rabbit)

LD50: not available inhalation

## 12 Ecological information

Adopt good working practices, avoiding release into the environment. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

12.1 Toxicity: LC50 (fish-96h) LC50 (96h) for freshwater fish: 50.6 mg/l - LC50 (96h) for marine fish: 457 mg/l - EC50 (daphnies-48h) EC50 (48h) for freshwater invertebrates: 49.1 mg/l LC50 (96h) for marine invertebrates: 158 mg/l - LC50 (algae-72h): EC50 (72h) for freshwater algae: 184.57 mg/l - NOEC (72h) for freshwater algae: 48 mg/l.

12.2 Toxicity to microorganisms: At high concentrations, through the increase in temperature

and pH, calcium dihydroxide is used for disinfection of the sewer drains.

12.3 Chronic toxicity to aquatic organisms: NOEC (14d) for marine invertebrates: 32 mg/l.

12.4 Toxicity for soil organisms

EC10 / LC10 or NOEC for soil macro: 2000 mg / kg soil dw

EC10 / LC10 or NOEC for soil microorganisms: 12000 mg / kg soil dw

12.5 Toxicity to terrestrial plants: NOEC (21d) for terrestrial plants: 1080 mg / kg.

12.6 Effects and more information: Strong pH effect. Although the product is useful to correct water acidity, an excess of more than 1 g/l may be harmful to aquatic life. PH values > 12 decrease rapidly as a result of dilution and carbonation.

12.7 Persistence and degradability: Not relevant for inorganic substances.

12.8 Bioaccumulation potential: Not relevant for inorganic substances.

12.9 Mobility in soil: calcium dihydroxide, which is sparingly soluble in water, has a low mobility in most soils.

12.10 Results of PBT and vPvB: Not relevant for inorganic substances.

12.11 Other adverse effects: None identified.

## 13 Disposal Considerations

13.1 Waste treatment methods: Reuse, if possible. Product residues as such are to be considered non-hazardous waste. Disposal must be performed through an authorized waste management, in compliance with national and local laws. Avoid release of the product in soil, sewers or waterways.

13.2 CONTAMINATED PACKAGING: Contaminated packaging must be recovered or disposed in compliance with national waste management regulations.

## 14 Transport Information

14.1 The product is not to be considered dangerous according to the provisions in force on the transportation of dangerous goods by road (A.D.R.), rail (RIS), by sea (IMDG Code), and by air (IATA).

## 15 Regulatory information

### 15.1 Specific rules and legislation on health, safety and environment.

Seveso category: None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to Directive (EC) No. 1907/2006: None.

Substances in the Candidate List (Art. 59 REACH): None.

Substances subject to authorization (Annex XIV REACH): None.

Substances subject to export notification Directive (EC) 649/2012: None.

Substances subject to the Rotterdam Convention: None.

Substances subject to the Stockholm Convention: None.

Healthcare checks: Information not available.

VOC (Directive 2004/42 / EC): Paints for decorative effects (A/I).

VOC given in g/liter of product ready for use:

Limit value: 200.00 (2010) - VOC: 0

15.2 Chemical Safety Assessment: a chemical safety assessment for the mixture and the substances it contains has not been elaborated yet.

## 16 Other Information

**LEGEND:** ADR: European Agreement concerning the transport of dangerous goods by road. CAS NUMBER: Chemical Abstract Service Number. EC50: Concentration that gives effect to 50% of the population subject to testing. EC NUMBER: ID number in ESIS (European archive of existing substances). CLP: Directive EC 1272/2008. DNEL: Derived No Effect Level. EmS: Emergency Schedule. GHS: Globally Harmonised System for classification and labeling of chemicals. IATA DGR: Regulation for the transport of dangerous goods by the International Air Transport Association. IC50: Concentration of immobilization of 50% of the population subject to testing. IMDG: International Maritime Code for Dangerous Goods. IMO: International Maritime Organization. INDEX NUMBER: ID number in Annex VI of the CLP. LC50: Lethal concentration 50%. LD50: Lethal dose 50%. OEL: Occupational Exposure Level. PBT: Persistent, bioaccumulative and toxic according to REACH. PEC: Predicted Environmental Concentration. PEL: predictable level of exposure. PNEC: Predicted No Effect Concentration. REACH: EC Regulation 1907/2006. RID: Regulations concerning the international carriage of dangerous goods by rail. TLV: Threshold Limit Value. TLV CEILING: Concentration which should not be exceeded during any time of occupational exposure. TWA STEL: Short Term Exposure Limit. TWA: Exposure Limit Weighted average. VOC: Volatile organic compound. vPvB: Very persistent and very bioaccumulative according to REACH. WGK: Water hazard class (Germany).

**GENERAL BIBLIOGRAPHY:** 1. Directive 1999/45/EC as amended. 2. Directive 67/548/EEC and following amendments and adjustments. 3. Directive (EC) 1907/2006 of the European Parliament (REACH). 4. Directive (EC) 1272/2008 of the European Parliament (CLP). 5. Directive (EC) 790/2009 of the European Parliament (I Atp. CLP). 6. Directive (EC) 453/2010 of the European Parliament. 7. Directive (EC) 286/2011 of the European Parliament (II Atp. CLP). 8. Directive (EC) 618/2012 of the European Parliament (III Atp. CLP). 9. Handling Chemical Safety. 10. The Merck Index. Ed. 10. 11. Niosh - Registry of Toxic Effects of Chemical Substances. 12. INRS - Fiche Toxicologique. 13. Patty - Industrial Hygiene and Toxicology. 14. N.I. Sax - Dangerous properties of Industrial Materials 7 Ed.1989. 15. Web Site Agency ECHA.

**NOTE TO USER:** The information in this security sheet are based on knowledge available to us at the date of the last revision. Users must verify the suitability and thoroughness of provided information according to each specific use of the product. It should not be construed as a guarantee on any specific product property. Since the use of this product is not subject to our direct control, users must, under their own responsibility, follow the laws and provisions in force concerning health and safety. We do not take responsibility for improper use. Provide adequate training to personnel involved in the use of chemicals.