Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identifier	Arm-Clean
Product Code	MS5501
Product Use	Maintain weapon reliability and performance by removing embedded carbon and copper fouling.
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 INDENTIFICATION

GHS CLASSIFICATION

Health		Environmental	Physical
Skin irritation	Category 3	Not classified	Not classified
Eye irritation	Category 2		

GHS LABEL:

Signal Word: Warning

Hazard Statements:

H316 Causes mild skin irritation
H320 Causes eye irritation

Precautionary Statements
Prevention:

P264 Wash thoroughly after handling

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
P337+P313	If eye irritation persists: Get medical advice/attention.
P332+P313	If skin irritation occurs: Get medical advice/attention.

Safety Data Sheet

SECTION 3 COMPOSITIONS / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	EINECS #	R Phrase	S Phrase	Weight %
Citric acid anhydrous	77-92-9	201-069-1	R36	S26	<5
Sodium o-phenylphenate	132-27-4	205-055-6	R22, R37/38, R41	S2, S22, S26, S61	<1
Sodium hydroxide 50%	1310-73-2	215-185-5	R35	S1/2 S26, S37/39, S45	<1
Butyl Glycol Ether	111-76-2	203-905-0	R20/21/22, R36/38,	S2, S36/37, S46	<5
Non-hazardous materials	Mixture	-	-	-	>80

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
If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspirations.

SECTION 5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Non-flammable. Use water spray, fog or foam to cool fire exposed surfaces and to protect personnel.

Unsuitable Extinguishing Media
No restrictions

Specific Hazards Arising from the Chemical
Decomposition under fire conditions will generate carbon monoxide and may generate other potentially toxic vapors.

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 fire, wear self-contained breathing apparatus. When intervention in close proximity wear acid resistant over suit. Clean contaminated surface thoroughly.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment
Refer to protective measures listed in sections 7 and 8. 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
Prevent discharges into the environment (sewers, rivers, soils). Immediately notify the appropriate authorities in case of discharge.

Method for Cleaning Up & Containment
If possible, dam large quantities of liquid with sand or earth. Collect the product with suitable means. Place everything into a closed, labeled container compatible with the product. Flush with plenty of water. Prevent product from entering drains. Treat recovered material as described in the section "Disposal considerations".

Emergency Procedures
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 proper bonding and grounding (earthing) all equipment. Electrostatic discharge may cause fire. Avoid contact with skin.

Conditions for Safe Storage: Keep container dry. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Storage temperature: Ambient
Storage/Transport Pressure: Atmospheric

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Citric acid anhydrous	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 50%	2 mg/m3	Not Established	2 mg/m3	Not Established
Sodium o-phenylphenate	Not Established	Not Established	Not Established	Not Established
Butyl Glycol Ether	20ppm	Not Established	50ppm	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
Apron/boots of neoprene if risk of splashing. For hand protection, use chemical resistant protective gloves such as Polyvinyl alcohol coated gloves.

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	Green
Odour	Characteristic odour
Odour Threshold	NA
pH	10-12
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
Evaporation Rate	Not determined
Flammability (solid, gas)	Not applicable
Vapour Pressure	Not determined
Upper/lower Flammability (Explosive) Limits:	Not determined
Vapour Density	Not determined
Relative Density	0.90 ± 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 acids, strong bases and strong oxidizers.

Chemical Stability
Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions
Not determined

Hazardous decomposition products
No decomposition if stored normally

Conditions to avoid
Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

Materials to avoid
Strong alkali, hydrofluoric acid, powerful oxidizers and fluorine containing compounds.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute toxicity (ATE_{mix}):
Acute oral toxicity (LD50): >5000 mg/kg [Rat].
Acute dermal toxicity (LD50): >5000 mg/kg [Rabbit]
Acute inhalation (LC50): >100 mg/l

SECTION 12 ECOLOGICAL INFORMATION

Toxicity
No data available

Persistence/Degradability
Not expected to bio-accumulate significantly

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	Not regulated
UN Class	NA
Subsidiary risk	NA
Packing Group	NA

Proper shipping name	NA
HIN	NA

Sea (IMDG)

UN number	Not regulated
UN Class	NA
Subsidiary risk	NA
Packing Group	NA
Proper shipping name	NA
Marine pollutant	NA

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

Pollution category	NA
Ship type	NA
Product name	NA

Air (IATA)

UN number	Not regulated
UN Class	NA
Subsidiary risk	NA
Packing Group	NA
Proper shipping name	NA

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

USA Information

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA)

Ingredient	CAS #	CERCLA RQ	RCRA Code
Sodium o-phenylphenate	132-27-4	-	-
Sodium hydroxide 50%	1310-73-2	1000	-

Superfund Amendments and Reauthorization Act (SARA) Title III Information:
SARA Section 311/312 (40 CFR 370) Hazard Categories:

Ingredient	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactivity Hazard

Sodium hydroxide 50%	Yes	Yes	No	No	Yes

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372): Sodium o-phenylphenate

Canada Information
WHMIS classification:
Citric acid anhydrous
- E Corrosive material

Butyl Glycol Ether
- B3 Combustible liquid
- D1A Very toxic material causing immediate and serious toxic effects

Sodium hydroxide 50%
- E Corrosive material

Silica powder
- D2A Very toxic material causing other toxic effects

SECTION 16 OTHER INFORMATION

Department issuing date sheet: Vance Chemicals Quality Control and Laboratory
Original Issue date: 21st January 2011
Revision no.: 01
Revision date: 31 May 2016
This product is intended for use by skilled individuals at their own risk. The information, data and recommendations set forth herein are presented in good faith and are believed to be correct as of the date hereof. The company / manufacturer makes no representations as to the completeness or accuracy of the Information and disclaims responsibility for any reliance thereon. The information is provided upon the condition that the persons receiving will make their own determination as to its suitability for their purposes prior to use. Any use of the Information must be determined by the user to be in accordance with applicable Federal, state and local laws and regulations. In no event will the company / manufacturer be responsible for damages of any nature whatsoever resulting from the use or reliance upon the Information.
NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE WITH RESPECT TO THE INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.