1.0 Identification

Product Identifier	**Fasilitor**
Other Means of Identification	Liquid Mineral Fertiliser
Recommended Use and Restrictions on use	**Fasilitor** meets fertilizing standards permitted for use in organic agriculture. This SDS has been prepared for products to be used in Australia, and pertains to transport, storage and workplace use of the substances. Other circumstances will have different requirements not addressed in this document.
Details of Importer	APTUS PLANT TECH Australia Unit 1/11 Didswith St, East Brisbane QLD 4169
Emergency Phone Number	Australian Poisons Information (24 hours / 7 days) ☎ 13 11 26

2.0 GHS Hazard identification

Classification of The Hazardous Chemical	Reproductive Toxicity Category 1B Skin / Eye corrosion Category 5 Acute Toxicity Category 5
Signal Word	**WARNING**
Hazard Statement	May damage fertility or the unborn child Causes serious eye irritation Causes skin irritation
Precautionary Statements	Keep only in original container. Obtain special instructions before use; Do not handle until all safety precautions have been read and understood Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling
GHS Pictograms	

3.0 Ingredients / Composition %w/w

Ingredient Name/Nature	**<2**	**2>10**	**>10**	**>20**	**>30**	**>40**	**>50**	**>60**	**>70**	**>80**	**>90**	**>100**
Proprietary Ingredients predominantly water and non-toxic wetting agents determined to be hazardous at that concentration												
Potassium Silicate (CAS 10006-28-7)												
Boric acid (CAS 10043-35-3)												
Hydrochloric acid (CAS 7647-01-0)												

4.0 First Aid Measures

First Aid Instructions	Consider your own safety first.
Swallowed	Rinse mouth and SPIT, if conscious give a glass of water. **For advice,** contact a Poisons Information Centre (e.g. phone Australia 13 11 26; or a doctor.
Eye	Rinse cautiously with running water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.
Skin	Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
Inhaled	Remove to fresh air; rinse mouth and spit, **For advice,** contact a Poisons Information Centre (e.g. phone Australia 13 11 26; or a doctor.
Symptoms caused by exposure	Local irritation effects can be anticipated due to corrosive nature.
Medical Attention / Special Treatment	Neutralise the weak acid solution using dilution, see section 11 for additional data.

Continued over page……

5.0 Fire Fighting Measures

Extinguishing media	As merited by packaging &/or surrounding materials, including Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Specific Hazards arising from the chemical	None indentified
Special protective equipment and precautions for fire fighters HAZCHEM	None indentified

6.0 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep only in original container. Obtain special instructions before use, Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling
Environmental precautions	Concentrate as supplied should not enter to waterways, may clause localised effects.
Methods and materials for containment and cleaning up	Take off contaminated clothing and wash it before reuse. Rinse any exposed metal surfaces thoroughly clean after use. Absorb any spillage to prevent material damage.

7.0 Storage and Handling

Precautions for Safe Handling	Dispense water first, add Fasilitor to the dispensed water immediately before use, rinse container, and mix before use.
Safe Storage Practice	Maintained, tightly closed in original container.
- Avoid	Strong flammable substances, strong bases, oxidising substances, aluminium.
- Control	Cross contamination, do NOT mix with other substances,
- Maintain	Good personal and product hygiene
- Other	May cause hard surfaces to become slippery. May mark porous surfaces.

8.0 Exposure Controls / Personal Protection

National Exposure Standards	HCl the chemical has an exposure standard (peak limitation) of 7.5 mg/m^3 (5 ppm) time weighted average (TWA).				
Control Banding	~~Band Zero – Household or Consumer Use~~	Band 1 – good industrial hygiene practice	~~Band 2 – use local exhaust ventilation~~	~~Band 3 – enclose the process~~	~~Other~~
Engineering Controls	Ensure adequate ventilation; Repeated exposure to HCl fumes at 15 % concentration (or 7 mg/m^3 in air) caused severe irritation of the front teeth in humans.				
PPE	Wear protective gloves/protective clothing/eye protection/face protection				

9.0 Physical & Chemical Properties

Appearance	Transparent green solution	**Partition Co-efficient n-Octonol/water**	Not established
Odour	Mildly acidic	**Solubility**	Water soluble
pH	< 1 (Highly Acidic, with weak acid properties)	**Vapour Pressure**	Not established
Melting / Freezing Pt	Freezes at ~0^{o}C	**Vapour Density**	Not established
Boiling Point	~ 100^{o}C	**Relative Density**	~ 1.0 g/mL
Flash Point	>65^{o}C	**Auto-ignition Temp**	Not established
Evaporation Rate	not established	**Decomposition Temp**	Not established
Flammability	Not flammable	**Viscosity**	< 500 cps
Explosive Limits	Not established	**Other**	Not established

10.0 Stability & Reactivity

Reactivity	Weak acid will react with strong alkalies, and may react with flammable and oxidising substances.
Chemical Stability	Likely to be chemically stable
Possibility of Hazardous Reactions	Consider chemical segregation requirements for this weakly aid solution.
Conditions to avoid	Heat, contact between concentrate as supplied and metals such as aluminium
In compatible materials	Alkalies, Oxidising substances, flammable substances, food, medicaments
Hazardous Decomposition Products	None identified

Continued over page……

11.1 Known Toxicological Information Potassium Silicate ~15% (non-alkaline form)

Ingredient Name / Type	Data
Acute Toxicity	Silicon is an essential trace element involved in the normal metabolism of mammals. It is required in bone, cartilage and connective tissue formation as well as other important metabolic processes. The majority of silicon on earth is combined with other elements including oxygen to form minerals with low bioavailability, such as silicon dioxide (sand). Most rocks and many mineral compounds are silicates, widely occurring compounds containing silicon, oxygen, and one or more metals, with or without hydrogen (Hawley, 1981). Soluble silicate anions generally only occur under alkaline conditions, forming polymeric species such as silica gel at lower pHs. The formation of insoluble silica gel at physiological pH values limits the amount of silica available systemically (OECD, 2004). Silica gel is considered to be of low toxicity (NICNAS, 2012). Absorption of orally administered silicate will largely be dose independent because of the equilibrium involving the insoluble silica gel. A number of studies have used conditions comparable to OECD guidelines. The oral LD50 in rats was 1152–5700 mg/kg bw, depending on the molar ratio of the silicate species; that is, toxicity decreases with increasing molar SiO2 : M2O ratio. Clinical signs included apathy, staggering gait, tonic cramps, dyspnoea, cyanosis, piloerection and signs of abdominal discomfort. The acute oral toxicity of soluble silicates is generally inversely correlated to the molar ratio SiO2 : Na2O. Toxicity decreases in rats with increasing molar ratio from a median lethal dose (LD50) of 500 mg/kg bw for molar ratio 0.5 up to 8650 mg/kg bw for molar ratio 3.38. The one solitary study on potassium silicate fits well into the toxicity pattern of the sodium silicates
Skin Corrosion / Irritation	Sodium and potassium silicates can be irritating and corrosive to the skin of rabbits, depending on the pH and the molar ratio and concentration of the solutions. Several primary skin irritation studies using these chemicals have been performed in rabbits in accordance with, or under similar conditions to, the relevant OECD test guidelines. No data are available on the acute inhalation and dermal toxicity of soluble silicates. In view of the irritating or corrosive properties of undiluted, concentrated soluble alkaline silicates that would result in severe local effects, studies on inhalation or dermal toxicity are neither feasible nor justifiable due to animal welfare concerns
Serious Eye Damage Irritation	In eye irritation studies conducted in accordance with OECD Test Guideline (TG) 405 using concentrations of 35 % and 29 % (highest tested concentrations), potassium silicates with molar ratios of 3.4 and 3.9 were only slightly irritating, and not irritating to the eyes of rabbits, respectively. Results from non-validated in vitro assays indicated that the severity of eye effects is inversely correlated with the molar ratio, with corrosive effects found in the enucleated rabbit eye test after exposure to disodium silicate powder with a molar ratio of 1.0
Respiratory or skin sensitisation	Silicic acid (H2SiO3), disodium salt is classified as hazardous with the risk phrase 'Irritating to respiratory system' (Xi; R37) in the HSIS (Safe Work Australia). Based on the negative results of a study using sodium silicate in a local lymph node assay conducted in accordance with OECD TG 429, the chemical is not considered to be a skin sensitiser (OECD, 2004).
Germ cell mutagenicity	No relevant data identified
Carcinogenicity	No relevant data identified
Reproductive toxicity	No relevant data identified
Specific Target Organ Toxicity – single exposure & repeated exposure	No reliable toxicokinetic, metabolic or metabolic studies are available for soluble silicates (OECD, 2004).
Aspiration hazard.	No relevant data identified
Skin - Acute	No data are available on the acute inhalation and dermal toxicity of soluble silicates.
Inhaled - Acute	
Swallowed - Acute	Ingesting 200 mL of sodium silicate egg-preserving solution (typically having a molar ratio of 3:2 and concentrations of 5–36 %) caused severe vomiting, diarrhoea and bleeding, elevated blood pressure, and renal damage, but was not fatal. Ingesting 500 mL of an egg-preserving solution containing sodium silicate by a 68-year-old woman intending to commit suicide caused death within one hour by suffocation. Aspiration of the vomited silicate solution caused obstruction of the lungs by precipitating amorphous silica. Sodium silicate was transformed from a liquid to solid form in the lungs by the carbon dioxide in expired air (OECD, 2004).
Eye - Acute	No relevant data identified
Early Onset Symptoms	No relevant data identified
Delayed Health Effects from exposure	No relevant data identified
Exposure Level & Health Effects	No relevant data identified
Interactive effects	When absorbed, silicates are excreted via the urine and, to a lesser extent, via the faeces. The urinary silicon excretion half-life after administration of sodium silicate to rats through a stomach tube was 24 hours. The excretion rate was independent of the dose applied, indicating that the limiting factor is the rate of production of soluble or absorbable silicon in the gastrointestinal tract (OECD, 2004). ….SDS continues over page.
Other	

11.2 Known Toxicological Information Boric acid CAS 10043-35-3 <2%

Ingredient Name / Type	Data
Acute Toxicity	Low acute toxicity in animal tests following oral exposure. The median lethal dose (LD_{50}) in rats is >2000 mg/kg bodyweight (bw). Observed sub-lethal effects included central nervous system (CNS) depression, ataxia and convulsions. There is a large database of accidental or intentional poisoning incidents with borates in humans. A review of more than 700 cases of acute boric acid exposures in adults and children found 88.3 % of cases were without symptoms. Although the report provided only limited information on dose response, dose ranges of 0.1– 55 g and 0.01–89 g of boric acid were reported for symptomatic and asymptomatic cases, respectively
Skin Corrosion / Irritation	Low acute toxicity in animal tests following dermal exposure. The LD_{50} in New Zealand White (NZW) rabbits is >2000 mg/kg bw. No mortalities occurred in the study. Local effects including erythema, oedema, atonia, desquamation, necrosis and some incidences of skin irritation were noted 24 hours after treatment.
Serious Eye Damage Irritation	Low potential for damage; Conjunctival redness, chemosis, and minor effects on the iris were noted in an eye irritation study conducted using a protocol similar to OECD TG 405.
Respiratory or skin sensitisation	Studies indicate this chemical does not contribute to sensitisation reactions.
Germ cell mutagenicity	Based on available information, not considered to have mutagenic or genotoxic potential
Carcinogenicity	The available information indicates that boric acid is not likely to be carcinogenic
Reproductive toxicity	Classified as hazardous for reproductive and developmental toxicity—Category 1B; H360FD (May damage fertility. May damage the unborn child). The NOAEL for fertility of 100 mg/kg bw/day of boric acid (equivalent to 17.5 mg boron/kg bw/day) has been determined (based on testicular effects) from two-year and three-generation studies in rats. The critical NOAEL for developmental effects has been established at 55 mg/kg bw/day of boric acid (equivalent to 9.6 mg boron/kg bw/day) in rats .
Specific Target Organ Toxicity – single exposure	The testes and the developing foetus have been identified as the most sensitive targets of boron toxicity in animal studies, with the rat being the most sensitive species. The reported testicular effects included: reduced organ weight and organ to bodyweight ratio; atrophy and degeneration of the spermatogenic epithelium; impaired spermatogenesis; and reduced fertility. The developmental effects that have been reported included: high prenatal mortality and reduced foetal body weight as well as malformations and variations of the eyes, CNS, cardiovascular system and axial skeleton. Correlations between boron levels and reproductive or developmental effects were investigated in several epidemiological studies in Chinese and Turkish workers and in populations living in areas with high environmental levels of boron. Three groups were compared in a Chinese study: boron mining and processing workers; men living in local village, not in the boron industry (high soil boron); and men living in a distant village (normal soil boron content). In a Turkish study, reproductive effects of boron exposure in workers employed in a boric acid production plant were investigated. As semen analysis is the most sensitive indicator for testicular toxicity in humans, semen parameters were evaluated in both studies. Even though a mean boron intake of up to 125 mg boron/day (over 100 times greater than the average daily exposure of the general population) was determined for the highest exposed Chinese group, adverse testicular effects were not seen. Turkish workers also did not show any adverse testicular effects despite a high mean calculated daily boron exposure (14.45 ± 6.57 mg boron/day) in the exposed group. Other **epidemiological studies of exposure to workers and general populations with high environmental boron showed no reproductive or developmental effects. The higher levels of zinc in the soft tissue of humans have been postulated to have a protective effect against boron toxicity.** There was limited evidence of a reduction in reproductive and developmental toxicity for zinc borate compared with boric acid in laboratory studies.
Specific Target Organ Toxicity (STOT) – repeated exposure	
Aspiration hazard.	Dependent on mode of use; Inhalation absorption is assumed to be 100 %, as a worst case scenario.
Skin - Acute	Unlikely skin irritant
Inhaled - Acute	Unlikely inhalation irritant
Swallowed - Acute	Low risk of acute intoxication
Eye - Acute	Effects are considered insufficient to warrant classification as an eye irritant.
Early Onset Symptoms	None typical
Delayed Health Effects from exposure	None typical
Exposure Level & Health Effects	The critical NOAEL for developmental effects has been established at 55 mg/kg bw/day of boric acid
Interactive effects	Exposure to Zinc may mitigate some risk of effects of boric acid (see Scientific Committee on Consumer Safety (SCCS) 2010. Opinion on boron compounds. **http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_146.pdf**
Other	No additional data supplied.

Continued over page……

11.3 Known Toxicological Information 0.5% Hydrochloric acid (CAS 7647-01-0)

Ingredient Name / Type	Data
Acute Toxicity	Hydrogen chloride is highly acidic and concentrated aqueous solutions may have pH <0.14. It is a direct-acting corrosive and adverse effects are caused at the site of contact due to the very low pH rather than the effects of the chloride ion. As hydrogen ions and chloride ions are normal constituents in the body fluid of animals, low concentrations of hydrogen chloride gas/mist or solution do not seem to cause adverse effects in animals. As the constituent ions of hydrochloric acid are ubiquitous in the human body, systemic effects are not expected. There are sufficient data on long-term effects of hydrochloric acid exposure in animals and humans to confirm that adverse effects are not expected. Due to the corrosive nature of the chemical, it is not possible to conduct acute oral toxicity studies in animals to derive a median lethal dose (LD50) for the chemical. The LD_{50} for a 3.3 % concentration of the chemical falls within the hazard classification range to classify it as 'harmful'. However, acute lethal effects are expected due to the corrosive nature of the chemical. The chemical is classified for its corrosive effects and, therefore, an additional hazard classification for acute oral toxicity is not required. In female rats that received the chemical at 3.3 % orally, the LD_{50} was reported as 238–277 mg/kg bw Mortality has been observed following ingestion of the chemical. A woman died 29 hours after ingesting 60 mL of a 35 % w/v hydrochloric acid solution. A 29-year-old man was admitted to hospital after ingesting approximately 200 mL of a cleaning solution containing 36 % w/v hydrochloric acid. Initial clinical effects included mucosal injury in the middle part of the pharynx in the area above the vocal cords and oesophagus. Further examination after two days revealed gastric necrosis and perforation and the patient died shortly thereafter
Skin Corrosion / Irritation	In a skin irritation test (OECD Test Guideline (TG) 404), 37 % w/v hydrochloric acid (0.5 mL) was applied (under semi-occlusive and occlusive conditions) to rabbits. The chemical was found to be corrosive under both conditions following a one-hour exposure. Several studies in animals indicated that the chemical at concentrations above 3.3 % causes irritation and at concentrations above 17 % causes corrosion. **Occlusive patches of 4 % hydrochloric acid that were applied to the skin of 20 individuals for four days resulted in slight irritation in 14/20, with very weak to weak erythema**
Serious Eye Damage Irritation	In a Draize test (OECD TG 405), eye instillation of a 10 % hydrochloric acid solution (0.1 mL) in rabbits produced severe irritation with conjunctivitis, chemosis, iritis and corneal opacity from 4–96 hours following instillation, with the severity of effects increasing over time (OECD, 2005). The effects were not reversible (REACH). An eye irritation study (comparable to OECD TG 405) in rabbits with 3.3 % of the chemical produced very slight to slight reddening and opaque swelling of the conjunctivae with slight corneal opacity, over 28 hours. No eye irritation was observed in rabbits that received the chemical at 0.33 % (OECD, 2005).
Respiratory or skin sensitisation	The chemical (37 % in water) did not produce skin sensitisation in humans.
Germ cell mutagenicity	Based on the in vitro data available, the chemical is not considered to be genotoxic.
Carcinogenicity	Based on the information available, the chemical is not considered to be carcinogenic.
Reproductive toxicity	Only limited data are available. However, the constituent ions are present in the human body at high concentrations, particularly in the stomach, and only short-term local effects are expected.
Specific Target Organ Toxicity – single exposure & repeated exposure	The critical health effects are different for gaseous hydrogen chloride, for which respiratory irritation and corrosion are critical, and aqueous solutions (hydrochloric acid) where dermal corrosion is the key effect. Due to corrosive nature of the chemical, even low concentrations of the chemical will also cause irritation to the eyes, skin and the respiratory tract.
Aspiration hazard.	Studies reporting exposure to hydrogen chloride gas are available. Rats and mice were exposed to the chemical gas (equivalent to OECD TG 413) at concentrations of 0, 10, 20 or 50 ppm (0, 15, 30 or 75 mg/m^3), six hours/day, five days/week for 90 days. Mice showed decreased body weight gain, food consumption and liver weight (in males only) at 50 ppm. Decreased body weight gain was observed in male rats at 50 ppm and food consumption was reduced in both sexes at 20 and 50 ppm. Inflammatory histopathological changes in lips or the nasal cavity were observed in mice and rats above 10 ppm. The no observed adverse effect concentration (NOAEC) for systemic toxicity was determined to be 20 ppm for rats and mice based on the reduction in body weight gain and liver weight (in male mice) (OECD, 2005).
Skin - Acute	Can be irritating to skin
Inhaled - Acute	Hazardous by inhalation
Swallowed - Acute	Localised irritation and inflammation, not specifically toxic.
Eye - Acute	Causes eye damage
Early Onset Symptoms	Local corrosive effects
Delayed Health Effects from exposure	None identified.

Continued over……

Exposure Level & Health Effects	Via inhalation Decreased body weight gain was observed in male rats at 50 ppm and food consumption was reduced in both sexes at 20 and 50 ppm. Inflammatory histopathological changes in lips or the nasal cavity were observed in mice and rats above 10 ppm. The no observed adverse effect concentration (NOAEC) for systemic toxicity was determined to be 20 ppm for rats and mice based on the reduction in body weight gain and liver weight (in male mice) (OECD, 2005).
Interactive effects	None identified
Other	No data included

12.0 Ecological Information

Ecotoxicity (as supplied)	This product is intended as a mineral fertiliser for use in depleted soils. Based on the toxicity of boric acid, this product will have low acute and chronic toxicity to aquatic organisms.
Persistence & Biodegradability	Not Persistent
Bioaccumulative Potential	Not bioaccumulative and not inherently toxic to the environment
Mobility in soil	As boric acid is relatively soluble and mobile in soil, boron usually only accumulates in heavy clay soils in low-rainfall areas.
Other effects	The uptake of boron by plants is a passive process. Boron is transported from the roots to the shoots in the xylem where it accumulates following evapotranspiration.

13.0 Disposal Considerations

Disposal Containers & Methods	Rinse container; dispose as permitted by local jurisdiction.
Physical/chemical properties that may affect disposal options.	None identified
Effects of sewage disposal.	Diluted solutions are unlike to contribute to issues of concern
Special precautions for incineration or land fill.	Diluted solutions are unlike to contribute to issues of concern

14.0 Transport Information

UN Number	**Proper Shipping Name / Technical Name**	**Transport Hazard Class**	**Packaging Group**
N/A	N/A	N/A	**N/A**
Environmental Hazards for Transport Purposes		**Special Precautions for user**	
None		None	

15.0 Regulatory Information

Montreal Protocol	**Stockholm Convention**	**Rotterdam Convention**	**Basel Convention**	**MARPOL**
Not applicable	Not included	Not Included	Not Included	Not Included
SUSMP	excluded from SUSMP by %			
Prohibitions / Licensing Restrictions	None identified			
APVMA	Excluded by purpose			
NICNAS	All ingredients are included in AICS			

16.0 Other Information

16.1 Consumer & General Usage Information

Directions for use	Dilute and apply as directed on the label.
Directions for Removal	Rinse under running water.
Nano Materials	None identified
Animal Derived Ingredients	None identified

Continued next page ……

16.2 SDS Preparation

Date Prepared	22nd March 2018.
Changes Made	First edition for Australia
Reference Standards	Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice February 2016. ISBN 978-0-642-33311-7. GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Fourth revised edition
Resources Relied upon include	Hazardous Substances Data Bank (HSDB) https://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB Suppliers' SDS; RTECS Toxicity Database; IRAC; CDC NIOSH, HSIS, Safework Australia GHS Hazardous Chemical Information List.

Disclaimer: This SDS provides safety data only for the product and circumstances of use nominated. The SDS summarises our best knowledge of the specific, well-known and equivocally demonstrated health and safety hazard information pertaining to workplace use of the nominated substance(s) however the author expressly disclaims that the SDS is complete, is a representation or is a guarantee. Published and other resources have been relied upon, and in some cases conflicting information has been identified. Each user should read the SDS and consider the information in the context of their specific conditions and circumstances, and in conjunction with other products. If clarification is required or further information sought in order to make a risk assessment the user should contact the nominated sponsor company. The responsibility for products sold is subject to our standard terms and conditions that are available on request.

16.3 Key abbreviations or acronyms used

%	Percent (parts per hundred)
***C or °C**	degrees Celsius
<	less than
>	greater than
ACCC	Australian Competition and Consumer Commission
ADG	Australian Dangerous Goods
AICS	Australian Inventory of Chemical Substances
APVMA	Australian Pesticides and Veterinary Medicines Authority
AS	Australian Standard
ASCC	Australian Society of Cosmetic Chemists
bw	Body weight (nominally a human adult of 60kg is applied)
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (Registry Number)
cc	cubic centimetres (equivalent to mL)
COD	Chemical Oxygen Demand
CMR	CMR substances: Article 15 of the EU Cosmetics Regulation 1223/2009 contains provisions on the use of CMR in cosmetic products. Typically substances classified as CMR substances Cat 1A, 1B, or 2 under Part 3 of Annex IV Regulation (EC) No 1272/2008 are banned for use in cosmetic products
COSING	The European Commission database with information on Cosmetic Ingredients & Substances Dangerous Goods
EINECS	European Inventory of Existing Commercial Chemical Substances (Identifying Number)
dw	Dry weight
DNEL	Derived No effect level
EU	Europe / European
FSANZ	Food Standards Australia New Zealand
g	gram
GHS	Globally Harmonised System (safety symbols and labelling)
GMO	Genetically modified organism
h or hr	Hour
HAZCHEM	Emergency action code of numbers and letters that provide information to emergency services especially fire fighters
HSIS	The Safe Work Australia Hazardous Substances Information System
IATA	The International Air Transport Association
IMAP	NICNAS Inventory Multi-tiered Assessment and Prioritisation
ICAO	The International Civil Aviation Organization
IFA	The International Fragrance Association
INCI	The International Nomenclature of Cosmetic Ingredients
kg	kilogram
L	Litre
LC_{50}	LC_{50} is the average concentration of a material (by a defined route) that causes the death of 50% (one half) of a group of (defined) test animals. Normally quoted in mg/kg body weight.

Continued over page……

LD_{50}	LD_{50} is the average dose of a material, given all at once, which causes the death of 50% of a group of (defined) test animals. Normally quoted in mg/kg body weight. Products with a LD_{50} of less than 5000mg/kg are scheduled poisons in Australia (see SUSMP)
LD_{LO}	Lethal Dose Low, is the minimum amount of a material shown to be lethal to a specified type of animal. Typically quoted in mg/kg body weight.
m or min	minute
m^3	cubic metre
Max or max	maximum
mg	milligram
Min or min	minimum
mL	millilitre
mm	millimetre
mm Hg	millimetre of Mercury
MOS	Margin of Safety
MRL	Maximum Residue Limit
MSDS	Material Safety Data Sheet (see also SDS)
Nano	Nano(sized) material / Nano Technology; …industrial materials (including a cosmetic ingredient) comprising 10% or more by composition that has been intentionally produced, manufactured or engineered to have either an internal or external property that is a size range typically between 1 nm and 100 nm.
ng	nanogram
NICNAS	The National Industrial Chemicals Notification and Assessment Scheme (AUSTRALIA)
NIOSH	The National Institute for Occupational Safety and Health (USA)
NOAEL	No observed Adverse Effects Limit
NOHSC	National Occupational Health and Safety Commission (AUSTRALIA)
NOS	Not otherwise specified
NZS	New Zealand Standard
OECD	Organization for Economic Co-operation and Development (Test Method number)
OSHA	The Occupational Safety and Health Administration (USA)
Perm.	Permethrin (Active ingredient of this formulation)
PEL	Permissible Exposure Limit
pH	(pH) A measure of acidic (less than 7) or alkalinity (above 7); extreme values represent extreme acidic or alkaline conditions. Typically products with a pH less than three or greater than 11 are scheduled poisons (SUSMP)
PNEC	Predicted no effect concentration
ppb	parts per billion
PPE	Personal Protective Equipment
ppm	parts per million
RTECS	The Registry of Toxic Effects of Chemical Substances
S2	Schedule 2, SUSMP **Pharmacy Medicine** – Substances, the safe use of which may require advice from a pharmacist and which should be available from a pharmacy or, where a pharmacy service is not available, from a licensed person.
S3	Schedule 3, SUSMP **Pharmacist Only Medicine** – Substances, the safe use of which requires professional advice but which should be available to the public from a pharmacist without a prescription.
S4	Schedule 4, SUSMP **Prescription Only Medicine**, or **Prescription Animal Remedy** – Substances, the use or supply of which should be by or on the order of persons permitted by State or Territory legislation to prescribe and should be available from a pharmacist on prescription.
S5	Schedule 5, SUSMP **Caution** – Substances with a low potential for causing harm, the extent of which can be reduced through the use of appropriate packaging with simple warnings and safety directions on the label.
S6	Schedule 6, SUSMP **Poison** – Substances with a moderate potential for causing harm, the extent of which can be reduced through the use of distinctive packaging with strong warnings and safety directions on the label.
S7	Schedule 7, SUSMP **Dangerous Poison** – Substances with a high potential for causing harm at low exposure and which require special precautions during manufacture, handling or use. These poisons should be available only to specialised or authorised users who have the skills necessary to handle them safely. Special regulations restricting their availability, possession, storage or use may apply.
S8	Schedule 8, SUSMP **Controlled Drug** – Substances which should be available for use but require restriction of manufacture, supply, distribution, possession and use to reduce abuse, misuse and physical or psychological dependence.
S9	Schedule 9, SUSMP **Prohibited Substance** – Substances which may be abused or misused, the manufacture, possession, sale or use of which should be prohibited by law except when required for medical or scientific research, or for analytical, teaching or training purposes with approval of Commonwealth and/or State or Territory Health Authorities.

Continued over page……

S10	Schedule 10, SUSMP **Substances of such danger to health as to warrant prohibition of sale, supply and use** - Substances which are prohibited for the purpose or purposes listed for each poison.
SCCP	Scientific Committee on Cosmetic Products and Non-Food Products (EUROPE)
SDS	Safety Data Sheet, (previously called MSDS) now SDS under GHS
STEL	Short Term Exposure Limit
SUSMP	Standard for the Uniform Scheduling of Medicine & Poisons (AUSTRALIA) also Poisons Standard. Poisons are not scheduled on the basis of a universal scale of toxicity. Although toxicity is one of the factors considered, and is itself a complex of factors, the decision to include a substance in a particular Schedule also takes into account many other criteria such as the purpose of use, potential for abuse, safety in use and the need for the substance.
T1 or TI	NICNAS IMPA Framework Low risk; chemicals that are not expected to pose a concern to workers, public health or the environment
T2 or TII	NICNAS IMPA Framework Assessable risk; products not classified as T1 risk information on a substance-by-substance or chemical category-by-category
TGA	Therapeutic Goods Administration (AUSTRALIA)
TLV	Threshold Limit Value
TWA	Time Weighted Average
ug	microgram
uL	microlitre
UN	United Nations (number)
US or USA	The United States of America

End of SDS