Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identifier	Boiler Conditioner SP
Product Code	WT3919
Product Use	Effectively lift and remove rust, scale deposits, stubborn stains, cement and lime deposits.
Company Information	Vance Chemicals Pte Ltd No.24 Gul Lane Singapore 629418 +65 6863 0863 msds@mr-mckenic.com
Emergency Contact	+65 9299 8024

SECTION 2 HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Health		Environmental	Physical
Skin corrosion	Category 1	Not classified	Not classified
Eye damage	Category 1		
Acute toxicity (Oral)	Category 4		
Acute toxicity (Dermal)	Category 4		

GHS LABEL:

SIGNAL WORD: DANGER

Hazard Statements:

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P301+P312	IF SWALLOWED: Call a POISON CENTER if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.

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
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 CENTRE or doctor/physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents/container to an approved waste disposal plant.

SECTION 3 COMPOSITIONS / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	Weight %
Hydrochloric acid	7647-01-0	<25
Phosphoric acid	7664-38-2	<4
Citric acid anhydrous	77-92-9	<3
Non-hazardous materials	Mixture	>60

SECTION 4 FIRST AID MEASURES

Eye contact
Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open. If redness, swelling, pain and blister occur, transport to the nearest medical facility for additional treatment.

Skin contact
Remove contaminated clothing. Flush exposed area with large amount of water for at least 15 minutes followed by washing with soap. If redness, swelling, pain and blister occur, transport to the nearest medical facility for additional treatment.

Inhalation
Remove to open area for fresh air. If rapid recovery does not occur, transport to the nearest medical facility for additional treatment.

Ingestion
For ingestion in large amount, immediately give person large quantities of water or milk to drink, followed by fruit juice or vinegar to neutralize. Do not induce vomiting. Obtain medical assistance immediately.

SECTION 5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Use water spray to cool fire-exposed containers. In case of fire use water spray, dry chemical, carbon dioxide, or chemical foam.

Unsuitable Extinguishing Media
No restrictions

Specific Hazards Arising from the Chemical
Not considered to be a fire hazard. May react with metals or heat to release flammable hydrogen gas

Protection for Fire-fighters
Evacuate personnel to safe areas. Intervention only by capable personnel who are trained and aware of the hazards of the product. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Clean contaminated surface thoroughly.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. Refer to protective measures listed in sections 7 and 8. Prevent further leakage or spillage if safe to do so. Keep away from open flames, hot surfaces and sources of ignition. Keep away from incompatible products. Isolate the area. Cover the spreading liquid with foam in order to slow down the evaporation. Ventilate the area.

Environmental Precautions
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Spill may be carefully neutralized with lime (calcium oxide, CaO).

Method for Cleaning Up & Containment
Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

Emergency Procedures
Shut off leaks, if possible, without personal risks. Remove all possible ignitions in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth or other appropriate barriers. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas indicator.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Use only in well-ventilated areas. Avoid contact with skin and eyes. Prevent product vapours decomposition from contacting hot spots. Keep away from heat and sources of ignition. Keep away from incompatible products. Do not wash out container and use it for other purposes. When diluting, always add the acid to water; never add water to the acid. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Protect from freezing. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product.

Conditions for Safe Storage: Keep container dry. Keep in a cool, well-ventilated place with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat and incompatible materials. Ground all equipment containing material. Storage containers should be earthed and bonded. Drums must be earthed and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters. Keep container tightly closed.

Storage temperature: Ambient
Storage/Transport Pressure: Atmospheric

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Hydrochloric acid	5ppm	Not Established	Not Established	Not Established
Phosphoric acid	0.25ppm	0.75ppm	0.25ppm	Not Established
Citric acid anhydrous	Not Established	Not Established	Not Established	Not Established

Engineering Controls
Ensure adequate ventilation. Provide appropriate exhaust ventilation at machinery. Refer to protective measures listed in sections 7 and 8. Apply technical measures to comply with the occupational exposure limits.

Personal Protective Equipment (PPE):

Eye Protection
Eye protection is not required under normal conditions of use. If material is handled such that it could be splashed into eyes, wear plastic face shield or splash-proof safety goggles.

Skin Protection
No skin protection is required for single, short duration exposures. For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc) over parts of the body subjected to exposure. Launder soiled clothes. Proper dispose of contaminated leather articles including shoes, which cannot be decontaminated. Use rubber gloves if necessary.

Respiratory Protection
In the case of hazardous fumes, wear self contained breathing apparatus. Self-contained breathing apparatus in medium confinement/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.

Thermal hazards
NA

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark Yellow
Odour	Rancid
Odour Threshold	NA
pH	1 - 2
Melting Point/ Freezing Point (°C)	Not determined
Initial boiling point and range (°C)	Not determined
Flash Point (°C) [According to ISO 3679, Closed Cup Testing]	No flash point detected (From ambient temperature to 93°C)
Evaporation Rate	Not determined
Flammability (solid, gas)	Not applicable
Upper/lower Flammability	Not determined

(Explosive) Limits:	
Vapour Pressure	Not determined
Vapour Density	Not determined
Relative Density	1.13 ± 0.03
Solubility in water	Soluble
Partition coefficient (N-Octanol/water)	Not determined
Auto-ignition Temperature (°C)	Not determined
Decomposition Temperature:	Not determined
Viscosity (mPa s)	Not determined

SECTION 10 STABILITY AND REACTIVITY

Reactivity/Incompatible materials
Strong oxidisers

Chemical Stability
Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions
Not determined

Hazardous decomposition products
When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes, explosive hydrogen gas, phosphorus oxides, nitrogen oxides, oxides of sulphur, irritating and toxic fumes and gases, ammonia and/or derivatives.

Conditions to avoid
Heat, direct sunlight, incompatibles. Avoid dust formation. Take precautionary measures against static discharge.

Materials to avoid
A strong mineral acid, concentrated hydrochloric acid is highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulphides, sulphites, and formaldehyde.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity Estimate of the mixture (ATE_{mix})
Acute oral toxicity (LD50): 981 mg/kg [Rat].
Acute dermal toxicity (LD50): 1804 mg/kg [Rat].
Acute inhalation (LC50): 380 mg/l[Rat].

SECTION 12 ECOLOGICAL INFORMATION

Toxicity
This product's Aquatic Toxicity has been estimated by Addition Method. It is not hazardous to aquatic life.

Persistence/Degradability
The acidity of the acid may be reduced readily by natural water hardness minerals, but the phosphate may persist indefinitely. During transport through the soil, phosphoric acid might dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree with adsorption of the proton and phosphate ions also possible. However, significant amounts of acid will remain

for transport down toward the groundwater table.

Bio accumulative Potential
Not expected to bio-accumulate significantly

SECTION 13 DISPOSAL CONSIDERATIONS

Local Legislation
Dispose in compliance with local/federal and national regulations. It is recommended to contact the producer for recycling/recovery. Or send the product to an authorized hazardous waste incinerator.

Container Disposal
To avoid treatments, as far as possible, use dedicated containers. If not, rinse the empty containers with a low volatility hydrocarbon and treat the effluent in the same way as waste. Containers that cannot be cleaned must be treated as waste.

SECTION 14 TRANSPORT INFORMATION

Land (ADR)

UN Number	: 3264
UN Class	: 8
Subsidiary Risk	: NA
Packing Group	: III
Proper Shipping Name	: Corrosive Liquid, Acidic, Inorganic, N.O.S (Phosphoric acid, Hydrochloric acid)
HIN	: NA

Sea (IMDG)

UN Number	: 3264
UN Class	: 8
Subsidiary Risk	: NA
Packing Group	: III
Proper Shipping Name	: Corrosive Liquid, Acidic, Inorganic, N.O.S (Phosphoric acid, Hydrochloric acid)
HIN	: NA
EmS	: F-A, S-B

Sea (Annex II of MARPOL 73/78 and the IBC Code)

Pollution Category	: NA
Ship Type	: IBC03
Product Name	: Corrosive Liquid, Acidic, Inorganic, N.O.S (Phosphoric acid, Hydrochloric acid)

Air (IATA)

UN Number	: 3264
UN Class	: 8
Subsidiary Risk	: NA
Packing Group	: III
Proper Shipping Name	: Corrosive Liquid, Acidic, Inorganic, N.O.S (Phosphoric acid, Hydrochloric acid)

Special Precautions
Before transportation, make sure the containers are tightly sealed and that there are no liquid or gas leaks.

When transporting containers, be sure that they are tightly fastened. An appropriate buffer material should be placed between them to prevent them from bumping each other and being damaged during transport.

SECTION 15 REGULATORY INFORMATION

Applicable national regulations:
Standards on Hazard communication for hazardous chemicals and dangerous goods

- SS 586: Part 1: 2014-Transport and storage of dangerous goods
- SS 586: Part 2: 2014-GHS of classification and labelling of chemicals
- SS 586: Part 3: 2008-Preparation of safety data sheet

MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations

- This product is subject to SDS, labelling, PEL and other requirements in the Acts/Regulations.

NEA: Environmental Protection and Management Act & Environmental Protection and Management (Hazardous Substances) Regulations

- This product is subject to control under this Acts/Regulations.

SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations

- This product is not subject to the requirement of this Acts/Regulations.

SPF: The Arms and Explosive Act, the Arms and Explosives (Explosives) Rules, and the Arms and Explosives (Explosive Precursors) Rules

- This product is not subject to the requirement of this Acts/Regulations

SECTION 16 OTHER INFORMATION

Department issuing date sheet: Vance Chemicals Quality Control and Laboratory
Original Issue date: 19 January 2021
Revision no.: 00
Revision date: -

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