Technical Data Sheet For:

**INTACHEM™ SC-100**

**Description:** Cleaner for Heavily Soiled Sandstone

**Coverage:** Circa. 3.4sq.m/litre

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(10 October 2005)

SC100 is a chemical cleaner for the removal of dirt and grime from sandstone, unpolished granite, brick and terracotta. It will remove iron stains from masonry and contains agents to prevent iron stain formation on the stone face. It is economical and fast acting, removing dirt and surface discolouration.

**Product Description:**
SC-100 is a green acidic liquor which contains less than 12% Hydrofluoric acid and surface active agents. When adequately diluted, as by the jetting off procedure the organic agents are all biodegradable. The product should only be used by competent stone cleaning contractors. It contains chemicals to prevent iron stain migration and conforms with BS8221 (The Code of Practice for the Cleaning of Stone and Masonry).

**How to use the product:**
Large organic deposits should be removed either by a scraper or by power water jetting. The product should be applied on pre-wetted degreased surfaces. The prior use of a detergent is often essential to ensure quick and even cleaning performance. Adequate protection of glass and polished granite surfaces is essential.

Establish the detailed method and contact times by means of a test patch. Apply the product by means of a fibre bristle brush working it into the masonry face and leaving a visible costing on the surface. The product may be used as supplied on granites and sandstones but should be diluted at least 50/50 with water before use on brick or terracotta. When diluting SC-100 ensure that the proportions are not varied and that the container is well stirred. Work to distinct boundaries. Normal contact times would be extended up to 30 minutes maximum. It is preferable to repeat short contact treatments instead of using longer contact times, also frequently better degreasing treatments prior to using SC-100 greatly improve results.

**General Safety Precautions:**
At any time when this product is being transported, or being used, persons handling or carrying the product should have available a 25 litre drum of clean water for use in emergencies and HYDROFLOURIC ACIDANTIDOTE GEL for immediate treatment of accidental spills or burns. Containers should be stored in a safe place with caps secured, and a trained responsible person detailed for security in depots, in transit and on site. Spillages must be dealt with immediately. Only competent persons should handle the product.

**Materials to be avoided:**
Glass, polished granite, glazed aluminium, zinc, bronze, brass, copper and lead. RS250 is preferable for use with red sandstone. Some sandstones may become discoloured due to iron migrating onto the stone face where it associates with dirt and carbon deposits. SC-100 whilst removing the surface dirt will also remove this old migrated iron colouration. The verification of any colouration changes should be observed during test trial work. A LONG CONTACT METHOD can be used. This product is NOT suitable for use on limestone, Portland Stone, Bath stone, marble, slate or calcited materials.

**Protection of operative:**
Chemical protective suits are needed along with PVC gauntlets, face shields, head cover and suitable footwear. A bucket of clean water for emergencies should be to hand. Nobody must be allowed to pass under the work area. Spillages must be washed down immediately. At the end of the work period wash down all equipment (e.g. scaffolding and boards). A HYDROFLOURIC BURNS KIT should be at hand for the treatment of any acid burns. Only experienced operatives should handle this product (see HYDROFLOURIC ACID TREATMENT SHEET).

**First Aid:**
See HYDROFLOURIC ACID TREATMENT SHEET and Safety Data Sheet for this product.

**Ecology:**
When diluted the organic ingredients are bio-degradable. Effluent, if washed into soil will break down rapidly. If the product is inadvertently sprayed onto plants/vegetation it should be rinsed off. Rinsing with water will prevent further damage to vegetation. Plastic sheeting could be used to protect such plant life.

Using the correct jetting technique maximum dilution of the chemical is achieved and no damage has been found to fish when such debris enters rivers and streams (yet, contractors are directed to advice the authorities before disposal and immediately in the event that an accidental disposal into a water course takes place).

**Disposal of containers:**
When empty, containers should be filled with water and then emptied and disposed of in an approved manner.

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Safety Notes:
1. Always store containers in secure conditions.
2. Keep containers closed when not in use.
3. COSHH Data: Contains Hydrofluoric Acid (less than 12.5%) UN1790. Splashes to the skin may cause burns.
4. Physical data: Aqueous liquid
5. Solubility: Totally soluble in water
7. pH Value: Less than 1
8. Flammability: Non Flammable
9. Fume Hazards: In confined spaces fumes may build up, TLV 8 hours (HF) 3ppm Hydrogen Fluoride.
10. Other dangers: If applying by spray use breathing protection equipment. Not to be mixed with algae remover as dangerous fumes will be created.
11. Handling precautions: Full body, hands, feet and face protection must be worn. A container of clean water, for emergency use, should be on hand. Operatives must have HYDROGEN FLOURIDE BURN ANTIDOTE GEL on hand.
12. NEVER leave container full or empty where the public may come into contact with them.
13. ALWAYS fill containers with water before disposing of them.

Important Notice:
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Treatment Sheet for
Hydrofluoric Acid Burns

FOR SKIN BURNS:

First Aid
1.1 Immediately wash the burnt area with copious amounts of water for at least 1 minute
1.2 Apply CALCIUM GLUCONATE GEL on and around the burn and massage it in using clean hands (in the event this gel is not immediately available, continuing rinsing with water until it is applied)
1.3 Continue to massage in the gel, using repeated applications until 15 minutes after the pain in the burn has subsided, or until medical treatment is available.

Medical Treatment
2.1 Continue inunction with repeated applications of the calcium gluconate gel until 15 minutes after the paid has completely subsided. This may require several hours but so long as improvement in the lesion and symptoms is occurring, massaging with the gel should be continued.
   In cases where a thick necrotic coagulum has formed, it may act as a barrier and prevent the penetration of the gel. This will be indicated by lack of improvement. In these cases, the necrotic tissue should be exercised and the gel massaged into the base of the burn taking the usual aseptic precautions.
2.2 If the burn fails to respond to the calcium gluconate gel, injection of a sterile 10% solution of calcium gluconate (sandoz) into and under the burn should be considered. Relief of the pain is an indication that sufficient solution has been injected. Because of this, an anaesthetic should not be given except in the situation where the skin is tightly adherent to the underlying tissues for instance, the finger pads or in subungual finger and toe burns when slitting or removal of the affected nails may be required. In these cases, a general anaesthetic should be given as local anaesthetic is contra-indicated.
2.3 Subsequent magnesium oxide paste dressings are not indicated but if dressings appear to be required, use the gel for 24 hours.
2.4 After the gel or injection treatment has relieved the pain, it may recur later, especially in the case of burns from diluted acid. The patient should be advised to return for further treatment if the pain recurs.
2.5 Treat symptomatically.

General
3.1 In large area skin burns, systematic administration of calcium and/or magnesium may be necessary. Six effervescent calcium tablets (sandocal tablets; Sandoz each containing 400mg calcium and 20mg ascorbic acid) should be given in water by mouth every two hours until admitted to hospital.
   The hospital should be reminded that serum calcium and/or magnesium may have to be replaced intravenously if indicated either by clinical signs e.g. carpopedal spasm, or by electrolyte monitoring (which should be done frequently) and if calcium gluconate is to be given intravenously it should be administered slowly.

FOR EYE SPLASHES:

First Aid
1.1 Irrigate with isotonic saline or water for at least 10 minutes.
1.2 Obtain medical treatment.

Medical Treatment
2.1 Continue irrigation with isotonic saline or water, until the severe pain of the burn is relieved
2.2 Instil several drops of sterile calcium gluconate 10% solution (sandoz)
2.3 Treat symptomatically.

SPILLAGES:
Dilute with plenty of water or cover with soil/sand and dispose of the debris in an approved manner.

DISPOSAL:
Ensure adequate dilution before discharge to drains.

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1. IDENTIFICATION OF SUBSTANCES, PREPARATIONS AND COMPANY:
Name of Preparation: SC-100
Supplier: IntaChem, 1 Irwin Drive, Nottingham NG6 7BJ

2. COMPOSITION/INFORMATION ON INGREDIENTS:
Composition: SC-100 is classified as hazardous both for supply and carriage under CHIP regulations.
Contains: (1) 11% Hydrofluoric Acid TX + C
(2) 26% Phosphoric Acid
Symbols: C + TX

3. HAZARDS IDENTIFICATION:
SC-100 presents critical hazards to operators if not used correctly as hydrofluoric acid is very toxic by skin contact, inhalation and if swallowed. Extremely irritant and corrosive to the skin producing skin burns slow to heal and requiring specialist treatment. Subcutaneous tissues can become blanched and bloodless. Gangrene of the affected area may follow. Fluorine poisoning is demonstrated by sclerosis of the bones. Lowest published toxic concentration for gaseous hydrofluoric acid: Inhalation man = 110ppm/1minute. SC-100 presents little ecological hazard due to the large amounts of rinse water used in normal operations. Always consult local water authority and local council before disposal of waste water debris.

4. FIRST AID MEASURES:
Extreme care should be taken to avoid contact with eyes and skin and to avoid inhalation fumes. If splashes occur the following procedures should be adopted.

IMPORTANT: Refer to attached sheet—“Treatment Sheet for Hydrofluoric Acid Burns”

5. FIRE FIGHTING PROCEDURES:
SC-100 is not flammable, but in general fire conditions will release toxic fumes of hydrogen fluoride. Fire fighters should wear breathing apparatus. Use water foam or dry powder as agents for extinguishing.

6. ACCIDENTAL RELEASE MEASURES:
Always prevent skin and eye contact. Do not breathe fumes. Inform Police and Fire Brigade if any spillages greater than 0.5 litre (circa. 1 pint) occurs. For smaller spillages, use fine water jet around and over the spillage. Wash away with a further 100 litres (circa. 20 gallons) of water. In the case that the spillage is larger than 1 litre and you need to contact the authorities—slowly cover with sand or soil. Neutralise with soda ash and dispose separately. See also Exposure Controls and Personal Protection Section B.

7. HANDLING & STORAGE:
Handling: Ensure all information in this data sheet is read and understood before using this product. Do not allow the concentrated or dilute preparation to come into contact with eyes and skin. Wear full protective clothing, PVC overalls and gloves, face shields and rubber footwear. Use with care.

Only experienced operatives should handle this product. Avoid inhalation of mist or fumes when using on stonework. Use cold only. Do not allow to come into contact with bleach.

Storage: Keep container tightly closed and in a well ventilated area away from oxidising agents e.g. bleach. Store only in labelled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:
Engineering Controls:
Ensure that both operators carrying out the stone cleaning and the general public do not come into contact with concentrated product or wash water by following the procedures (close sheeting) outlined in BS8221 Code of Practice for Cleaning of Stone and Masonry.

Respiration protection is not normally required as a full face visor incorporated into a plastic wet suit is adequate for stone cleaning purposes when rinsing is carried out. Hands must always be protected by PVC gauntlet type ensuring no gaps between the protective suit and gloves. Wear full protective suit, rubber boots in addition to PVC and full face shield.
9. PHYSICAL & CHEMICAL PROPERTIES:
Appearance: Green liquid
Odour: Acrid acid
pH: Less than 1 (for undiluted SC-100)
Boiling Point: 100 degrees Celsius
Melting Point: Less than minus 20 degrees Celsius
Flash Point: Non Flammable
Specific Gravity: 1.21
Solubility in H2O: Soluble in water in all proportions

10. STABILITY & REACTIVITY:
Product is stable at normal ambient temperatures. Always use cold. Avoid contact on the following materials: glass, polished granite, glazed aluminium, zinc, bronze, copper and lead. DO NOT USE ON RED SANDSTONE. SC-100 is NOT suitable for use on limestone, Portland stone, Bath stone, marble, slate or calcited materials. If the product is accidentally heated toxic fumes of fluorides are emitted where the maximum exposure limit for gaseous hydrogen fluoride is 3ppm (2.5mg/m3) for 8 hour time weighted average.

11. TOXICOLOGICAL INFORMATION:
SC-100 is very toxic by skin contact inhalation and if swallowed due to its 11% content of hydrofluoric acid the toxicity of which overrides all other ingredients in the formulation. Hydrofluoric acid causes intense burns to skin mucous membrane and ulcers of the upper respiratory tract. Sclerosis of bones is caused by fixation of bone calcium by fluorine.

12. ECOLOGICAL INFORMATION:
The use of SC-100 provides little ecological hazard as all organic detergents are fully biodegradable. The acid residues from washings are neutralised readily in soil to form calcium fluoride and phosphate. Experience has shown that when a stone surface is washed in the manner recommended the acid residues are not considered an ecological hazard. Should the concentrated product be accidentally spilled into water courses carry out procedures as detailed in previous section for general spillage. Inform immediately the local water authority.

13. DISPOSAL CONSIDERATIONS:
Small quantities should be hosed away with copious amounts of water to foul sewer. Larger quantities should be absorbed with sand, granules or soil and this solid residue disposed in an approved manner. When empty containers may then be disposed via solid waste.

14. TRANSPORT INFORMATION:
SC-100 is classified as CORROSIVE and TOXIC both for supply and conveyance according to CHIP.
Transport: UN No. 2922, Corrosive Liquid, Toxic NOS
Carriage: Corrosive Primary Hazard: Toxic subsidiary hazard
Packaging: Packing Group II

15. REGULATORY INFORMATION:
R & S Phrases:
R26,27,28 Very toxic by inhalation, in contact with skin and if swallowed.
R35 Causes severe burns
S7,9 Keep container tightly closed and in a well ventilated place.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36.37 S45 Wear suitable protective clothing and gloves
In case of accident or if you feel unwell, seek medical advice immediately and show the container label or this document.

Refer to use instructions for building cleaning as detailed in BS8220 Code of Practice—Cleaning of Stone & Masonry. All relevant procedures under Heath & Safety at Work Act and Control of Substances Hazardous to Health regulations must be observed. Prior to work a complete written COSHH assessment must be carried out so that all personnel are aware of the handling precautions and operations necessary with this preparation.
Possession of this data sheet does not constitute users own assessment of workplace risk as required by COSHH but will form the basis of such assessment.

16. OTHER INFORMATION:

Training Advice:
As SC-100 contains toxic and corrosive acids, full training in the use of this preparation must be given to ensure they are aware of both health and safety precautions and operating procedures.

Detailed advice on building cleaning methods is provided in the IntaChem product data sheet for this product and in BS8221 Code of Practice—Cleaning of Stone & Masonry. These bulletins must be read in conjunction with this safety data sheet before operation starts.

Recommended Uses and Restrictions:
Use for cleaning sandstone, brick and Terracotta according to detailed operating instructions. SC-100 should not be used on calcareous stone, marble or polished granite. SC-100 will etch glass and will attack sensitive metals such as glazed aluminium, zinc, bronze, copper and lead.

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