Solus is an established porcelain, ceramic, glass, metal and natural stone tile supplier offering an endless variety of products, directly sourced from manufacturing partners. Tapping into strong manufacturer relationships and the company’s wealth of experience, Solus consistently remain at the forefront of the latest developments and trends within the tiling industry.

Working with Architects, Interior Designers and other Professional Specifiers to deliver technical and aesthetic solutions for a wide variety of tiling projects across Europe is key to the company’s success. Solus has amassed invaluable experience in projects within both the public and private sectors.

Cleaning and Maintenance

Page 3
Solus Initial Cleaner

Page 5
Solus Everyday Cleaner

Page 11
Solus Degreaser

The Guide gives an introduction to the best products to clean and maintain beautiful porcelain and ceramic tiles.

From the Solus Initial Cleaner, suitable for the removal of cement deposits during builders clean prior to hand-over, to the Solus Degreaser, used for cleaning heavy traffic workshop areas; and for all other areas the gentle cleaning action of the pH neutral Solus Everyday Cleaner.
CLEANING OF PORCELAIN AND CERAMIC FLOOR TILES

The condition of a cleaned tile floor is dependent on using the appropriate machinery, cleaning solutions and methods. The machinery and manpower required to achieve the best possible cleaning result is the responsibility of the cleaning and maintenance contractors. Your cleaning contractors should ensure a new floor has undergone a builders clean and is in a good condition prior to the hand over from the builders to avoid inheriting long term cleaning problems.

During construction a floor is laid in sections, then grouted. Surplus grout is washed off taking care to avoid the joints. After the grout has cured, a further rinse is necessary before the floor is then protected by a cover of taped soft board or an equivalent. This should be left in place until all other trades have completed their work and the floor is no longer at risk from building damage.

**Builders clean**

An initial builders clean is fundamental to the maintenance of a newly laid tile floor. Failure to execute this procedure correctly will cause problems particularly where anti-slip tiles are concerned. The grouting process leaves an invisible film of cement residue which, if not completely removed, will allow the build up of dirt and grime reducing the floor’s slip resistance impairing the products technical characteristics.

The builders clean should be carried out as follows:

1. The floor must be swept and vacuumed and all dust and debris removed.
2. Using a single disc professional cleaner with green pads for plain surface tiles and brush pads for anti-slip tiles together with a phosphoric based acid detergent such as Solus Initial Cleaner (page 5) - normally diluted 1:5 with water (this can vary according to the degree of builders/cement residue). This will remove existing build ups of grout residue, lime scale, rust stains, scum film, uric acid salts and sand foot dirt. The procedure should be carried out in areas of approximately 50m² at a time, the solution is placed on the area and must be left for three to five minutes to allow the chemical to work - but not allowed to dry. The scrubber/drier using green pads or brush pads should be used to work the floor in one direction continuously and then in the other direction for approximately 15 minutes ensuring that the floor is not allowed to dry. The dilution of the detergent and water is dependent on the degree of cleaning required.
3. Use a vacuum wet pick up to remove the soiled water.
4. Rinse the floor twice, using clean warm water.
5. Vacuum up the soiled water, ensuring that all traces of the acid have been removed.
6. The machine and its pads should be cleaned thoroughly after each use. The rinsing is an integral part of the cleaning process, as any chemicals left on the tiles will harden and attract dirt.

The area should now be in an acceptable condition for the cleaning and maintenance contractors to take over the daily cleaning regime.

**Daily cleaning and maintenance - general areas**

There are several general purpose neutral cleaners which must be PH7, one of which is Solus Everyday Cleaner (page 11). These are effective for the regular cleaning and maintenance of tiles; however, it is vital that they do not contain animal fats, oils, wax, or polymers as a base. If used, cleaners containing these substances will cause problems, as they leave behind a residue that attracts dirt. Again we emphasize the importance of rinsing with clean warm water.

1. Sweep and vacuum all the areas thoroughly.
2. Using a single disc professional cleaner with green pads for plain surface tiles and brush pads for anti-slip tiles apply the detergent to the floor. Normally diluted 1:200 with water (this can vary according to the degree of cleaning required) allowing at least 5 minutes for it to react, but not allow to dry. Do not use the vacuum pick up at this stage. The best results are achieved by passing the machine back and forth and from side to side. After 5 minutes, use the vacuum pick up and remove the soiled water.
3. Rinse thoroughly with clean warm water and remove excess.
4. Depending on the size of the area, it may be advisable to have a second scrubber/drier to carry out the rinsing and vacuuming operation.

**Periodic deep clean**

Depending on the degree of soiling and foot traffic levels or in hard water areas, a deep cleaning procedure should be carried out at periodic intervals depending on the soiling. This is particularly necessary where white or light coloured or anti-slip surfaces are in use. For the periodic deep clean, use the same process as the builders clean, but an alkaline should be used (Solus Degreaser - Page 17) and then thoroughly rinsed with clean warm water.

Monitoring the tile condition and the general cleanliness is essential for routine cleaning, so as to amend the frequency of the deep clean, taking particular notice of heavily trafficked areas or food court environments. Please note that whatever cleaning material is selected as being the most suitable for the operator, it must always be used in accordance with the manufacturer’s recommendations.

**Epoxy grouting**

All tiles should be given a coat of a temporary sealer prior to epoxy grouting. The grouting must be thoroughly cleaned off in accordance with the suppliers’ recommendations. Any residue of grout left to cure may be impossible to clean; however, Solus Degreaser will help to clean the grout from the tile. This is also useful to remove black rubber and tyre marks.

**IMPORTANT NOTES**

Whenever there appears to be a problem, it is generally thought that this can be resolved by using more of the chemical or scrubbing harder with the wrong chemical, which is not effective at all. If the correct chemical and procedure is not used, this only increases the problem and build up, particularly in instances where general purpose cleaning agents are involved which are a neutral detergent, but not PH7. The products mentioned are all bio-degradable and therefore safe for use, as recommended by the manufacturers.

This information is given in good faith and is intended only as a guide, as each installation has its own logistic problems. Where light or solid/plain colours have been chosen a more stringent cleaning regime will be required. All information is based on our experience and customers own recommendations. No liability is accepted for any cleaning solution or named supplier by Solus and we recommend that a test area is cleaned prior to these recommendation being carried out.

**ALL PRODUCTS ARE AVAILABLE FROM SOLUS**

Product data sheets are available for: Solus Everyday, Solus Initial and Solus Degreaser.
SOLUS INITIAL CLEANER

Solus Initial Cleaner is an acid descaling floor cleaner suitable for the removal of grout residues and general dirt accumulated during tile installation. It is suitable for use on porcelain, stoneware, quarry tiles and terracotta.

What does it do?
- Removes grout residues and building-site dirt.
- Eliminates any saline efflorescence from terracotta.
- Removes lime deposits from floors, wall tiles and bathroom fixtures.
- Penetrating cleaner for outdoor paving.
- All-in-one descaler and detergent: contains high concentrations of surfactants.
- Removes rust stains.

Advantages (when used as suggested)
- Does not emit fumes that are harmful to users or the environment, a welcome substitute to hydrochloric acid.
- Does not alter the surface colour or appearance.
- Cleans without damaging surfaces.
- Does not harm aluminium or steel trims.
- Multi-purpose with terracotta, porcelain stoneware and acid-resistant stone.
- Dual use according to dilution, can be used as either a detergent or a descaler.

How to use
Dilution: 1:5 – 1:10 depending on the type of soiling to be removed.

Application
1. Spread with a single-disc professional cleaner or rag and leave to act for a few minutes.
2. Clean using a single-disc professional cleaner fitted with the most appropriate disc (e.g.: brown for terracotta, green for porcelain) or a floor cleaning brush
3. Vacuum or wipe up residue
4. Rinse with clean water
5. If the area is still not completely clean then repeat with a stronger concentration

Dilution & coverage
With one litre
Terracotta 1:5 covers 20 m²
Porcelain stoneware 1:5 covers 40 m²
Natural stone 1:5:1:10 covers 20/35m²

Packaging
1 litre flasks in box of 12.
5 litre flasks in box of 4.

Precautions
Do not use Solus Initial Cleaner on glossy or pre-polished marble and in general on acid-sensitive materials (e.g. black slate). Before cleaning ceramic tiles, patch test a small area for resistance to the product.

Composition
Contains: non-ionic surfactant < 5%
Other components: fragrance

Labelling
Risk phrases
Irritating to eyes and skin.

Safety phrases
Keep out of the reach of children.
Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable gloves.
If swallowed, seek medical advice immediately and show container or label.

Technical information
Appearance: liquid
Odour: Pungent with floral fragrance
Density: 1,129 kg/litre
pH: (10% solution): 1.5

The information above reflects our latest technical know-how and is the outcome of ongoing laboratory research and testing. However, some factors are beyond our control. It is essential to integrate our suggestions with your own on-site preliminary tests and check.

Solus accepts no liability for improper use of its products.
Solus Initial Cleaner safety sheet (Dated 14/03/11)

1. Identification of the substance/preparation and of the company/undertaking
Trade name: Solus Initial Cleaner
Product type and use: Acid descaling floor cleaner
Supplier: Solus
Competent person responsible for the safety data sheet: info@solusceramics.com

2. Hazards identification
Substance/preparation classification
This preparate is dangerous under 67/548/EEC and 1999/45/EC regulations and subsequent amendments. Therefore, this preparate requires a safety data sheet according to the 91/155/EC regulation and subsequent amendments. Further information on health and/or environmental hazards can be found in sections 11 and 12 of this sheet.

3. Composition / information on ingredients
Classification ALCOHOL SECONDARY LINEAR
ETHOXILAT 2 ≤ C < 5%
Cas No 068131-40-8

Classification PHOSPHORIC ACID 15 ≤ C < 30%
Cas No 7664-38-2
CE No 231-633-2
Index No 015-011-00-6

Ingredients according Regulation (EC) No 648/2004 less than 5% non-ionic surfactants perfumes.

4. First aid measures
Contact with eyes: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

Contact with skin: Immediately wash with plenty of water. Remove all contaminated clothing. Obtain immediate medical attention. Wash contaminated clothing separately before using them again.

Inhalation: Move to open air. If breathing is irregular or stopped, administer artificial respiration. Obtain immediate medical attention.

Ingestion: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Give nothing by mouth to an unconscious person.

5. Fire-fighting measures
Allow containers to cool in order to avoid product decomposition and generation of substances which might damage health and be dangerous for safety reasons. Wear fire equipment all the time.

6. Accidental release measures
Limit the spreading of the spillage with inert absorbent material (sand, earth etc). Neutralise and remove as far as possible the treated mass; wash the remainder with plenty of water.

7. Handling and storage
Make sure that equipment is available for cooling the vessels, to prevent the danger of overpressure and overheating in the event of fire in the vicinity. Refer to the other sections of this data sheet for information relating to health and environmental risks.

8. Exposure control / personal protection
Phosphoric Acid
TLV TWA 1 mg/m³ ACGIH
TLV STEL 3 mg/m³ ACGIH
OEL 1 mg/m³ EU (8h)

Against corrosive properties of the product and according to the type of working, suitable protection equipment should be worn. Such as: a helmet to protect the face, the head and the neck, waterproof gloves and overall, resistant to the product. Do not eat, drink or smoke while handling it; wash hands carefully with soap and water before meals and after work shift; a shower is recommended.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Typical prickly smell with floral fragrance</td>
</tr>
<tr>
<td>pH</td>
<td>N.A.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 61 °C</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1,029 Kg/l</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
</tbody>
</table>

10. Stability and reactivity
The product is stable in normal conditions of use and storage. Due to thermal decomposition or in the event of a fire vapours may be produced potentially dangerous to health. Phosphoric acid decomposes when heated forming toxic fumes of phosphorus oxide; it reacts with several metals with the formation of hydrogen which is explosive. Above 200 °C it also attacks glass.

11. Toxicological information
Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Contact with eyes may cause slight irritation. Vapour inhalation may slightly irritate the upper respiratory tract. Ingestion may cause health disorders, including stomach pain, nausea and sickness. This product may cause serious ocular lesions, cornea opacity, iris lesions and irreversible eye coloration.

12. Ecological information
Use this product according to good working practices. Avoid litter. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

13. Disposal consideration
Consider the possibility of burning the product in a suitable incinerator. Acid or basic products must always be neutralised before undergoing any treatment, including biological treatment whenever feasible. If the waste is solid, it can be disposed of in a landfill.
14. Transport information
These goods must be transported by vehicles authorised to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations.

These goods must be packed in their original packaging or in packaging made of material resistant to their content. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport
ADR: 8
UN: 1805
Packing Group: III
Nr. Kemler: 80
Proper Shipping Name: Phosphoric acid, liquid solution

Carriage by sea (shipping)
IMO class: 8
UN: 1805
Packing Group: III
Label: 8
EMS: F-A, S-B
Proper Shipping Name: Phosphoric acid, liquid solution

Transport by air
IATA: 8
UN: 1805
Packing Group: III
Label: 8
Cargo: Packaging instructions: 821
Maximum quantity: 60 L
Packaging instructions: 819
Maximum quantity: 5 L

15. Regulatory information

R38 IRRITATING TO SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.
S2 KEEP OUT OF THE REACH OF CHILDREN.
S25 AVOID CONTACT WITH EYES.
S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S37/39 WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.
S46 IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THE CONTAINER OR LABEL.

Danger labelling under regulations 67/548/EEC and following amendments and adjustments.

Workers exposed to this chemical agent must undergo health checks according to regulation 98/24/EC.

16. Other information
R34 CAUSES BURNS.
R38 IRRITATING TO SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.

General Biography
Regulation 1999/45/CE and following amendments;
Regulation 67/548/CEE and following amendments and adjustments (technical adjustment XXIX);
Regulation 91/155/CEE and following amendments;
The Merck Index. - 10th Edition;
Handling Chemical Safety;
NIOSH - Registry of Toxic Effects of Chemical Substances;
INRS - Fiche Toxicologique (toxicological sheet);
Patty - Industrial Hygiene and Toxicology;

Warning
Although the technical details and recommendations contained in this data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.
SOLUS EVERYDAY CLEANER

Solus Everyday Cleaner is a gentle detergent for the everyday cleaning of flooring. It can be used on natural stone, terracotta, quarry tiles, porcelain, stoneware, concrete, ceramic tiles, wood, polished marble, agglomerates, tumbled marble, granite and glass.

What’s it for?

- A gentle detergent for all floors.
- Safe for pre-treated and sensitive surfaces.
- Essential for after installation cleaning of sensitive gloss finished natural stone floors.

Advantages

- Cleans without damaging the surface.
- When highly diluted (1:200) it leaves no residues and does not require rinsing.
- Highly concentrated: can be diluted according to use.
- Highly biodegradable.
- Ideal for maintenance of waxed surfaces.
- Using a floor cleaning machine requires a minimum dilution of 1:200.
- Ideal for laminated surfaces.

How to use

Dilution: as required – from 1:30 to 1:200.

Application:

Maintenance: dilute to 1:200 and clean the surface with a cloth or an electric floor cleaner. Does not require rinsing.

For very dirty floors, dilute to 1:30 - 1:50, then clean the surface with a cloth and scrubbing brush. Remove dirt and rinse.

For after installation cleaning, dilute 1:30 and spread with a single-disc professional cleaner with a soft disc (white or beige) or a floor scrubbing brush. Remove the residue with a vacuum drier or cloths. Rinse thoroughly with clean water.

Precautions

Do not use Solus Everyday Cleaner on textile or waxed wood floors.

Composition

Contains: anionic surfactant < 5%, non-ionic surfactant > 5% but < 15%. Other components: benzisothiazolinone, fragrance, citral, limonene.

Labelling

No risk or safety labels or warnings are required since the product is not classified as hazardous under current regulations.

Technical Information

Appearance: pale yellow liquid
Odour: lemon fragrance
Density: 1.005 kg/litre
pH 7.2 (10% solution in drinking water)

The information above reflects our latest technical know-how and is the outcome of ongoing laboratory research and testing. However, some factors are beyond our control. It is essential to integrate our suggestions with your own on-site preliminary tests and check.

Solus accepts no liability for improper use of its products.
Solus Everyday Cleaner safety data sheet (Dated 13/03/11)

1. Identification of the substance / preparation and the Company
   Trade name: Solus Everyday Cleaner
   Product type and use: Universal floor cleaner
   Supplier: Solus
   Competent person responsible for the safety data sheet: info@soluscereamics.com

2. Composition / Information on ingredients
   Concentration C
   Classification FLAMMABLE.
   Parfum 0 ≤ C < 0,5% R10 Xn R65 Xi R43 N R51/53
   Primary alcohol ethoxylate and propoxylate
   2 ≤ C < 5% Xi R41
   Cas No 68131-39-5 N R60
   1-METHOXY-2-PROPANOL 2 ≤ C < 5% R10
   Cas No 107-98-2
   CE No 203-539-1
   Index No 603-064-00-3
   Ingredients according Regulation (EC) No 648/2004 less than 5% anionic surfactants 5% or over but less than 15% non-ionic surfactants perfumes, Citral, Limonene.

3. Hazards identification
   This preparation is not dangerous under 67/548/EEC and 1999/45/EC regulations and subsequent amendments. This preparate contains dangerous substances in concentrations that must be declared in section No. 2 and requires a safety data sheet containing all the information required under the 91/155 EC legislation and subsequent amendments. This product contains sensitising substances and may cause allergic reactions.

4. First aid measures
   Contact with eyes: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.
   Contact with skin: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.
   Inhalation: Remove to open air. If breathing is irregular, seek medical advice.
   Ingestion: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures
   Closed containers exposed to the heat of a fire may lead to pressure rise and explode. For information on environmental and health risks, protection of the respiratory airways, ventilation and individual protective measures, refer to the other sections of this sheet.
   Extinguishing measures: CO2, foam, chemical powder for flammable liquids. Water may not be effective to extinguish the fire, nevertheless it should be used to cool the containers exposed to flames and prevent fires and explosions. For leakage and spillage that have not caught fire, nebulized water may be used to disperse the flammable vapours and protect the people involved in stopping the leakage.
   Equipment: wear equipment complete with helmet and face shield and protection of the neck, selfbreathing apparatus at pressure or demand, insulative jacket and trousers, with bands around the arms, legs and waist.

6. Accidental release measures
   Extinguish the sources of ignition or heat; cover the spillage with inert absorbent material. Collect as far as possible the resulting mass and discard the remainder by spraying water. For information on environmental and health risks, protection of the respiratory airways, ventilation and individual protective measures refer to the other sections of this data sheet.

7. Handling and storage
   Make sure that equipment is available for cooling the vessels, to prevent the danger of overpressure and overheating in the event of fire in the vicinity. Refer to the other sections of this data sheet for information relating to health and environmental risks.

8. Exposure control / personal protection
   1-METHOXY-2-PROPANOL
   - TLV TWA 369 mg/m³ ACGIH
   - TLV STEL 553 mg/m³ ACGIH
   - OEL 375 mg/m³ EU (8h) skin
   TLV of solvent mixture:417mg/m³
   In order to minimise exposure as far as possible, it is strongly recommended to use adequate individual protective measures, such as: masks suitable for the product, goggles, gloves and an overall. Do not eat, drink or smoke while handling it. Accurately wash the hands with soap and water before meals and at the end of the work shift.

9. Physical and chemical properties
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>Lemon</td>
</tr>
<tr>
<td>pH</td>
<td>7.2</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 61°C</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.005 Kg/l</td>
</tr>
<tr>
<td>VOC</td>
<td>4.01% - 40.30g/litre of preparation</td>
</tr>
<tr>
<td>VOC (Volatile Carbon)</td>
<td>2.18% - 21.90g/litre of preparation</td>
</tr>
<tr>
<td>Solubility</td>
<td>Readily soluble</td>
</tr>
</tbody>
</table>
10. Stability and reactivity
The product is stable in normal conditions of use and storage. When heated or in the event of a fire, carbon oxides may be released and vapours which are dangerous to health. The vapours may also form explosive mixtures with the air. Dipropylene glycol monomethyl ether may react with oxidizing agents. Heated to decomposition, it emits acrid and irritant fumes and vapours. Flammability point is 83 °C.

1-methoxy 2-propanol (propylene glycol) absorbs and dissolves in water and in organic solvents; it dissolves different plastic material; it is stable but in the presence of air it can gradually form explosive peroxides when heated and may react with strong oxidizing agents and acids. It should be biodegradable. Stainless steel is suitable while copper and aluminium are not.

11. Toxicological information
Dipropylene glycol monomethyl ether: experimental toxicity data exclude it as a danger to health considering that the oral LD50 in the rat is 5660 mg/kg, skin/LD50 in the rat: 9500mg/kg; slight irritation of the eyes and skin in rabbits. The ACGIH limit of exposure on an 8 hour work day is 606 mg/cu.m, excluding the possible effects by the cutaneous route.

1-methoxy-2-propanol and corresponding acetate: the main route of entry is the skin, whereas the respiratory route is less important owing to the low vapour tension of the product. Concentrations above 100 ppm cause irritation of the eyes, nose and oropharynx. The recommended limit of exposure is 100 ppm for 8 hours. At 1000 ppm disturbance in the equilibrium and severe irritation of the eyes is observed. (For further details refer to INRS, Fiche toxicologique, nr. 221).

Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and ocular irritation on direct contact. No chronic effects have been reported in man. In vitro genotoxicity tests on animals resulted to be negative. No significant effects were observed in studies on animal reproduction. The following experimental data confirm that the substance is not even harmful: oral LD50 in the rat = 7900 mg/kg, inhalation CL50 in the rat 4 hours = 55.2 mg/l (Fiche toxicologique nr. 221).

12. Ecological information
Use this product according to good working practices. Avoid litter. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

13. Disposal consideration
Consult the supplier for possible special inactivation treatment and/or regeneration. Do not incinerate together with waste.

14. Transport information
This substance is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

15. Regulatory information
Danger labelling under regulations 67/548/CEE and 1999/45/CE and following amendments and adjustments.
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers’ health and safety are modest and that the 98/24/CE regulation is respected.

16. Other information
R22 HARMFUL IF SWALLOWED.
R38 IRRITATING TO SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.
R43 MAY CAUSE SENSITIZATION BY SKIN CONTACT.
R55/53 TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R65 HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.

General Bibliography
Regulation 1999/45/CE and following amendments;
Regulation 67/548/CEE and following amendments and adjustments (technical adjustment XXIX);
Regulation 91/155/CEE and following amendments;
The Merck Index. - 10th Edition;
Handling Chemical Safety;
NIOSH - Registry of toxic effects of chemical substances
INRS - Fiche Toxicologique (toxicological sheet);
Patty - Industrial Hygiene and Toxicology;

Warning
Although the technical details and recommendations contained in this data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.
**SOLUS DEGREASER**

Solus Degreaser is a degreasing cleaner and wax remover that is suitable for cleaning and removing grease from dirty porcelain stoneware, ceramic, natural stone, terracotta and concrete floors.

**What’s it for?**
- **Diluted:** cleans and removes grease from dirty porcelain stoneware, ceramic, natural stone, terracotta and concrete floors.
- **Undiluted:** removes stubborn stains from porcelain stoneware.
- It is excellent for basic cleaning of acid-sensitive stone.
- Ideal for basic cleaning of concrete.
- Wax remover for water based, metal or polishing wax.

**Advantages**
- A 3 in 1 solution: stain remover, detergent and wax remover.
- The only product that removes stubborn stains from porcelain stoneware.
- Cleans without damaging the surface.
- Extremely easy to use.
- Removes epoxy grout residues.

**How to use**

**Dilution:** Depending on use.

**Application:**

1. To clean all surfaces: Dilute 1:10 to 1:20 and apply to the surface. Leave to act for a few minutes then clean with a single-disc professional cleaner or a scrubbing brush. Vacuum or wipe up dirt and then rinse with plenty of water. For a deeper clean, dilute to 1:5.

2. To remove stains from porcelain stoneware: Pour undiluted directly onto the mark and over the entire surface of the tile. Allow to dry completely, then wash and rinse.

3. To remove wax: Dilute 1:5, spread and leave to act for a few minutes. Scrub with a scrubbing brush or a single-disc cleaner. Vacuum or wipe up dirt and then rinse with plenty of water.

4. To remove epoxy grout residues: Apply the product undiluted, leave to act for 15-20 minutes, scrub with an abrasive disc, then rinse.

This information is given in good faith and is intended only as a guide, as each installation has its own logistic problems. Where light or solid/plain colours have been chosen a more stringent cleaning regime will be required. All information is based on our experience and customers own recommendations. No liability is accepted for any cleaning solution or named supplier by Solus and we recommend that a test area is cleaned prior to these recommendation being carried out.

**Dilution & coverage**

With one litre:
- Maintenance 1:20 covers 200 m²
- Wax Remover 1:5 covers 20 m²
- Initial Cleaning of stone 1:5 covers 30 m²

**Packaging**
- 1 litre flasks: in box of 12.
- 5 litre flasks: in box of 4.

**Precautions**

Do not use Solus Degreaser on marble or polished stone, wood or methacrylate tubs.

**Composition**

Contains: EDTA and salts <5%, soap >5% but <15%.
Other components: fragrance, linalool, limonene.

Storage temperature: between 5° C and 30° C.
Must be applied to material at temperatures between 5° and 30° C.

**Labelling**

No risk or safety labels or warnings are required since the product is not classified as hazardous under current regulations.

**Technical information**

Appearance: pale yellow liquid
Odour: pine fragrance
Density: 1.010 kg/litre
pH: 12.7

The information above reflects our latest technical know-how and is the outcome of ongoing laboratory research and testing. However, some factors are beyond our control. It is essential to integrate our suggestions with your own on-site preliminary tests and check.

Solus accepts no liability for improper use of its products.
Solus Degreaser safety data sheet (Dated 02/03/11)

1. Identification of the substance / preparation and the Company

Trade name: Solus Degreaser
Product type and use: Degreasing cleaner and wax remover for porcelain stoneware, ceramic, natural stone, terracotta, cement and quarry tiles
Supplier: Solus
Competent person responsible for the safety data sheet: info@solusceramics.com

2. Composition / information on ingredients

Contains:
ETHANOLAMINE 1 ≤ C < 5 C R34
Cas No 141-43-5 R20/21 CE No 205-483-3 R37 Index No 603-030-00-8

BENZYL ALCOHOL 9 ≤ C < 25 R20
Cas No 100-51-6 CE No 202-859-9 Index No 603-057-00-5

Ingredients according Regulation (EC) No 648/2004
Less than 5 % EDTA sodium salt 5 % or over but less than 15 % soap perfumes, Limonene, Linalool

3. Hazards identification

This preparate is not dangerous under 67/548/EEC and 1999/45/EC directives and subsequent amendments.
Nevertheless, this preparate contains dangerous substances in concentrations that must be declared in section No. 2 and requires a safety data sheet containing all the information required under the 91/155 EC regulation and subsequent amendments. The classification of the compound, featuring an extreme pH value, is based on the results of an appropriate validated in-vitro test as set out in the 67/548/EEC directive, annex VI, and following modifications.

4. First aid measures

Contact with eyes: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.
Contact with skin: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.
Inhalation: Remove to open air. If breathing is irregular, seek medical advice.
Ingestion: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Closed containers exposed to the heat of a fire may lead to pressure rise and explode. For information on environmental and health risks, protection of the respiratory airways, ventilation and individual protective measures, refer to the other sections of this sheet.

Extinguishing measures: CO₂, foam, chemical powder for flammable liquids. Water may not be effective to extinguish the fire, nevertheless it should be used to cool the containers exposed to flames and prevent fires and explosions. For leakage and spillage that have not caught fire, nebulized water may be used to disperse the flammable vapours and protect the people involved in stopping the leakage.

Equipment: wear equipment complete with helmet and face shield and protection of the neck, selfbreathing apparatus at pressure or demand, insulative jacket and trousers, with bands around the arms, legs and waist.

6. Accidental release measures

Extinguish the sources of ignition or heat; cover the spillage with inert absorbent material. Collect as far as possible the resulting mass and discard the remainder by spraying water. For information on environmental and health risks, protection of the respiratory airways, ventilation and individual protective measures refer to the other sections of this sheet.

7. Handling and storage

Store in a well ventilated place, keeping the containers closed when not used. Do not smoke while handling. Keep far away from sources of heat, naked flames and sparks and other sources of ignition.

8. Exposure control / personal protection

ETHANOLAMINE
- TLV TWA 7,5 mg/m³ ACGIH
- TLV STEL 15 mg/m³ ACGIH
TLV of solvent mixture: 07,57mg/m³

In order to minimise exposure as far as possible, it is strongly recommended to use adequate individual protective measures, such as: masks suitable for the product, goggles, gloves and overalls. Do not eat, drink or smoke while handling. Accurately wash the hands with soap and water before meals and at the end of the work shift.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Light Yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>Pine</td>
</tr>
<tr>
<td>pH</td>
<td>12.7</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 61°C</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1,010 - 1,015 Kg/l</td>
</tr>
<tr>
<td>VOC (Directive 1999/13/EC)</td>
<td>15.01 %</td>
</tr>
<tr>
<td>VOC (Volatile Carbon)</td>
<td>11.27 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Readily soluble</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

The product is stable in normal conditions of use and storage. Due to thermal decomposition or in the event of a fire vapours may be produced potentially dangerous to health. Monoethanolamine reacts basically in water and violently with strong acids. Benzyl alcohol reacts violently with strong oxidising agents and may attack aluminium when heated.
11. Toxicological information
According to currently available data, this product has not yet produced health damages but it must be handled carefully according to good industrial practices. This preparate may have slight health effects on sensitive people, by inhalation and/or cutaneous absorption and/or contact with eyes and/or ingestion. BENZYL ALCOHOL: oral LD50 (mg/kg) 1230 (RAT); dermal LD50 (mg/kg) 2000 (RABBIT)

12. Ecological information
Use this product according to good working practices. Avoid litter. Inform the competent authorities should the product reach waterways or sewers or contaminate soil or vegetation.

13. Disposal consideration
Consider the possibility of burning the product in a suitable incinerator. Acid or basic products must always be neutralised before undergoing any treatment, including biological treatment whenever feasible. If the waste is solid, it can be disposed of in a landfill.

14. Transport information
This substance is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

15. Regulatory information
Warning symbols: None
Hazard sentences (R): None
Caution recommendations (S): None
The classification of the compound, featuring an extreme pH value, is based on the results of an appropriate validated in-vitro test as set out in the 67/548/EEC directive, annex VI, paragraph 3.2.5, and following modifications. Danger labelling under directives 67/548/EEC and 1999/45/EC and following amendments and adjustments.

16. Other information
R20 HARMFUL BY INHALATION.
R20/21 HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.
R34 CAUSES BURNS.
R36/38 IRRITATING TO EYES AND SKIN.
R37 IRRITATING TO RESPIRATORY SYSTEM.

General Biography
Directive 1999/45/EC and following amendments;
Directive 67/548/EEC and following amendments and adjustments (technical adjustment XXIX);
Directive 91/155/EEC and following amendments;
The Merck Index. - 10th Edition;
Handling Chemical Safety;
NIOSH - Registry of Toxic Effects of Chemical Substances;
INRS - Fiche Toxicologique (toxicological sheet);
Patty - Industrial Hygiene and Toxicology;

Warning
Although the technical details and recommendations contained in this data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.
Solus have a broad range of services on offer. In addition to an impressive range of services and advice, Solus also have a comprehensive library of technical information and are able to provide fixing specifications which can be added into NBS Plus specifications.

- “Don’t Slip Up” RIBA approved CPD seminar
- “An overview of tile specification” RIBA approved CPD seminar
- Product awareness seminar
- BIM
- NBS Plus specification
- Advice on standards
- Fixing specifications
- Cleaning & maintenance
- Environmental information
- Pendulum testing
- Technical data sheets
- Tile matching
- Next day sample service
- Waterjet cutting
- Design and fabrication

For any cleaning enquiries please contact
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www.s2cmidlands.co.uk