



Safety data sheet

Comply with Regulation (EC) No.
1907/2006, Annex II

Revision: 24/03/2017

Version: 5.0

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier
Trade name
Designation of the mixture

STONE SEALER ECO PLUS
SHELBER STONE SEALER ECO PLUS - S1337

Product type FORMULATE
CAS Number: Unavailable, formulate
CE Number: Unavailable, formulate

1.2. Identified relevant uses of substance or formulate and inadvisable uses STAIN-PROOF PENETRATING IMPREGNATOR FOR NATURAL STONES No other use recommended, unless after an evaluation, made prior to such use, proving that the risks involved in such use are under control.

Packaging 1 lt. bottles; 4 lt. cans; 25 lt. cans

1.3. Information about supplier of material safety data sheet B-CHEM S.r.l. - via Enzo Ferrari, 68 - Industrial Area "A"
62012 - Civitanova Marche (MC) - ITALY
Tel. +39 0733 801444 - Fax +39 0733 801062
annalisa@b-chem.net

1.4. Emergency phones:

B-CHEM S.r.l. - Tel. + 39 0733 801444 (Office hours: 8:30-13:00; 14:00-17:30) (UTC +1)
PCC - Children's Hospital "Bambino Gesù" - Rome - Tel. +39 06 68593726 (h24)
PCC - Hospital University Foggia - Foggia - Tel. +39 0881 732326 (h24)
PCC - Hospital "A. Cardarelli" - Naples- Tel. +39 081 7472870 (h24)
PCC - Hospital "Umberto I" - Rome - Tel. +39 06 4450618 (h24)
PCC - Hospital "A. Gemelli" - Rome - Tel. +39 06 3054343 (h24)
PCC - Hospital "Careggi" C.U. Medical Toxicology - Florence - Tel. +39 055 7947819 (h24)
PCC - National center for toxicological information - Pavia - Tel. +39 0382 24444 (h24)
PCC - Hospital "Niguarda Ca' Granda" - Milan - Tel. +39 02 66101029 (h24)
PCC - Hospital "Papa Giovanni XXIII" - Bergamo - Tel. +39 800 883300 (h24)



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2. HAZARD IDENTIFICATION

2.1. Substance or Formulate Classification GHS07 H315; H319 according to the criteria established by Reg. 1272/2008/CE

Classification: Eye Irrit. 2; Skin Irrit. 2

Warning : Attention

H 315: Causes skin irritation

H phrases: H 319: Causes serious eye irritation

2.2. Label elements:



P phrases:

P 264: Wash thoroughly after use

P 280: Wear protective gloves/clothes/ Protect eyes/face

P 302 + P 352: IF ON SKIN: Wash with plenty of water and soap

P 305 + P 351 + P 338: IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

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

P362: Remove contaminated clothing and wash them before wearing them again.

P337 + P313: If eye irritation persists: get medical advice/attention

2.3 Other hazards: The product does not show any further danger due to intrinsic features of the formulate.

SECTION 3: COMPOSITION/INFORMATION ABOUT INGREDIENTS

3.1. Substances: The product is a formulate.

3.2. Formulates:

CHEMICAL NAME	CAS NR	EC NR	REACH NR.	%
Sodium Silicate	1344-09-8	215-687-4	01-2119448725-31-XXXX	>20<30

Classification/Information about substances in the formulate

Regulation 1278/2008 CE**

SUBSTANCE	Class and Category	Hazard Marks
Sodium Silicate	Skin Irrit. 2	H 315
	Eye Irrit. 2	H 319

** = CLP regulation

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Contact with eyes: Make an ocular washing with tap water for several minutes keeping eyelids wide open. Call for a doctor.

Inhalation: If the disabled fainted, keep him stable turned on his side during transportation. Call immediately for a doctor.

Contact with skin: Wash immediately with plenty of water and soap. Rinse carefully. Wash the contaminated clothing before re-using.

Ingestion: Do not allow vomiting and call immediately for a doctor.



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4.2. Main symptoms and effects, both acute and delayed

For acute symptoms and effects check sect.11. The product does not seem to have delayed symptoms. Information for the doctor: show this safety data sheet to the general practitioner.

4.3. Possible need to check immediately with a doctor and to receive special treatments

In case of accident or malaise, ask immediately for medical advice (if possible, show the doctor method of use or this safety data sheet).

5. FIRE-FIGHTING MEASURES

- 5.1. Extinction tools:* The product is in a water solution and it is neither flammable, nor combustible, in case of fire involving the product, use a fire-extinguisher equipped with CO₂, powder or nebulized water.
Extinguish big fires with nebulized water or with alcohol resistant foam.
- 5.2. Specific risks owing to the substance or formulate:* Being a product in water solution, it does not support combustion. There are no special dangers to remark deriving from the substance involved in a fire.
- 5.3. Recommendations for the people in charge of fire extinction:* Use facial masks (half-mask) for gas complying with regulation EN 136 type A, protection class 2 with interchangeable universal filters and pre-filter FFP2 for protection against fumes and solid powders 92%.
Do not breathe gas deriving from fire or combustion.
Refresh the containers at risk with a water jet from a sheltered place.

6. ACCIDENTAL PRODUCT SPILLING

- 6.1. Individual precautions, protection equipment and emergency procedures* Wear individual protection devices, such as work gloves, offering a proper resistance to contact. Safety anti-slip shoes or boots. Protection glasses and face protection devices if spatters or contacts with eyes are possible or predictable.
Move people towards a safe place.
- 6.1.1. For people not taking action directly:* Unnecessary
- 6.1.2. For people taking action directly:* Besides measures to take mentioned in point 6.1, in case of vapours or powder dispersion in the air, take a respiratory protection, such as anti-gas facial masks (half-masks) according to directive EN 136 type A with protection class 2 and equipped with universal interchangeable filters and with pre-filter FFP2 for protection against solid fumes and powders 92%.
- 6.2. Precautions for the environment:* Prevent product infiltration into drains, superficial waters, phreatic waters and in restricted areas, by using adsorbing products.
- 6.3. Methods and materials for containment and reclamation:* Suitable material to collect residues: organic adsorbing material, such as sawdust, paper or sand. Do not use solvent, nor dispersants. Stem with earth or with inert materials. Vacuum up the most of material and remove the residue with water jets. Disposal of contaminated materials according to dispositions under point 13.
- 6.4. Reference sections:* Possible information concerning individual protection and about waste disposal to be found under sections 8 and 13.



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SECTION 7: HANDLING AND STORAGE

- 7.1. Pre-cautions for a safe handling:* Store into closed and labelled containers.
Avoid contact with eyes and skin, vapours and mist inhalation. Work in well-ventilated areas.
Replace contaminated clothing before accessing refectory area. Do not eat nor drink while using this product.
Please also check paragraph 8 for recommended protection devices.
- 7.2. Pre-cautions for a safe storage, including possible incompatibilities* Normal storage conditions, without any special incompatibility.
Store in a fresh, well ventilated place.
Do not store for long periods of time at a temperature over 50°C. Protect from frost.
- 7.3. Final special uses* Typical uses, as mentioned in point 1.2.

8. EXPOSURE CONTROL/INDIVIDUAL PROTECTION

8.1. Control parameters

OEL (DUST – alveolar fraction)	: 3 mg/m ³ (TRGS 900; June 2008)
OEL (DUST – breathable fraction)	: 10 mg/m ³ (TRGS 900; June 2008)
TDD (Typical Dust Density in work place)	: 2,5 mg/cm ³

8.2: Exposure controls

8.2.1: Professional exposure controls

TABLE: DNEL – WORKERS

ESPOSURE	ROUTE	DESCRIPTION	DNEL/DMEL	CONCLUSIONS
Systematic acute effects	Dermal (mg/kg bw/day)	Non quantifiable		
Systematic acute effects	Inhalation (mg/m ³)	Non quantifiable		
Acute local effects	Dermal (mg/kg bw/day)	Non quantifiable		
Acute local effects	Inhalation (mg/m ³)	Non quantifiable		
Systematic effects Long term	Dermal (mg/kg bw/day)	DNEL	1,59	Repeated Dose of Toxicity
Systematic effects Long term	Inhalation (mg/m ³)	DNEL	5,61	Repeated Dose of Toxicity
Local effects Long term	Dermal (mg/kg bw/day)	Non quantifiable		
Local effects Long term	Inhalation (mg/m ³)	Non quantifiable		

TABLE DNEL/DMEL – GENERAL POPULATION

ESPOSURE	ROUTE	DESCRIPTION	DNEL/DMEL	CONCLUSIONS
Systematic acute effects	Dermal (mg/kg bw/day)	Non quantifiable		
Systematic acute effects	Inhalation (mg/m ³)	Non quantifiable		
Systematic acute effects	Oral (mg/kg bw/day)	Non quantifiable		
Acute local effects	Dermal (mg/kg bw/day)	Non quantifiable		
Acute local effects	Inhalation	Non quantifiable		



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Systematic effects Long term	(mg/m ³) Dermal (mg/kg bw/day)	DNEL	0,8	Repeated Dose of Toxicity
Systematic effects Long term	Inhalation (mg/m ³)	DNEL	1,38	Repeated Dose of Toxicity
Systematic effects Long term	Oral (mg/kg bw/day)	DNEL	0,8	Repeated Dose of Toxicity
Local effects Long term	Dermal (mg/kg bw/day)	Non quantifiable		
Local effects Long term	Inhalation (mg/m ³)	Non quantifiable		

Values regarding to the adsorption route by indirect contact with skin, by inhalation and by ingestion, are meant by accidental overexposure (eyes, skin) (HERA, 2005) and they concern the exposure scenario about sodium silicate consumers.

The first way of exposure is dermal type. Short term exposure to powders happens through use of sodium silicate as a powder and grains.

A) Eye/face protection

Wear protective glasses (ref. EN Regulation N 166)

B) Skin protection

Wear work clothing with long sleeves and safety shoes for professional use of cat. II (ref. Directive 89/686 CEE and regulation EN 344). Wash with water and soap after removing the protective clothing.

C) Hands protection

Protect hands with work gloves category II (ref. Directive 89/686 CEE and regulation EN 374), such as PVC, neoprene or equivalent. For the final choice of material for the working gloves, it take into consideration: degradation, breakage and permeation time.

D) Respiratory protection

In case of overcoming of the threshold value referring to the daily exposure in the work place, wear a mask with philtre type B or universal type, whose class (1,2,3) is to choose according to concentration limit of use (ref. REGULATION EN 141).

E) Thermal dangers

No indication to report

8.2.2: Controls of environmental exposure

PNEC – WATER	VALUE	ADJUSTMENT FACTOR
PNEC – fresh water (mg/l)	7,5 (HERA 2005)	

NOTES

US value: 17 mg SiO₂/l (ground waters) 14 mg SiO₂/l (currents) (DAVIS 1964)
World – wide value: 12 – 13 mg SiO₂/l (rivers) (VAN DOKKUM al. 2002, Edwards and Liss 1973)
Europe value: 7,5 mg SiO₂/l (Jorgensen et al. 1991)

	VALUE	ADJUSTMENT FACTOR
PNEC –marine water (mg/l)	1	

NOTES

The superficial layer of marine water is very poor of silica (< 1 mg/l), unless freshwater (fresh water 7,5 – 14 mg/l). this is due to silica incorporation into the skeletons of diatoms (Hem, 1985). Biomass, including protozoa, sponges and other animals and plants contain soluble silicates indispensable for some biochemical processes.

	VALUE	ADJUSTMENT FACTOR
PNEC –intermittent releases (mg/l)	7,5 (HERA 2005)	



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NOTES

The first risk for silicates in the market is their medium-high alkalinity that could be harmful to the aquatic life. This risk can be overcome by neutralizing the raw material before this is released to the environment.

US value: 17 mg SiO₂/lt (ground waters), 14 mg SiO₂/lt (currents) (DAVIS 1964)

World – wide value: 12 – 13 mg SiO₂/lt (rivers) (VAN DOKKUM et al.2002, Edwards and Liss 1973)

Europe value: 7,5 mg SiO₂/lt (Jorgensen et. Al. 1991)

PNEC - SEDIMENT

	VALUE	ADJUSTMENT FACTOR
PNEC – Sediment (mg/kg d.w.)		

NOTES

No data available. Dissolved silica coming from commercial products cannot be differentiated from the one with a natural origin. Of all elements composing the Earth's crust, silica covers 59% and such percentages are present in many sediments and soils. (OECD SIDS 2004)

Environmental toxicity: macro- and micro organism – plants

Studies scientifically unjustified - ENCLOSURE IX , 9.4 – Enclosure X, 9.4 Column 2
Regulation CE 1907/2006 REACH.

PNEC – SOIL

	VALUE	ADJUSTMENT FACTOR
PNEC – Soil (mg/kg w.)		

NOTES

No data available. Dissolved silica coming from commercial products cannot be differentiated from the one with a natural origin. Of all elements composing the Earth's crust, silica covers 59% and such percentages are present in many sediments and soils. (OECD SIDS 2004)

PNEC – Acque Reflue

	VALUE	ADJUSTMENT FACTOR
PNEC - Stp	348	1

NOTES

Data obtained with *Pseudomonas putida* in growth inhibition (Hanstveit 1989) is 348 mg Na Silicate/lt. and the adjustment factor applied is equal to 1.

Toxicity for birds: Studies unjustified according to Enclosure X, 9.6.1 column 2 Regulation CE 1907/2006 REACH.

Toxicity for mammals: here below the table regarding to the PNEC - ORAL value:

	VALUE	ADJUSTMENT FACTOR
PNEC – Oral (mg/kg food)	348	1

NOTES

Data and tests regarding to the PNEC value do not exist. Each emission of soluble sodium silicates in the environment is considered descendant from negligence. As silica are natural components of soil and minerals, test values are limited.

THE SUBSTANCE IS NOT CLASSIFIED AS CARCINOGENIC, MUTAGEN NOR TOXIC FOR BREEDING. (It is neither a PBT nor a vPvB substance)

Biologic limit values BEI

Unavailable, both for the formulate and for its components.



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9. PHYSICAL AND CHEMICAL FEATURES

9.1. Information about fundamental physical and chemical properties

Property	Value	Method:	Notes:
Aspect and colour:	Colourless liquid with water base	--	--
Odour:	Odourless	--	--
Odour threshold:	Imperceptible	--	--
pH:	11 ± 0,4	--	--
Melting/freezing point:	<0°C	--	--
Initial boiling point and interval:	>100°C	--	--
Flash point:	Water based formulate, not flammable	--	--
Evaporation speed:	Not determinable	--	--
Solid/gas flammability:	Not flammable	--	--
Upper/lower limit of flammability or explosion:	Not flammable	--	--
Vapour pressure:	< 2338,54 Pa	--	--
Vapour density:	>1 (Air=1)	--	--
Specific gravity:	1010 ± 10 g/lit at 20°C	--	--
Solubility in water:	Completely soluble in water	--	--
Solubility in oil:	Insoluble in oil	--	--
Partition coefficient n-octanole-water:	insoluble in n-octanole	--	--
Self-ignition temperature:	Undefined, not flammable	--	--
Decomposition temperature:	>500° C	--	--
Viscosity:	<1000 cps	--	--
Explosive properties:	Non explosive	--	--
Oxidative properties:	Non oxidative	--	--
Oxidizing properties:	Non oxidizing	--	--

9.2. Further information

Property	Value	Method:	Notes:
Miscibility:	Miscible in water, not miscible in solvents, oils and grease	--	--
Fat solubility:	Immiscible in oils and grease	--	--
Conductivity:	Electrolyte, 2 nd degree conductor	--	--
Properties typical of groups of substances:	Undeterminable	--	--

SECTION 10: Steadiness and reactivity

- 10.1. Reactivity:** The product is steady under normal use and storage conditions. Any dangerous reaction provided that product is stored and handled as prescribed.
- 10.2. Chemical steadiness:** No dangerous reaction provided that product is stored and handled as prescribed.
- 10.3. Possible dangerous reactions:** The product may react violently acids, may react with aluminium, zinc, tin and their alloys, thus producing hydrogen. Diluted solutions (<10% for the dry part) have a weak reaction.
In case of electro-welding external to tank, prevent hydrolysis of the solution.
Can react violently with acids.
Food residues can contain sugar, which, under certain conditions, could react with the solution.
- 10.4. Conditions to avoid:** None specially. Stick to usual cautiousness towards chemicals.



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10.5. *Incompatible materials:* Reacts with: acids. Reaction produces heat.

10.6. *Hazardous decomposition products:* If stored and handled following the dispositions: none known.

SECTION 11: TOXICITY INFORMATION

11.1.1: Substances

a) Acute toxicity

- Toxicokinetic: adsorption – metabolism – spreading and elimination: studies on rats and dogs show a remarkable secretion of silica dioxide in urine after exposure to sodium silicate. Quantity of secretion is independent from the administered dose, on the other hand it depends on the quantity of silica oxide, soluble or absorbed in the gastrointestinal tract. Data about human beings are unavailable.

- Acute toxicity: ORAL – INHALATION – DERMAL – OTHER WAYS.

Sodium silicates under different molar ratios and different concentrations have been tested with rats and mice. The most typical clinical symptoms are sedation, abdominal discomfort, laziness and unconsciousness. They depend upon the administered doses.

Acute toxicity of soluble sodium silicates is usually inversely proportional to the molar ratio silica/soda. Toxicity decreases in rats with the increase of molar ratio from LD50 of 500 mg/kg for molar ratio of 0.5 at 8650 mg/kg for molar ratio of 3,38.

TABLE:

ORAL	LD50 (rat)	3400 mg/kg
INHALATION	LC50 (rat)	>2,06 g/m ³
DERMAL	LD50(rat)	>5000 mg/kg

- Repeated dose toxicity:

ORAL: sodium silicate have been tested in repeated exposures from 28 to 180 days on rats and dogs. No adverse effect has been remarked in both species rat males and females treated with oral administration for 180 days.

Determined NOAEL is > 159 mg/kg bw/day. In only one case on rat it has been reported a phenomenon of Polydipsia, polyuria and diarrhoea at 2400 mg/kg bw/day (Newbrne and Wilson, 1970). Dogs have showed an evident cortical renal injury, Polydipsia, polyuria and diarrhoea at 2400 mg/kg bw/day (Newbrne and Wilson, 1970). NOALE (rat) = 159 mg/kg bw/day

b) Dermal Corrosion/Irritation:

Corrosion:

The solution of sodium silicate responding to the molar ratio > 2.6 - <= 3.2, is not classified as corrosive neither according to DSD nor according to CLP. Danger labelling about corrosion capacity acknowledged for molar ratio < 1,6.

CAS: 1344-09-8 : 53,5%, MR = 1,6: Corrosive, RABBIT, primary index of dermal irritation (PDII) 8,24,48, 72 h: IRREVERSIBLE

CAS: 1344-09-8 : 82%, MR = 2,4: Corrosive, RABBIT, primary index of dermal irritation (PDII) 4.6,24,48,72h: NOT TOTALLY REVERSIBLE.

Irritation:

- Irritation: SKIN- EYES – RESPIRATORY TRACT

Irritation factor, found in studies, has produced data responding in inverse proportion to the molar ratio, i.e. to molar ratio silica/soda responds a higher irritation factor and vice versa.

Such condition is also strictly dependent upon concentration: to minor concentrations corresponds a minor irritation and vice versa for increasing concentrations, molar ratio being equal. Cuthbert and Carr's studies show such a condition (1985).

To conclude, studies on rabbit have showed that, as already told, that effects of sodium silicate from irritating to corrosive depend upon the molar ratio and concentration.



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CAS: 1344-09-8	: 35,4% MR = 3,4: Not irritating, RABBIT, primary index of dermal irritation (PDII) 0,4,24,48,72h: 1 species in 3 has showed a persistent reddening up to 72 hours and oedema only 48 hours after exposure.
CAS: 1344-09-8	: 38,25%, MR = 3,28: Non irritating, RABBIT, primary index of dermal irritation (PDII): 0,33
CAS: 1344-09-8	: 39,86%, MR = 2,4: Irritating, RABBIT, primary index of dermal irritation (PDII): 3 – Effescts persisting even after 5 days.
CAS: 1344-09-8	: 39,01%, MR= 2,8: Non irritating, RABBIT, primary index of dermal irritation (PDII): 0
CAS: 1344-09-8	: 40,93%, MR = 2: Irritating, RABBIT, primary index of dermal irritation (PDII): 3 IRREVERSIBLE
CAS: 1344-09-8	: 34,9%; MR = 3,45: Non irritating – low irritation, 10 healthy volunteers, males and females (OECD 404)
CAS: 1344-09-8	: 34,9%; MR = 3,45: Non irritating – low irritation, 10 healthy volunteers, males and females (COLIPA)

c) Severe ocular injuries/severe ocular irritations

According with Enclosure VIII of REACH column 2, no relative study has been made in vivo, as substance shows to be from corrosive to irritating, depending upon its characteristics. However, at the same time, studies in vitro show the usual inverse association between the molar ratio and irritation, also observed for skin irritation.

CAS: 1344-09-8 MR = 3,3: Rabbit – slightly irritating: 0,5 - 0.5, 1, 2, 3, 4 hours after treatment

CAS: 1344-09-8 MR = 3,0: Rabbit – slightly irritating: 1 - 0.5, 1, 2, 3, 4 hours after treatment

CAS: 1344-09-8 MR = 2,8: Rabbit – moderately irritating: 1-2 - 0.5, 1, 2, 3, 4 hours after treatment

CAS: 1344-09-8 MR = 2,6: Rabbit – irritating: 1- 3 after - 0.5, 1, 2, 3, 4 hours after treatment

CAS: 1344-09-8 MR = 2,4: Rabbit – much irritating: 1- 4 - 0.5, 1, 2, 3, 4 hours after treatment

CAS: 1344-09-8 MR = 2,0: Rabbit – much irritating: 1- 4 - 0.5, 1, 2, 3, 4 hours after treatment

d) Respiratory or skin sensitization

SKIN: sodium silicates do not appear to be sensitizing agents.

RESPIRATORY TRACT: available data are not enough for classification.

e) Mutagenicity of germinal cells

Available data in vitro on bacteria are negative. Sodium silicate molar ratio = 3.3 has not induced aberrant mutations of chromosomes in mammal cells in vitro, both in presence and in absence of metabolic activation. In vivo sodium silicates do not induce chromosomal aberration. Finally, it is not possible to attribute a genotoxic action to sodium silicate.

IN VITRO : NEGATIVE

IN VIVO : NEGATIVE

f) Carcinogenicity:

ORAL – INHALATION - DERMAL – OTHER ROUTES

No data available to show a carcinogenic action of sodium silicate.

g) Toxicity for reproduction

EFFECTS ON FERTILITY: NOAEL value ascertained for relatives has been established in > 159 mg/kg bw/day. Concerning repeated toxicity dose in species rats and dogs, the microscopic and macroscopic exam of reproduction organs has not showed no relevant effect (Newberne & Wilson, 1970). NOAEL value for rats and dogs is > 2400 mg/kg bw/day.

No effect on reproduction organs in species male rat by subcutaneous and intratesticular injection of sodium silicate. Therefore, NOAEL value has been determined > 8 mg/kg bw.

NOAEL (rat) >159 mg/kg bw/d.

EFFECTS ON MATURATION: NOAEL (mouse) > 200 mg/kg bw/day.

-Other effects:

NEUROTOXICITY: No data available

IMMUNOTOXICITY: No Data Available



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- h) Specific Toxicity for target organs (STOT)** – single exposure: Data unavailable for water solutions.
i) Specific toxicity for target organs (STOT) – repeated exposure: Data unavailable for solutions in water.
j) Danger in case of aspiration: data not relevant for solutions in water.

11.1.2: FORMULATES: Being a substance, there is no other recommendation to remark

- | | |
|-------------------------------|------|
| a) Acute Toxicity | : NN |
| b) Irritation | : NN |
| c) Corrosion capacity | : NN |
| d) Sensitization | : NN |
| e) Toxicity by repeated doses | : NN |
| f) Carcinogenicity | : NN |
| g) Mutagenicity | : NN |
| h) Reproductive toxicity | : NN |

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity:** Use according to the good work practices, avoiding product dispersion in the environment.
Data about SODIUM SILICATE: CAS 1344-09-8
a) Acute aquatic toxicity
EC50: 1700 mg/l. (48 hrs) Daphnia magna
LC50: 1108 mg/l. (96 hrs)
- 12.2 Persistency and degradability:** Silicates are substances NOT subject to biodegradability.
- 12.3. Potential of bio-accumulation:** Bio-accumulable, the product is not easily degraded and it is miscible in water.
- 12.4. Mobility in soil:** Mobile, the product is miscible in water and can be carried by rainfalls.
- 12.5. Results of PBT and vPvB evaluation:** The product does not contain any relevant substance to be considered as persistent, bio-accumulating and toxic (PBT) or much persistent and much bio-accumulating.
- 12.6. Other adverse effects:** The medium-high formulate alkalinity could be harmful to aquatic life. In case of release to the environment, try to neutralize the formulate.

SECTION 13: WASTE DISPOSAL

- 13.1. Waste disposal methods:**
- Product**
Recommendation:
Comply with the dispositions by the local authorities.
- Uncleaned packaging:**
Recommendation:
Clean void packaging (without any residue or condensation, cleaned with a spatula).
Possibly re-use packaging according to local/national dispositions in force.

14. CONVEYANCE INFORMATION

Road haulage/railway transport ADR/RID:

- | | |
|----------------|-------------|
| 14.1. ONU Nr.: | NOT subject |
|----------------|-------------|



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14.2. <i>ONU shipment name:</i>	NOT subject
14.3. <i>Danger class relating to transport:</i>	NOT subject
14.4. <i>Packing group:</i>	NOT subject
14.5. <i>Danger for the environment</i>	NOT subject
14.6. <i>Special precautions for users:</i>	NOT subject
14.7. Transport of bulk transport according to enclosure Nr. II MARPOL 73/78 and IBC code	NOT subject
<i>Other information</i>	NOT subject

SECTION 15: REGULATION INFORMATION

15.1. Rules and legislation about health, safety and environment specific for substance or formulate:

- D.Lgs. 9/4/2008 Nr. 81:
- D.M. Lavoro 26/02/2004 (professional limits of exposure)
- Regulation (CE) Nr. 1907/2006 (REACH)
- Regulation (CE) Nr. 1272/2008 (CLP)
- Regulation (CE) Nr. 790/2009 (ATP 1 CLP) and (UE) Nr. 758/2013
- Regulation (UE) Nr. 453/2010 (Annex II)
- Regulation (UE) Nr. 286/2011 (ATP 2 CLP)
- Regulation (UE) Nr. 618/2012 (ATP 3 CLP)
- Regulation (UE) Nr. 487/2013 (ATP 4 CLP)
- Regulation (UE) Nr. 944/2013 (ATP 5 CLP)
- Regulation (UE) Nr. 605/2014 (ATP 6 CLP)

Restrictions about product or substances contained, based on enclosure XVII of (CE) Regulation 1907/2006 (REACH) and further amendments.

According to the criteria from the UE legislation in force, this material is not classified as dangerous and does not require labelling.

15.2. *Evaluation of chemical safety :*

Unnecessary.

No evaluation about chemical safety made by the supplier for this formulate.

15.3 *Other international regulations:* None

16. OTHER INFORMATION

HISTORY OF MSDS:

<i>Useful Dates</i>		<i>Modifications</i>			
Date of issue	: 04.04.2011	Rev. 0	According to:	1907/2006 CE	See directive for modifications
Date of previous revision	: 03.07.2015	Rev. 4.0	According to:	453/2010 CE	See directive for modifications
Date of current revision	: 24.03.2017	Rev. 5.0	According to:	830/2015 CE	See directive for modifications

Modifications compared to the previous version:

Modifications according to requirements by the rules in force.



Safety data sheet

Comply with Regulation (EC) No.
1907/2006, Annex II

Revision: 24/03/2017

Version: 5.0

Abbreviations et acronyms:

ADR:	European agreement about international road transport of dangerous goods.
CAS:	Chemical Abstracts Service (a Division of American Chemical Society).
CLP:	Classification, Labelling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GHS:	Global Harmonized System of Classification and Labelling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation of "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Dangerous Goods Code.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Strickler coefficient.
LC50:	Lethal Concentration for 50% of test population.
LD50:	Lethal Dose for 50% of test population.
LTE:	Long Term Exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Règlement concernant les transports internationaux ferroviaire des marchandises dangereux.
STE:	Short Term Exposure.
STEL:	Short Term Exposure Limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limit Value.
TWATLV:	Threshold Limit Value Time Weighted Average for 8 hours. (ACGIH Standard).
WGK:	Danger class for water –(Wassergefährdungsklasse) (Germany).

BIBLIOGRAPHY AND DATA SOURCES:

- Directives: CE 648/2004 - CE 1907/2006 - CE 1272/2008 - CE 453/2010
- ADR agreement and complementary rules about dangerous goods.
- MAP CLP®
- Safety data sheets by our suppliers of substances and products.
- European chemical substances information system
- <http://modellids.iss.it/>
- TLVs and BEIs - ACGIH Ed. 2015

Method of evaluation to determine formulate classification (CE 1272/2008):

Method: Calculation

COMPLETE LIST OF DANGER MARKS AND SAFETY WARNINGS:

<i>H Phrases</i>	<i>P Phrases</i>
H 315: Causes skin irritation	P 264: Wash thoroughly after use
H 319: Causes serious eye irritation	P 280: Wear protective gloves/clothes/ Protect eyes/face
	P 302 + P352: IF ON SKIN: Wash with plenty of water and soap
	P 305 + P351 + P 338: IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	P332 + P313: If skin irritation occurs: get medical advice/attention
	P362: Remove contaminated clothing and wash them before wearing them again.
	P337 + P313: If eye irritation persists: get medical advice/attention

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