SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier:	Grainfather High Performance Cleaner 500g
1.2 Relevant identified uses of the substance or mixture and uses advised against:	**Relevant identified Use(s):** Cleaner for brewing equipment **Uses advised against:** Not available.
1.3 Details of the supplier of the Safety Data Sheet:	**BSGI NZ Limited, trading as Bevie Craft** Address: 328 Rosedale Road, Albany, Auckland, New Zealand Telephone: +64 9 415 1206 Email: info@grainfather.com
1.4 Emergency telephone number:	**Telephone number:** +64 9 415 1206 **Opening Hours:** 8am to 4.30pm, Monday to Friday

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Hazardous Substances and New Organisms (HSNO)

6.3A, 6.9 (respiratory), 8.3A

2.1.2 Classification according to Globally Harmonised System (GHS)

Skin Corrosion/Irritation Category 2
Serious Eye Damage Category 1
STOT – SE (Resp. Irr.) Category 3

2.1.3 Additional information

Not available

2.2 Label elements

Labelling according to HSNO

Hazard pictogram(s):	
Signal Word:	Danger
Hazard Statement(s):	**H315** Causes skin irritation. **H318** Causes seriour eye damage. **H335** May cause respiratory irritation.
Precautionary Statement(s):	**Prevention:** **P271** Use only outdoors or in a well-ventilated area. **P280** Wear protective gloves/ protective clothing/ eye protection/ face protection. **P261** Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. **Response:**

	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P310** Immediately call a POISON CENTER/doctor/physician/first aider. **P302+P352 I**F ON SKIN: Wash with plenty of water and soap. **P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing. **Storage:** **P405** Store locked up. **P403+P233** Store in a well-ventilated place. Keep container tightly closed. **Disposal:** **P501** Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration.
2.3 Other hazards	Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance	**CAS #**	**Proportion**
Sodium sulfate	7757-82-6	60 – 90%
Sodium tripolyphosphate	7758-29-4	10 – 30%
Sodium metasilicate, pentahydrate	10213-79-3	1 – 10%

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:	
Following inhalation:	If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Following skin contact:	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Following eye contact:	If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart

	and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Following Ingestion:	Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Self protection of the first aider:	Not available.

4.2 Most important symptoms and effects, both acute and delayed

Not available.

4.3 Indication of any immediate medical attention and special treatment needed

For phosphate salts intoxication: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhoea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the faeces with the diarrhoea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcaemia, so calcium levels should be monitored.
Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media:	**Suitable extinguishing media:** There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.
5.2 Special hazards arising from the substance or mixture:	**Hazardous combustion products:** None combustible. Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of: phosphorus oxides (POx),sulfur oxides (SOx). May emit poisonous fumes. May emit corrosive fumes.
5.3 Advice for fire-fighters:	Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel	**Protective equipment:** Personal Protective Equipment advice is contained in Section 8 of the SDS.

	Emergency procedures: Refer to section 6.3.2
6.1.2 For emergency responders	Personal Protective Equipment advice is contained in Section 8 of the SDS.
6.2 Environmental precautions:	Environmental hazard - contain spillage.
6.3 Methods and material for containment and cleaning up	
6.3.1 For containment:	Store in original container.
6.3.2 For cleaning up:	**Minor Spills** Clean up all spills immediately. Avoid breathing dust and contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. **Major Spills** Environmental hazard - contain spillage. Moderate hazard. **CAUTION**: Advise personnel in area. Alert Emergency Services and tell them location and nature of hazard.
6.3.3 Other information:	Material is hygroscopic, i.e. absorbs moisture from the air. Keep containers well sealed in storage. Store in original containers. Keep containers securely sealed.
6.4 Reference to other sections	Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:	Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.
7.2 Conditions for safe storage, including any incompatibilities:	Phosphates are incompatible with oxidising and reducing agents. Phosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation of phosphates by oxidizing agents may result in the release of toxic phosphorus oxides.
7.3 Specific end use(s):	Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational exposure limits:

Ingredient	Material name	TEEL-1 mg/m^3	TEEL-2 mg/m^3	TEEL-3 mg/m^3
Sodium sulfate	Sodium sulfate, anhydrous	11	130	650
Sodium metasilicate, pentahydrate	Sodium metasilicate, pentahydrate	45	45	170
Sodium metasilicate, pentahydrate	Sodium silicate; (Sodium metasilicate)	18	230	230
Sodium tripolyphosphate	Sodium tripolyphosphate	Not available	Not available	Not available

Information on monitoring procedures: Not available

DNEL/DMEL and PNEC-Values: Not available

8.2 Exposure controls

8.2.1 Appropriate engineering controls:	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
8.2.2 Personal protection equipment:	**Eye and face protection:** Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. **Skin protection:** The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.

Respiratory Protection:
Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Thermal hazards: Not available

8.2.3 Environmental exposure controls:	Not available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pale orange powder
Odour:	Not available
Odour threshold:	Not available
pH:	10 – 12, 1% sol
Melting point/ freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flashpoint:	Not applicable
Evaporation rate:	Not available
Flammability (solid, gas):	Not applicable
Upper/ lower flammability or explosive limits:	Not applicable
Vapour pressure:	Not applicable
Relative density:	0.8 – 0.9
Solubility:	Miscible in water
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not available

Viscosity:	Not applicable
Explosive properties:	Not available
Oxidising properties:	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:	Refer to section 7
10.2 Chemical stability:	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
10.3 Possibility of hazardous reactions:	Refer to section 7
10.4 Conditions to avoid:	Refer to section 7
10.5 Incompatible materials:	Refer to section 7
10.6 Hazardous decomposition products:	Refer to section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity:	Not available
Skin corrosion/irritation:	Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (non-allergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
Serious eye damage/ irritation:	When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. Direct eye contact with some concentrated anionic surfactants/ hydrotropes produces corneal damage, in some cases severe. Low concentrations may produce immediate discomfort, conjunctival hyperaemia, and oedema of the corneal epithelium. Healing may take several days.
Respiratory or skin sensitisation:	Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a

	substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.
Germ cell mutagenicity:	Not available
Carcinogenicity:	Not available
Reproductive toxicity:	Not available
Summary of evaluation of the CMR properties:	Not available
STOT-single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

Sodium sulfate
Intravenous (Rabbit) LD50: 1220mg/kg
Oral (mouse) LD50: 5989mg/kg

Sodium metasilicate, pentahydrate
Oral (rat) LD50: 1153mg/kg

Sodium tripolyphosphate
Mouse LD50: 3020mg/kg

On the basis of available evidence concerning toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.

For sodium sulfate: In water sodium sulfate completely dissociates into sodium and sulfate ions. The ions cannot hydrolyse. In anaerobic environments sulfate is biologically reduced to (hydrogen) sulfide by sulfate reducing bacteria, or incorporated into living organisms as source of sulfur, and thereby included in the sulfur cycle.

Acute (short-term) toxicity:	Not available
Chronic (long-term) toxicity:	Not available

12.2 Persistence and degradability:	Sodium sulfate – high persistence in water/soil, high persistence in air
12.3 Bioaccumulative potential:	Sodium sulfate – low (LogKOW = -2.2002)
12.4 Mobility in soil:	Sodium sulfate – loq (KOC = 6.124)
12.5 Results of PBT and vPvB assessment	Not available
12.6 Other adverse effects	Not available
12.7 Additional information	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Dispose in accordance with applicable local and national regulations. Avoid disposing into drainage systems and into the environment. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: • Reduction • Reuse • Recycling • Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number:	Not regulated for transport of dangerous goods
14.2 UN proper shipping name:	Not available
14.3 Transport hazard class(es):	Not available
14.4 Packing group:	Not available
14.5 Environmental hazards:	Not available
14.6 Special precautions for user:	Not available

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not available

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture:

This substance is to be managed using the conditions specified in an applicable Group Standard
HSR Number: HSR002530
Group Standard: Cleaning Products (Subsidiary Hazard) Group Standard 2006

Sodium sulfate is found in the New Zealand Inventory of Chemicals (NZIoC).
Sodium metasilicate, pentahydrate is found in the New Zealand Inventory of Chemicals (NZIoC), New Zealand Hazardous Substances and New Organisms (HSNO) Act – Classification of Chemicals.

15.2 Chemical Safety Assessment:

Not available

SECTION 16: OTHER INFORMATION

16.1 Indication of changes:	Business name change
16.2 Key Literature references and sources for data:	Supplier safety data sheet HSR002530 Cleaning Products (Subsidiary Hazard) Group Standard 2006 New Zealand Inventory of Chemicals (NZIoC)

16.3 Legal Disclaimer:

Technical information contained herein, including recommendation(s) for use is, to the best of our knowledge, true and accurate at the time of preparation. This document shall be used only as a guide. A new safety data sheet shall be prepared upon introduction of new ingredients or when there are changes to the Occupational Health & Safety regulations. Bevie Craft will not accept responsibility for changes to this document by another person or organisation.