



SAFETY DATA SHEET

CALDE™ TROWEL HQ 82 U

Version: 20
MAM10010

The following Safety Data Sheet has been created according to the Regulation (EC) No 1272/2008 [CLP/GHS], the Regulation (EU) No 453/2010 and the Commission Regulation (EU) 2015/830 (28th of May 2015) on compilation of e-SDS.

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

1.1. Product identifier

CALDE™ TROWEL HQ 82 U

1.1.1. Dates and Modifier of the Safety Data Sheet

| | |
|---------------------------------|--------------------------|
| Creation Date | 10/05/2016 (DD/MM/YY) |
| Modification Date: | 10/05/2016 |
| Modifier | JP Targe |
| Internal reference model | Model:_314_318_290_Sil_w |

1.1.2. SDS (Safety Data Sheet) status:

New

1.2. Relevant identifier uses of the substances or mixture and uses advised against:

1.2.1. Relevant identified uses:

Usages of the product according to the ECHA (European CHemical Agency) - Guidance R.12 Use descriptor system - draft version 2.0
SU10; 13+NACE C23.2+PC 10+PROC 1; 2; 3; 4; 5; 8a; 9; 13; 14; 19; 21; 22; 23; 24; 26+ERC 2;
3; 5+AC 12-1; 12-2
Unshaped refractory material
Restricted to industrial or professional users for application as safety or wear linings and maintenance of both in all industrial devices at temperatures > 1000°C.

1.2.2. Uses advised against:

Non relevant.

1.3. Details of the supplier of the safety data sheet:

1.3.1. Supplier:

CALDERYS REACH Service

1.3.2. Street adress:

4, allée de Lausanne – Bât. F

1.3.3. Country ID/Post code/Place:

F-38070 Saint Quentin Fallavier - France

1.3.4. Telephone number (and telefax):

Phone: +33 (0)4 74 99 99 40 - Fax: +33 (0)4 74 99 99 66

1.3.5. E-mail:

If another updated SDS is needed, please contact your local CALDERYS commercial desk.

For any precision about the content of this MSDS, please refer to the point 1.3.6.

1.3.6. National contact's name:

See local contact for your country at §16 - Point 16.9.

www.calderys.com

1.4. Emergency telephone number:

UK: The UK National Poisons Emergency number is 0870 600 6266 - (Outside the UK: +44 870 600 6266)

1.5. Opening hours:

Non relevant.

SECTION 2: Hazards identification

2.1 Classification of the substance or the mixture:

2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290

2.1.2. Classification according to Directive 1999/45/EC [DPD]

This regulation should not be used anymore.

2.1.3. Additional information:

For full text of H, EUH-phrases: see section 16.

2.2. Label elements:

2.2.1. Labelling according to directive 1999 45 EC [DPD]:

This regulation should not be used anymore.

2.2.1.1. Classification according to the GHS/CLP regulation:

Liquid corrosive to metals, hazard category 1

Skin corrosion, hazard category 1B

Serious eye damage, hazard category 1

2.2.1.2. Signal word:

Danger

2.2.2. Symbol(s) in black/white or colour according to directive 1999/45/CE [DPD]:

This regulation should not be used anymore.

2.2.2.1. Symbol(s) in black/white or colour according to the Regulation (EC) No 1272/2008 [CLP/GHS]:



2.2.3. Indication(s) of danger (1999/45/CE):

This regulation should not be used anymore.

2.2.4. Risk phrase(s) R (For full text of R phrases: see section 16)

This regulation should not be used anymore.

2.2.5. Safety phrase(s) S ; (For full text of S phrases: see section 16)

This regulation should not be used anymore.

2.2.6. Applicable label elements in accordance with sections A and B of annex V to the DPD (special provisions for certain mixtures):

Non relevant.

2.2.7. Authorization number(s) from ECHA:

Non relevant.

2.2.8. Labelling according to the Regulation (EC) No 1272/2008 [CLP/GHS]:

Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290 - P280 - P302+P352 - P333+P313 - P305+P351+P338 - P337+P313 - P501

2.2.9. GHS/CLP Precautionary statement phrases (P)

P280 - P302+P352 - P333+P313 - P305+P351+P338 - P337+P313 - P501

2.3. Other hazards:

No.

2.3.1. SVHC (Substance of Very High Concern):

No.

2.3.2. CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

No.

2.3.3. PBT : Persistent, Bioaccumulative and Toxic

No.

2.3.4. vPvB: very Persistent very Bioaccumulative

No.

2.3.5. POP: Persistent Organic Pollutant

No.

2.3.6. Formation of air contaminants during hardening or processing:

No.

SECTION 3: Composition / Information on ingredients

3.2. Mixture:

3.2.1. Non hazardous components

| Component | CAS N° / EC N° | Weight % |
|---|--|-----------------|
| Alpha-quartz - REACH: Substance exempted in accordance with Annex V.7 | CAS : 14808-60-7 Einecs : 238-878-4 | >=25 <50 |
| Kaolinite - REACH: Substance exempted in accordance with Annex V.7 | CAS : 1318-74-7 Einecs : 215-286-4 | >=25 <50 |

3.2.2. Hazardous components

| Component | CAS N° / EC N° | Weight % |
|---|-----------------------|-----------------|
| Silicic acid, sodium salt - Nr. REACH. 01-2119448725-31 | CAS : 1344-09-8 | |
| Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290 | Einecs : 215-687-4 | >=10 <25 |

SECTION 4: First aid measures

4.0. General Information:

Liquid products with chemical bonding: Segregation may occur, after some weeks of storage, between the mineral charge and its liquid binder.
Even if that product is not classified and labelled as complete, that liquid binder, back to its original form, may be irritating or corrosive.

4.1. Description of first aid measures

4.1.1. Eyes:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

4.1.2. Skin:

Wash with soap and water, if irritation persists seek medical advice.
If skin irritation or rash occurs: Get medical advice/attention.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

4.1.3. Ingestion:

If swallowed, rinse mouth with water (only if the person is conscious).
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

4.1.4. Inhalation:

If there is a sensation of nausea or dizziness, remove to fresh air and seek medical attention.

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

Redness, tearing.
Stinging to skin
Symptoms: Pain, redness and blurred vision.
Severe causticity with the possibility of severe ocular lesions

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

Information for doctor/physician: If swallowed, gastric irrigation.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

5.1.1. Suitable fire-fighting methods :

In case of fire use water based extinguishers or hosepipe.
In the event of larger fires, use carbon dioxide foam type fire extinguishers.

5.1.2. Unsuitable extinguishing media:

Non relevant.

5.2. Special hazards arising from the substance or mixture

In standard storage conditions, non-combustible, non-explosive and non-flammable.
Risk of serious damage to eyes.
Causes burns.

5.2.1. Hazardous decomposition products

None



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5.3. Advice for firefighters

5.3.1. Personal precautions:

Personal precautions : see Section 8.
Fire fighter clothing according to European standard EN469.
Personal precautions : wear alkali resistant clothing and gloves.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

6.1.1.1. Protective equipment:

Personal precautions : see Section 8.
Personal precautions : wear alkali resistant clothing.

6.1.1.2. Emergency procedures

Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment.

6.1.2. For emergency responders

Personal precautions : wear alkali resistant clothing and gloves.
Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment.

6.2. Environmental precautions

Prevent access to water table, running or stagnant water, or drains.

6.3. Methods and material for containment and cleaning up

6.3.1. Appropriate containment techniques may include any of the following:

6.3.1. - (a) bunding, covering of drains;

Non relevant.

6.3.1. - (b) capping procedures.

Non relevant.

6.3.2. Appropriate advices on how to clean-up a spill. Appropriate clean-up procedures may include any of the following:

6.3.2. - (a) neutralisation techniques;

Neutralize spills with absorbent materials.

6.3.2. - (b) decontamination techniques;

Non relevant.

6.3.2. - (c) adsorbent materials;

Sand, diatomite earth, saw dust, vermiculite.

6.3.2. - (d) cleaning techniques;

To clean the floor and all objects contaminated by this material, wash immediately with plenty of warm water.

Remove spilt material with shovel.

Sweep spilled substance; eliminate waste water in accordance with regulation

6.3.2. - (e) vacuuming techniques;

Remove by vacuum cleaner or mechanical means.

6.3.2. - (f) equipment required for containment/clean-up (include the use of non-sparking tools and equipment where applicable).

Put in drums after neutralisation.

Collect the spillage in closable, corrosion resistant, suitable disposal containers.

6.3.3. Other information relating to spills and releases:

6.3.3.1. Non allowed techniques:

Non relevant.

6.4. Reference to other sections

6.4.1. References:

Personal precautions : see Section 8.

Dump according to the definition in section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

7.1.1. Protective measures:

7.1.1.- (a) Measures to prevent fire:

Non relevant.

7.1.1.- (b) Measures to prevent aerosol and dust generation:

Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment.

7.1.1.- (c) Measures to protect environment:

Prevent access to water table, running or stagnant water, or drains.

7.1.2. Advice on general occupational hygiene:

When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities:

7.2.1. Technical measures and storage conditions:

Keep only in the original container at a temperature not exceeding 40°C.

Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment.

Stacking height: up to 2 pallets maximum.

7.2.2. Recommended packing:

Metal or plastic drums.

Cartons or drums with plastic liner.

Plastic shrink or cling film.

Wooden pallet with shrink film.

Always keep the main pallet label

7.2.3. Requirements for storage rooms and vessels:

Store away from direct source of heat to avoid product damage.

Avoid freezing conditions.

Do not store outside.

Store away from acids.

Store on alkali resistant floor.

Avoid contact with incompatibles mentioned under item 10

7.2.4. Storage class (national):

Unknown at that date.

7.2.5. Further information on storage conditions:

Do not store in packaging other than that of origin.

Do not transfer to light alloy metal, aluminium, zinc or tin coated steel.

Keep only in the original container at a temperature not exceeding 40°C.

Always keep in the original packaging.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Substance | CAS N° / EC N° | L.T.E - 8 hr TWA mg/m3 |
|---|--|---------------------------|
| Alpha-quartz - REACH: Substance exempted in accordance with Annex V.7 | CAS : 14808-60-7 Einecs : 238-878-4 | 0,1 |
| Kaolinite - REACH: Substance exempted in accordance with Annex V.7 | CAS : 1318-74-7 Einecs : 215-286-4 | No data |
| Silicic acid, sodium salt - Nr. REACH. 01-2119448725-31 | CAS : 1344-09-8 | No data |
| Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290 | Einecs : 215-687-4 | |

8.2. Exposure Controls:

The chart above mentionnes the lowest exposure limit values known in the EU for each substance.

All the values indicated in the chart above are available in the GESTIS database:

http://limitvalue.ifa.dguv.de/Webform_gw.aspx

http://www.dguv.de/medien/ifa/en/gestis/limit_values/pdf/scoel.pdf

The product is delivered as wet, so is not relevant to respirable dust.
Contains some substances without any approved Occupational Exposure values

8.2.0. DNEL (Derived no effect level)

Workers

Acronyms used in the following sentences.

DDD = DNEL Short Term exposure - Acute effect - Local

ROEX = Route of Exposure

INH = Inhalation dose in mg/m³

DERM = Dermal exposition in mg/kg bodyweight

8.2.0.1. Substance:

Silicic acid, sodium salt - CAS Nr.1344-09-8 - EINECS Nr.215-687-4 - DDD; ROEX; DERM = 1,59 - INH = 5,61

8.2.1. Appropriate engineering controls

Non relevant.

8.2.2. Individual protection measures, such as personal protective equipment

8.2.2.1. Good occupational hygiene practices

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

For details about the following HS personal devices, please see the annex dedicated to.
(Section .17)

8.2.2.2. Personal protective equipment according to the 89/686/EEC

8.2.2.2. (a) Eye/face protection

Wear a face shield

Wear safety glasses with lateral protection (166 rev. S4KN2)



8.2.2.2. (b) Skin protection

Wear alkali resistant clothing.



8.2.2.2. (c) Hands:

Suitable material for gloves: Nitrile rubber (NBR) - Natural rubber (NR) - Neoprene

Layer thickness of gloves at least: 0.4 mm

In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).

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

Not suitable are gloves made of the following materials: Leather gloves



8.2.2.2. (d) Respiratory protection

The product is delivered as wet, so is not relevant to respirable dust.

Consult the local regulation.



8.2.3. Environmental exposure controls

Prevent access to water table, running or stagnant water, or drains during installation or during



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washing the tools used for installation.

8.2.4. Exposure scenario:

Read carefully the relevant Exposure Scenario for sodium silicate placed as annex of the §17

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Appearance: | Wet mixture of aggregates and fine powders |
| Color: | Grey |
| Odour: | No particular odour |
| Melting point | > 1350 °C |
| Packing Density (g/cm3) : | Non relevant. |
| Vapour density: | Non relevant. |
| pH: | 10 < pH < 12 |
| Segregation: | BEWARE: Segregation may occur, after some weeks of storage, between the mineral charge and its liquid binder. |
| Boiling point: | Non relevant. |
| Flash point: | Non relevant. |
| Inflammability: | No. |
| Explosive properties: | No. |
| Combustive properties: | No. |
| Solubility solvent: | No. |
| Partition coefficient n-octanol/water: | Non relevant. |
| Viscosity: | 70 < mPa.s < 160 |
| Hydrosolubility: | Lower than 10% |

SECTION 10: Stability and reactivity

10.1. Reactivity

May react vigorously with strong acids.

10.2. Chemical stability

Chemically stable refractory product

10.3. Possibility of hazardous reactions

Strong exothermic reaction with acids

10.4. Conditions to avoid

Danger : Hazardous reaction in contact with acids.

Avoid incompatible materials mentioned in section 10.5.

10.5. Incompatible materials

Avoid ordinary steels, bases, nitrates, chlorates, calcium carbide, cyanid, sulphurs and sulphites.
Avoid contact with light alloy metal, aluminium, zinc or tin coated steel.

10.6. Hazardous decomposition products

None

SECTION 11: Toxicological information

| Substance | CAS N° / EC N° |
|--|---------------------------------------|
| Silicic acid, sodium salt - Nr. REACH. 01-2119448725-31 | |
| Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290 | CAS : 1344-09-8 Einecs : 215-687-4 |

11.1. Information on toxicological effects.

11.1.1. Substances.

Non relevant.

11.1.2. Mixtures.

Non relevant.

11.1.2.1. The relevant effects classes for which information shall be provided, are:**11.1.2.1. - (a) acute toxicity:**

Non relevant.

11.1.2.1. - (b) skin corrosion/irritation:

Causes burns.

Skin corrosion, hazard category 1B

11.1.2.1. - (c) serious eye damage/irritation:

Risk of serious damage to eyes.

Serious eye damage, hazard category 1

11.1.2.1. - (d) respiratory or skin sensitisation:

Non relevant.

11.1.2.1. - (e) germ cell mutagenicity:

Non relevant.

11.1.2.1. - (f) carcinogenicity:

Non relevant.

11.1.2.1. - (g) reproductive toxicity:

Non relevant.

11.1.2.1. - (h) STOT-single exposure:

Non relevant.

11.1.2.1. - (i) STOT - repeated exposure:

Non relevant.

11.1.2.1. - (j) aspiration hazard:

Non relevant.

11.1.2.2.1. C.M.R. - Classification of the mixture for the following health effects according to the Directive 1272/2008 [CLP/GHS]:

Non relevant.

11.1.2.3. Other health effects of the mixture.

The mixture wasn't tested as whole, read the information given for the substances used.

SECTION 12: Ecological information

12.1. Toxicity

The following points are theoretical conclusions:

Spillage may be dangerous if it comes in contact with incompatible materials see section 10.

12.1.1. Air:

Unknown at that date.

12.1.2. Water:

Prevent access to water table, running or stagnant water, or drains.

12.1.2.0 Toxicity linked to fishes, Daphnia, Other aquatic invertebrates, Bacteria, Algae:

Acronyms used in the following sentences.

TOF LC50 = Toxicity on fish LC50

TDOAI EC50 = Toxicity to daphnia and other aquatic invertebrates (EC50)

TDOAI NOEC = Toxicity to daphnia and other aquatic invertebrates NOEC

TTA EC50 = Toxicity to algae EC50

12.1.2.1 Substance:

Silicic acid, sodium salt - CAS Nr.1344-09-8 - EINECS Nr.215-687-4 - TOF LC50 = [1108 mg/l; 96 h] - Test unknown - [Fish: Danio Rerio] / TDOAI EC50 = [1700 mg/l; 48 h] - Test unknown - [Water flea: Daphnia magna] / TDOAI NOEC = [3480 mg/l; 18 h] - Test unknown - [Bacteria: Pseudomonas putida] / TTA EC50 = [207 mg/l; 72 h] - Test unknown - [Green Algae: Scenedesmus subspicatus]

12.1.2.2 PNEC : Predicted No-Effect Concentration

Acronyms used in the following sentences.

PNEC FW = PNEC Freshwater

PNEC SW = PNEC Seawater

PNEC WIR = PNEC Water intermittent release

PNEC Sd = PNEC Sediment

PNEC So = PNEC Soil

NR = Non relevant

12.1.2.3. Substance:



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Silicic acid, sodium salt - CAS Nr.1344-09-8 - EINECS Nr.215-687-4 - PNEC FW: 7,5 mg / l - PNEC SW: 1 mg / l - PNEC WIR: 7,5 mg / l - PNEC Sd: NR - PNEC So: NR

12.1.3. Soil :

Unknown at that date.

12.1.4. Flora:

Unknown at that date.

12.1.5. Fauna:

Unknown at that date.

12.1.6. Bee:

Unknown at that date.

12.2. Persistence and degradability

Unknown at that date.

12.3. Bioaccumulative potential

No.

12.4. Mobility in soil

Unknown at that date.

12.5. Results of PBT and vPvB assessment

Unknown at that date.

12.6. Other adverse effects

Unknown at that date.

However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment;

SECTION 13: Disposal considerations

13.0. DIRECTIVE 2008/98/EC ON INDUSTRIAL WASTE.

13.1. WASTE TREATMENT METHODS

Please consult local regulations and statutory European Union provisions
Dispose of substance in suitable containers in accordance with local, regional, national or international regulation. Do not dispose in waterways.

Offer surplus to a licensed disposal company.

Recycling and disposal of packaging has to be organised in cooperation with a suitable waste disposal company. The re-use of packaging is not recommended.

13.1.1. DISPOSAL OPERATIONS

D 5 Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)

D 9 Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)

13.1.2. RECOVERY OPERATIONS

R 5 Recycling/reclamation of other inorganic materials.

13.1.3. PROPERTIES OF WASTE WHICH RENDER IT HAZARDOUS

H 8 (Corrosive): substances and preparations which may destroy living tissue on contact.

13.2. POTENTIAL DANGER FROM THE WASTE:

Unknown at that date.

Before destruction and disposal of the refractory lining, customers are advised to evaluate any changes to the product that may be induced by the introduction of substances, or operating conditions outside the control of the Vendor

13.3. EUROPEAN LIST OF HAZARDOUS WASTES (2000/532/EC)

As this product can be used in multiple industries, all categories are potentially valid.

10 02 : Wastes from the iron and steel industry

10 02 06 : Spent linings and refractories

10 03 : Wastes from aluminium thermal metallurgy

10 03 99 : Wastes not otherwise specified

10 04 : Wastes from lead thermal metallurgy

10 04 08 : Spent linings and refractories

10 05 : Wastes from zinc thermal metallurgy

10 05 07 : Spent linings and refractories

10 06 : Wastes from copper thermal metallurgy

10 06 08 : Spent linings and refractories

10 07 : Wastes from silver, gold and platinum thermal metallurgy

10 07 06 : Spent linings and refractories

10 08 : Wastes from other non-ferrous thermal metallurgy

10 08 07 : Spent linings and refractories

- 10 09 : Wastes from casting of ferrous pieces
- 10 09 99 : Wastes not otherwise specified
- 10 10 : Wastes from casting of non-ferrous pieces
- 10 10 99 : Wastes not otherwise specified
- 10 11 : Wastes from manufacture of glass and glass products
- 10 11 08 : Spent linings and refractories
- 10 12 : Wastes from manufacture of ceramic goods, bricks, tiles and construction products
- 10 12 07 : Spent linings and refractories
- 10 13 : Wastes from manufacture of cement, lime and plaster and articles and products made from them
- 10 13 08 : Spent linings and refractories

SECTION 14: Transport information

ADR/RID/ADN class:

Non relevant to the UN classification on dangerous goods.

ICAO-TI / IATA-DGR class:

Non relevant to the UN classification on dangerous goods.

IMDG (marine) class:

Non relevant to the IMDG classification on dangerous goods.

14.1. UN number

Non relevant.

14.2. UN proper shipping name

Non relevant.

14.3. Transport hazard class(es)

Non relevant to the UN classification on dangerous goods.

14.4. Packing group:

Non relevant.

14.5. Environmental hazards:

Non relevant.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**15.1.4. Regulation 1272/2008/EC on the GHS/CLP, including the EC 605/2014 (6th ATP)**

The classification of this product has been established according to this regulation.

15.1.5. Regulation 453/2010/EC amending Regulation (EC) No 1907/2006

This SDS has been created according to this regulation.

15.1.6. Directive 2006/8/EC on CMR and hazardous substances for environment.

This product does not meet the criteria for classification in that directive.

15.1.7. Directive 94/9/EC on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX 95)

This product does not meet the criteria for classification in that directive.

15.1.8. Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres (ATEX 137)

This product does not meet the criteria for classification in that directive.

15.1.9. Decision No 2455/2001/EC on the list of priority substances in the field of water policy.

This product does not meet the criteria for classification in that directive.

15.1.10. MONTREAL Protocol on Substances That Deplete the Ozone Layer (7th revision)

This product does not meet the criteria for classification in that protocol: Mixture of inert minerals.

15.1.11. IBC: Institutional Biosafety Committee

This product does not meet the criteria for any biosafety classification.

15.1.12. MARPOL 73/78 (the International Convention for the Prevention of Pollution from Ships)

This product does not meet the criteria for classification in that directive.

15.1.13. STOCKHOLM convention on persistent organic pollutants (POPs)

This product does not meet the criteria for classification in that directive.

15.1.14. ROTTERDAM Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

This product does not meet the criteria for classification in that directive.

15.1.15. Directive 96/29 EURATOM :

This product does not meet the criteria for classification in that directive.

15.2. Chemical Safety Assessment

This product doesn't require a Chemical Safety Assessment.

15.3. Occupational illness

Commission Recommendation of 19 September 2003 concerning the European schedule of occupational diseases (Text with EEA relevance) (notified under document number C(2003) 3297)
Non relevant.

15.5. Other national relevant Safety, health and environmental regulations/legislation specific for the substance or mixture:

15.5.- (a) TA Air/TA Luft (German Technical Instructions on Air Quality Control)

This product does not meet the criteria for classification in that directive.

15.5.- (b) WgK: German Water hazard class (from the Administrative Regulation on substances hazardous to water - assessment):

The product, (according to German regulation) is classified as (in the sense of 17.05.1999):
WGK 1: slightly hazardous to water (self-classification)

SECTION 16: Other information

16.0. Additionnal safety information:

As announced in the Sub-section 2.1.3. find below the full text of the Hazard statement phrases (H - EUH) and Precautionary statement phrases (P) from GHS/CLP phrases indicated.

16.1. GHS/CLP Pictograms

16.1.1. Symbol(s) in black/white or colour according to the Regulation (EC) No 1272/2008 [CLP/GHS]:



16.1.2. Labelling according to the Regulation (EC) No 1272/2008 [CLP/GHS]:

Skin Corr.1B; H314 - Eye Dam.1; H318 - Met.Corr.1; H290

16.1.3. Classification according to the GHS/CLP regulation:

Liquid corrosive to metals, hazard category 1

Skin corrosion, hazard category 1B

Serious eye damage, hazard category 1

16.1.4. Signal word:

Danger

16.1.5. GHS/CLP Hazard statement phrases (H - EUH):

H290: May be corrosive to metals.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

16.6. GHS/CLP Precautionary statement phrases (P)

P280: Wear protective gloves, protective clothing, eye protection and a face protection.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

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

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

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

P501: Dispose of contents/containers in accordance with local regulation

16.7. Training:

Non relevant.

16.8. Other informations :

This safety data sheet (SDS) has been compiled according to Directive 453/2010/CE

The limits shown are from annex I of the European Directive 67/548 EEC modified on 17th of March 2007.

The limits shown are from annex VI of the GHS as of 07/10/2012

SDS status :

Modifier

JP Targe

Modification Date : 10/05/2016



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Modification:

New

As the Directive 1999/45 / EC [DPD] is obsolete now, this Safety Data Sheet does not contain anymore information related to the old system. All data information are now related only to Regulation (EC) No. 1272/2008 [CLP / GHS], Regulation (EU) No 453/2010 and to the Commission Regulation (EU) 2015/830 (28th of May 2015) on compilation of e-SDS. Therefore, all sections and sub-sections have been modified.

Acronyms and abbreviations used:

AAA = DNEL Long Term exposure - Chronic effect - Local
ADR: European regulation on transport of dangerous goods by road.
AOEL: Acceptable Operator Exposure Level
AOX: Adsorbable Organic Halogen
BBB = DNEL Long Term exposure - Acute effect - Local
BCF: Bioconcentration factor
BOD: Biochemical Oxygen Demand (BOD)
CAS: Chemical Abstracts Service
CCC = DNEL Short Term exposure - Chronic effect - Local
CLP : Classification, Labelling and Packaging of chemicals
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
COD: Chemical Oxygen Demand.
CSA : Chemical Safety Assessment
CSR : Chemical Safety Report
DDD = DNEL Short Term exposure - Acute effect - Local
DNEL : Derived No-Effect Level
EC: Ecotoxicity
EC50: Half maximal effective concentration
ECHA : European Chemical Agency
EINECS: European Inventory of Existing Commercial Chemical Substance.
ES : Exposure Scenario
eSDS : extended Safety Data Sheet
GefStoffV: German regulation on hazardous substances.
GHS : Global Harmonized System of classification and labelling of chemicals
GHS/CLP: Globally Harmonized System of Classification, Labelling and Packaging of chemicals
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the International Air Transport Association
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instruction by the International Air Transport Association
IMDG: International Maritime code for Dangerous Goods.
JAP-ISHA-C.O.Nr. = Japanese Industrial Safety and Health Act - Cabinet Order Nr.
JAP-PDSA-C.O.Nr. = Japanese Poisonous and Deleterious Substances Control Act - Cabinet Order Nr.
JAP-PRTR-C.O.Nr. = Japanese Pollutant Release and Transfer Register - Cabinet Order Nr.
LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.
LOAEL: Lowest observed adverse effect level
MFSU: Manufacture, Formulation, Supply and Use
NEC: No effect concentration
NOEC: No Observed Effect Concentration
N.O.S. : Not Otherwise Specified
NLP : No-Longer Polymers
OECD: Organisation for Economic Co-operation and Development
PAH: Polycyclic Aromatic Hydrocarbon.
PBT : Persistent, Bioaccumulative and Toxic
PEC : Predicted Environmental Concentration
PNEC : Predicted No-Effect Concentration
PNEC Co = PNEC Coral
PNEC FW = PNEC Freshwater
PNEC Sd = PNEC Sediment
PNEC So = PNEC Soil
PNEC SW = PNEC Seawater
PNEC WIR = PNEC Water intermittent release
POP: Persistent Organic Pollutant
CSFF: Crystalline Silica Fine Fraction (according to the standard EN 481)
REACH : Registration, Evaluation, Authorisation and Restriction of Chemical substances
RID: International regulation on transport of dangerous goods by railway.
RIP : REACH Implementation Project



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RMM : Risk Management Measure

ROEX = Route of Exposure

SVHC : Substance of Very High Concern

TDOAI EC50 = Toxicity to daphnia and other aquatic invertebrates (EC50)

TDOAI NOEC = Toxicity to daphnia and other aquatic invertebrates NOEC

TGD : Technical Guidance Document

ThOD: Theoretical Oxygen Demand

TOF LC50 = Toxicity on fish LC50

TOF NOEC = Toxicity on fish NOEC

TTA EC10 = Toxicity to algae EC10

TTA EC50 = Toxicity to algae EC50

TTA NOEC = Toxicity to algae NOEC

TTB EC0 = Toxicity to Bacteria (EC0)

TTB NOEC = Toxicity to Bacteria NOEC

UVCB : Substances of Unknown Variable composition, complex reaction products or Biological materials

vPvB: very Persistent very Bioaccumulative

17. Annexes:

Attached annex : Medical toxicology units

Attached annex: HS Devices - Personal protection

Attached annex : Silicic acid, sodium salt scenario exposure



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Annex: MEDICAL TOXICOLOGY UNITS

Greece - ΕΛΛΑΣ, Αθήνα Αθηνών:

Νοσοκομείο Παιδιών "Αγλαΐα Κυριακού" - 11527 Αθήνα - Τηλ: +30 1 779 3777 - Fax: +30 1748 6114

United Kingdom:

The UK National Poisons Emergency number is 0870 600 6266
(Outside the UK: +44 870 600 6266)

France:

système ORFILA, tél: 33 (0)1.45.42.59.59 (24h/24h)

Italia:

Roma : Centro Antiveleni, Dipartimento di Tossicologia Clinica, Universita Cattolica del Sacro Cuore, Largo Agostino Gemelli 8, I-00168 Roma - Telefono di emergenza: +39 06 305 4343

Nederland:

Rijkinstituut voor Volksgezondheid, Antonie van Leeuwenhoeklaan 9, 3720BA Bilthoven - Tel: +31 302 541 5 11 – Fax: +31 302 748 888

España:

Servicio Nacional de Toxicología, c/Luis Cabrera, 9 – 28002 Madrid, Tel: +34 915 62 04 20
Unitat de Toxicologia Clínica, Servicio de Urgencias, Hospital Clinic i Provincial de Barcelona, C/Villarroel, 170, E-08036 Barcelona - Telèfon d'urgències: +34 93 227 98 33 or +34 93 227 54 00 bleep 190 - Fax: +34 93 227 56 93

Hungary - Magyarország

Egészségügyi Toxikológiai Tájékoztató Szolgálat - 1097 Budapest, Nagyvárad tér 2. - Telefon: +36 80 20 11 99, Fax: +36 1 476 1138

Romania:

S.O.S Vitan Birzesti 9, Sector 4, 75889 Bucureşti - Tel: +401 6 34 38 90 135 – Fax: +401 3 21 02 60
Departamentul de Toxicologie Clinică, Spitalul de Urgență Floreasca, Calea Floreasca, Bucureşti - De telefon de urgență: +40 21 230 8000

Belgique:

Brussels / Bruxelles : Centre Anti-Poisons/Antigifcentrum, Hôpital Militaire Reine Astrid, Rue Bruyn, Brussels B -1120 - Emergency telephone: +32 70 245 245 - Fax: +32 2 264 9646

Denmark:

Giftinformationscentralen - Bispebjerg Hospital, Bispebjerg Bakke 23, 60, 1, DK-2400 København NV - Nødtelefon, offentlige: +45 82 12 12 12

Osterreich:

Vergiftungsinformationszentrale, Allgemeines Krankenhaus Waehringer Geurtel 18-20, Wien 1090 - Telephone: +43 1 40 400 2222

Australia:

1- South Australian Poisons Information Centre Women's and Children's Hospital, 72 King William Road North Adelaide SA 5006 - Tel: +61 82 04 72 22 - Fax: +61 82 04 60 49

2 - Canberra A.C.T. Poisons Information Service, Woden Valley Hospital, Garran, Yamba Drive - Tel: +61 62443333 / +61 62852852 - Fax: +61 6244 3334

India:

Poison Information Centre National Institute of Occupational Health Meghani Nagar, Ahmedabad - India 320016 - Tel: +91-272-867351 - Fax: +91-272-866630

RSA :

Poison Information Centre, University of Cape Town, Department of Paediatrics and Child Health, Red Cross War Memorial Children's Hospital, Klipfontein Road, Rondebosch, Cape 7700, South Africa - Tel: +27 21 658 5308 - Fax: +27 21 689 1287

Brazil:

Centro de Informação Toxicológica, Rua Domingos Crescencio, 132/8 andar CEP 90650-090 Porto Alegre-RS - Tel: +55 51-223-6110 - Fax: +55 51 2299067

Poland - Polska:

Warszawa, Poison Control Warszawie i Centrum Informacji, Szpital Praski, Al. Solidarności 67, P-03 401 Warszawa - Telefon alarmowy: +48 22 619 66 54, +48 22 619 08 97

Russia - Российская Федерация:

МЧС России - Центральный офис: 109012 Г.МОСКВА, ТЕАТРАЛЬНЫЙ ПР.,3 - Телефон: (495)



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449-99-99 или 122 (мобильный телефон) - Сайт:
<http://www.mchs.gov.ru> Исследования и прикладной токсикологии
Центра (RATC) Федерального медико-биологического агентства, 3 Большая Сухаревская
площадь, Блок 7, Москва 129090 - Телефон экстренной связи: +7 495 628 16 87 (только на
русском)

Finland - SUOMI

Myrkytystietokeskuksen P.O.B 790 (Tukholmankatu 17), SF - 00029 HUS, Helsinki -
Puhelin: +358 9 471 977, Fax: +358 9 4717 47 02

Norway - NORGE

Gift Informasjon, Direktoratet for Sosial-og helsedirektoratet, P.O. Box 7000, St. Olavs Plass, 0130
Oslo - Emergency telefon: +47 22 591300

Sweden - SVERIGE

Svenska Giftinformationscentralen, Karolinska sjukhuset, SE-171 76 Stockholm - Telefonnummer för
nödsituationer: +46 8 33 12 31 (International) 112 (Nationella)

Germany - DEUTSCHLAND

Giftnotruf Berlin, Berliner Betrieb für Zentrale Gesundheitliche Aufgaben, Institut für Toxikologie,
Oranienburger Straße 285, 13437 Berlin - Notrufnummer: +49 30 19240

Bulgaria - България

Национална Токсикологична информационен център, Институт за спешна медицинска
"Пирогов", 21 Totleben Boulevard, 1606 София - Телефон за спешни случаи: +359 2 9154 409

Croatia - Hrvatska

Otrovi Kontrolni centar, Institut za medicinska istraživanja i medicinu rada, Ksaverska cesta 2, PP Box
291, HR-10000 Zagreb - Hitna Telefon: +385 1 234 8342

Czech Republic - česká republika

Toxikologické informační středisko, Klinika pro pracovní lékařství, 1. lékařská fakulta Univerzity
Karlovych, Na Bojišti 1, 128 00 Praha 2 -
~~2101 0203 naho +42 2 2101 5402 Fax: +42 2 2101 1570~~ Nouzové telefonní číslo: +42 2

Turkey - Türkiye

Toksikoloji Anabilim Dalı ve Zehir Merkezi, Refik Saydam Hıfzıssıhha Merkez Araştırma Enstitüsü,
Cemal Gürsel Cad yok. 18, Sıhhiye, Ankara 06100 - Acil telefon numarası: 0 800 314 7900
(Türkiye), veya +90 0312 433 70 01 - Faks: +90 0312 433 70 00



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| ROUTE OF EXPOSURE | | | |
|--|------------------------|-----------------------|---------------------|
| EYES | SKIN | HANDS | INHALATION |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask FFP3 |
| DEDICATED USAGE: Non labelled, cast, hydraulic bonded products, cold conditions. | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes ISO6942 | Gloves 407 - 2122 | Mask FFP3 |
| DEDICATED USAGE: Non labelled, cast, hydraulic bonded products, hot conditions. | | | |
| Face shield 166 rev, F4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask FFP3 |
| DEDICATED USAGE: Non labelled, gunned, hydraulic bonded products, cold conditions. | | | |
| Face shield 166 rev, F4KN2 | Clothes ISO6942 | Gloves 407 - 2122 | Mask FFP3 |
| DEDICATED USAGE: Non labelled, gunned, hydraulic bonded products, hot conditions. | | | |
| Face shield 166 rev, F4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask FFP3 |
| DEDICATED USAGE: Non labelled chemical bonded gunning mixes, cold installation | | | |
| Face shield 166 rev, F4KN2 | Clothes ISO6942 | Gloves 407 - 2122 | Mask FFP3 |
| DEDICATED USAGE: Non labelled chemical bonded gunning mixes, hot installation | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask FFP3 |
| DEDICATED USAGE: Labelled hydraulic bonded products, cold installation | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes ISO6942 | Gloves 407 - 2122 | Mask EN 141:2000 |
| DEDICATED USAGE: Labelled hydraulic bonded products, hot installation | | | |
| Face shield 166 rev, F4KN2 | Clothes ISO6529-463 | Gloves 3121 - 1994 | Mask Local rules |
| DEDICATED USAGE: Phosphate bonded products | | | |
| Face shield 166 rev, F4KN2 | Clothes ISO17491-3 | Gloves 3121 - 1994 | Mask Local rules |
| DEDICATED USAGE: Sodium silicate bonded products | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask EN 141:2000 |
| DEDICATED USAGE: Labelled dry mixes | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask FFP3 |
| DEDICATED USAGE: Non labelled dry mixes | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask Local rules |
| DEDICATED USAGE: Non labelled plastics or ramming mixes | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes ISO6942 | Gloves 407 - 2122 | Mask FFP3 |
| DEDICATED USAGE: Resin bonded products, cold installation. | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask EN 141:2000 |
| DEDICATED USAGE: Resin bonded products, hot installation | | | |
| Glasses with lateral protection 166 rev, S4KN2 | Clothes 340 rev | Gloves 388 - 3111 | Mask Local rules |
| DEDICATED USAGE: Non labelled cement, patched, sprayed or trowelled products | | | |



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| |
|--|
| 1. Short title of exposure scenario 1 |
| Workplace exposure to sodium silicate solutions: Manufacture of the substance as well as industrial uses. |
| Sector of use (SU): Descriptive purpose only, not relevant for exposure assessment. |
| SU3: Industrial uses: Uses of substances as such or in preparations* at industrial sites |
| SU13: Manufacture of other non-metallic mineral products, e.g. plasters, cement |
| SU14: Manufacture of basic metals, including alloys |
| SU15: Manufacture of fabricated metal products, except machinery and equipment |
| SU0: Others: Laboratories (all scales) |
| Product category (PC): Descriptive purpose only, not relevant for exposure assessment. |
| PC7: Base metals and alloys |
| PC21: Laboratory chemicals |
| Process category (PROC) |
| PROC1: Use in closed, continuous process, no likelihood of exposure |
| PROC2: Use in closed, continuous process with occasional controlled exposure |
| PROC3: Use in closed batch process (synthesis or formulation) |
| PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises |
| PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). |
| PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. |
| PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. |
| PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) |
| PROC13: Treatment of articles by dipping and pouring |
| PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation |
| PROC15: Use as laboratory reagent |
| PROC19: Hand-mixing with intimate contact and only PPE available |
| PROC22: Potentially closed processing operations with minerals/metals at elevated temperature (Industrial settings) |
| PROC23: Open processing and transfer operations with minerals/metals at elevated temperature |
| PROC25: Other hot work operations with metals |
| PROC26: Handling of solid inorganic substances at ambient temperature |
| Article category (AC): Not relevant for exposure assessment, not intended for release. |
| AC4: Stone, plaster, cement, glass and ceramic articles |
| AC01: Paving blocks, slabs, bricks, moulded glass, ceramic, refractory cements, mortars and concretes, etc. |
| Environmental release category (ERC): Not relevant for exposure assessment, not classified as dangerous for the environment |
| ERC1: Manufacture of substances |
| ERC2: Formulation of preparations |
| ERC3: Formulation in materials |
| ERC4: Industrial use of processing aids in processes and products, not becoming part of articles |
| ERC5: Industrial use resulting in inclusion into or onto a matrix |
| ERC6A: Industrial use resulting in manufacture of another substance (use of intermediates) |
| ERC6B: Industrial use of reactive processing aids |
| ERC8A: Wide dispersive indoor use of processing aids in open systems |
| ERC8B: Wide dispersive indoor use of reactive substances in open systems |
| ERC8C: Wide dispersive indoor use resulting in inclusion into or onto a matrix |
| ERC8D: Wide dispersive outdoor use of processing aids in open systems |



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ERC8F: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
ERC9A: Wide dispersive indoor use of substances in closed systems
ERC10A: Wide dispersive outdoor use of long life articles and materials with low release
ERC11A: Wide dispersive indoor use of long life articles and materials with low release.

| |
|--|
| 3. Operational conditions for which the exposure scenario ensures control of risk |
| 3. 1 Operational conditions related with substance/ product |
| Physical form of product in which the substance is contained: Liquid % solution (vapour pressure 0.00016 kPa % 1172 °C) |
| Concentration of substance in preparation or article: Covers percentage substance in the product up to 100 % |
| Duration of exposure at workplace: > 4 hours/day - Except for PROCs 7 and 11: Avoid operations for more than 1 hour |
| Frequency of exposure at workplace: Covers frequency up to: daily use, weekly, monthly and yearly. |
| Annual amount used: Unlimited |
| 3.3 Other relevant operational conditions: Indoor and outdoor operations. |
| 4. RMMs that, in combination with the operational conditions of use, ensure control of risk. |
| 4.1 RMMs related to workers. |
| General: Whenever handling sodium silicate as a substance on its own (powder/ granules or liquid) or in a mixture outside closed systems, suitable personal protective equipment are the preferred and only measure of control. Definition of PPE will depend on the use and concentration. |
| Organisational measures: Procedural and/or control technologies are required to minimise emissions and the resulting exposure during cleaning and maintenance procedures or if there is a risk of the occupational exposure limit being exceeded. |
| Technical measures: PROC 7, 11: Provide enhanced general ventilation by mechanical means if respiratory protection is not available. |
| Respiratory protection: Wear a respirator conforming to EN140 with Type A/P2 filter or better. Specifically required for PROC 7, 11. |
| Hand protection: Wear suitable gloves (tested to EN374). |
| Eye protection: Wearing of eye/face protection is required. Chemical goggles should be consistent with EN 166 or equivalent. |
| Skin and body protection: Wearing of suitable protective clothing is required. |
| Hygiene measures: |



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Good basic standards of occupational hygiene assumed to be implemented:
Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work.
Keep work clothes separate. Take off immediately all contaminated clothing. Wash thoroughly after open handling of the product.

4.2 Environment related measures; type and efficiency of single options or combination of options on exposure to be quantified; options to be phrased as instructive guidance

Not required, as soluble silicates, including sodium silicate, do not meet the criteria for classification as dangerous to the environment according to 67/548/EEC (See Article 14.4 of REACH Regulation). Furthermore, as high production volume substances, soluble silicates have been reviewed to a great extent for their exposure potential to the environment and the possible risks arising from their release (Van Dokkum et al. 2002, OECD SIDS 2004, HERA 2005, and CEES 2008). It was concluded that soluble silicates are currently of low priority for further work because of their low hazard profile.

5. Prediction of exposure resulting from the conditions described above and the substance properties.

Workers (oral):

Negligible oral exposure due to good hygiene practice

Workers (dermal): DNEL (dermal, worker): 1.59 mg/ bw kg/day

Estimated Exposure Concentrations: 0 mg/cm²

Dermal exposure is prevented by personal protective equipment (protective clothing, gloves, goggles) which is mandatory because of potential corrosive properties of sodium silicate.

Workers (inhalation): DNEL (inhalation, worker): 5.61 mg/ m³

Calculated with ECETOC TRA

Spraying operation with PPE – 25% solutions: 3.7 mg/m³

Spraying operation with PPE – > 25% solutions – < 1hr: 4.9 mg/m³

Environment: Not required

6. Guidance to check compliance with the Exposure Scenario

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in this exposure scenario are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.