SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	**GS-4**
Item Code:	
Product Use:	Detergent to clean removable greenhouses coatings. For professional use only.
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Horticentre Ltd**
Address:	10 Firth Street Drury, 2113
Telephone:	+64 9 294 8453
Fax Number:	+64 9 294 7272
New Zealand:	0800 764 766 (National Poison Centre)
Date of SDS Preparation:	29 June 2017

Section 2. Hazards Identification

This substance is hazardous according to the *HSNO (Minimum Degrees of Hazard) Regulations 2001*

EPA Approval Code: Cleaning Products (Corrosive) – HSR002526

Pictograms

Toxic

Corrosive

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1D (oral)	H302	Harmful if swallowed.	Category 4
8.2C	H314	Causes severe skin burns and eye damage.	Category 1C
8.3A	H318	Causes serious eye damage.	Category 1
9.3B	H432	Toxic to terrestrial vertebrates.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe vapours, fumes or mists.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P273	Avoid release to the environment.
P280	Wear protective clothing.

Response Code	**Response Statement**
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Code	**Storage Statement**
P405	Store locked up.

Disposal Code	**Disposal Statement**
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Ingredients

Ingredients	**Wt%**	**CAS NUMBER.**
ammonium bifluoride, ammonium hydrogen difluoride	10-25	1341-49-7
Non-hazardous ingredients	To bal	

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.

If on Skin — Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

If Swallowed — Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from decomposition products	Ammonia solution. Nitrogen oxides (NOx). hydrofluoric acid.
Suitable Extinguishing	Foam. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream.

media	
Precautions for firefighters and special protective clothing	Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
HAZCHEM CODE	**2X**

Section 6. Accidental Release Measures

Wear protective equipment as detailed in Section 8. Clear area of any unprotected personnel. Ventilate area.

Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Dispose of according to Local regulations.

Section 7. Handling and Storage

Precautions for Handling:

- Keep out of reach of children.
- Read label before use.
- Do not breathe fumes, vapours or mist.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Provide good ventilation in process area to prevent formation of vapour.
- Wash contaminated clothing before reuse.
- Avoid release to the environment.
- Wear protective clothing.

Precautions for Storage:

- Do not store together with strong bases or strong acids.
- Keep out of reach of children.
- Keep only in the original container in a cool well ventilated place.
- Keep container closed when not in use.
- Keep out of frost.
- Avoid sources of ignition and direct sunlight.
- Suitable Packaging materials: polyethylene, polypropylene. Unsuitable materials: metal, glass, polytetrafluoroethylene.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		**STEL**	
Substance	**ppm**	**mg/m^3**	**ppm**	**mg/m^3**

No ingredients have exposure limits.

Workplace Exposure Standard – Time Weighted Average (WES-TWA*).The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure.* Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). *The 15-minute average exposure standard.* Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply.

Engineering Controls

Ensure adequate ventilation is available

Personal Protection Equipment

Eyes	Wear goggles with side shields. Avoid wearing contact lenses.
Hands and Skin	Recommended Gloves:Neoprene Wear suitable protective clothing and shoes.
Respiratory	Wear appropriate mask. Avoid inhalation of vapours.
General	Do not eat, drink or smoke during use. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Section 9 Physical and Chemical Properties

Appearance	Orange liquid
Odour	Characteristic
Odour Threshold	Not available
pH	3
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Density	1 g/cm3
Bulk Density	Not available
Solubilities	Soluble in water. Insoluble in organic solvents.
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity, dynamic	1,5 mPa.s Brookfield LV, ULA adapter, 100 rpm, 20°C
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	Gives off hydrogen by reaction with metals. Reacts with Sillicaat containing materials (glass, cement) metals.
Conditions to Avoid	Direct sunlight. Extremely high or low temperatures.
Incompatible Materials	Strong acids. Strong bases. Reacts with Sillicaat containing materials (glass, cement) metals.
Hazardous Decomposition Products	Ammonia solution. Nitrogen oxides (NOx). hydrofluoric acid.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. ATE Oral = 500mg/kg
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye damage.
Skin	Causes severe skin burns and eye damage.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.

Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Section 12. Ecotoxicological Information

HSNO Classes: 9.3B = Toxic to terrestrial vertebrates.

Persistence and degradability	Biodegradation: The methods for determining biodegradability are not applicable to inorganic substances.
Bioaccumulation	Not bioaccumulative.
Mobility in Soil	No data available.
Other adverse effects	No data available.

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: Triple rinse container and dispose of as required by local regulations. Waste product and contaminated spill media should be placed into a separate suitable waste container for disposal. Contact manufacturer for further advice.

Precautions: Ensure waste containers holding waste product or contaminated spill media are properly sealable and labelled "Hazardous Waste – Corrosive"

Disposal methods to avoid: Avoid releasing the product into the environment, down sewers or into waterways where possible.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Road and Rail Transport
UN No: 2817
Class-primary 8
Packing Group III
Proper Shipping Name: AMMONIUM HYDROGENDIFLUORIDE SOLUTION

Air Transport
UN No: 2817
Class-primary 8
Packing Group III
Proper Shipping Name: AMMONIUM HYDROGENDIFLUORIDE SOLUTION

Marine Transport
UN No: 2817
Class-primary 8
Packing Group III
Proper Shipping Name: AMMONIUM HYDROGENDIFLUORIDE SOLUTION

DG Exemption:
Limited quantities exemption for <5L

Section 15 Regulatory Information

EPA Approval Code: Cleaning Products (Corrosive) – HSR002526

HSNO Classification: 6.1D (oral), 8.2C, 8.3A, 9.3B

HSNO Controls:

	Trigger Quantity
Approved Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L(8.2C)
Emergency Response Plan	1000L(6.1D)
Secondary Containment	1000L(6.1D)
Restriction of Use	None

Section 16 Other Information

Glossary

AWC	Aggregate Water Capacity.
EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

1. HSNO Approved Code of Practice: Preparation of Safety Data Sheets, September 2006.

Disclaimer

This document has been issued by TCC (NZ) Ltd and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact the New Zealand distributor, if further information is required.

Issue Date: 29 June 2017 Review Date: 29 June 2022