Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

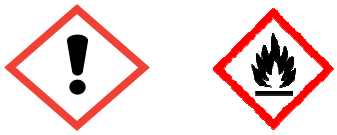
Product Name/Identifier	Air-Conditioner Cleaner (Aerosol)
Product Code	AC1926-AL465F
Product Use	Clears dust and eliminates harmful micro-organisms trapped in air-conditioners, without the need for rinsing with water after application.
Company Information	Vance Chemicals Pte Ltd No.24 Gul Lane Singapore 629418 +65 6863 0863 msds@mr-mckenic.com
Emergency Contact	+65 9299 8024

SECTION 2 HAZARDS INDENTIFICATION

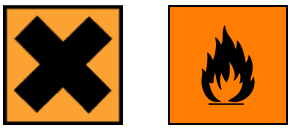
GHS CLASSIFICATION

Health		Environmental		Physical	
Skin irritation	Category 3	Aquatic acute toxicity	Category 3	Flammable liquid	Category 3
Eye irritation	Category 2			Flammable Aerosol	Category 2
Acute toxicity (Inhalation)	Category 4				

GHS LABEL:



EU LABEL:



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Hazard Statements:

Code	Health hazard statements	Hazard class	Hazard category
H223	**Flammable aerosol**	Flammable aerosol (chapter 2.3)	2
H226	**Flammable liquid and vapour**	Flammable liquid (chapter 2.2)	3
H316	**Causes mild skin irritation**	Skin corrosion/irritation (chapter 3.2)	3
H319	**Cause serious eye irritation**	Eye damage/irritation(chapter 3.3)	2
H402	**Harmful to aquatic life**	Hazardous to the aquatic environment, acute hazard (chapter 4.1)	3
H332	**Harmful if inhaled**	Acute toxicity, Inhalation (chapter 3.1)	4

Precautionary Statements

Prevention:

Code	Prevention precautionary statements	Hazard class	Hazard category
P210	**Keep away from heat/sparks/open flames/ hot surfaces- No smoking**	Flammable liquid (chapter 2.2)	3
		Flammable aerosol (chapter 2.3)	2
P211	**Do not spray on an open flame or other ignition source.**	Flammable aerosol (chapter 2.3)	2
P233	**Keep container tightly closed**	Flammable liquid (chapter 2.2)	3
P240	**Ground/Bond container and receiving equipments**	Flammable liquid (chapter 2.2)	3
P241	**Use explosion-proof electrical/ventilating/lighting/ equipments**	Flammable liquid (chapter 2.2)	3
P242	**Use only non-sparking tools**	Flammable liquid (chapter 2.2)	3
P243	**Take precautionary measures against static discharge.**	Flammable liquid (chapter 2.2)	3
P251	**Pressurized container: Do not pierce or burn, even after use.**	Flammable aerosol (chapter 2.3)	2
P261	**Avoid breathing dust/fume/gas/mist/vapours/spray.**	Acute toxicity, Inhalation (chapter 3.1)	4
P264	**Wash thoroughly after handling**	Eye damage/irritation(chapter 3.3)	2
P271	**Use only outdoors or in a well-ventilated area.**	Acute toxicity, Inhalation (chapter 3.1)	4
P273	**Avoid release to the environment**	Hazardous to the aquatic environment, acute (chapter 4.1)	3
P280	**Wear protective gloves/protective clothing/eye protection/face protection**	Flammable liquid (chapter 2.2)	3
		Eye damage/irritation(chapter 3.3)	2

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Response:

Code	Response precautionary statements	Hazard class	Hazard category
P305+P351 + P338	**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**	Eye damage/irritation(chapter 3.3)	2
P304+P340	**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**	Acute toxicity, Inhalation (chapter 3.1)	4
P303+P361 +P353	**IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.**	Flammable liquid (chapter 2.2)	3
P312	**Call a POSION CENTER or doctor/ physician if you feel unwell.**	Acute toxicity, Inhalation (chapter 3.1)	4
P337+P313	**If eye irritation persists: Get medical advice/attention.**	Eye damage/irritation(chapter 3.3)	2
P332+P313	**If skin irritation occurs: Get medical advice/attention.**	Skin corrosion/irritation (chapter 3.2)	3
P370+P378	**In case of fire: Use dry chemical or carbon dioxide (CO2) for extinction**	Flammable liquid (chapter 2.2)	3

Storage:

Code	Disposal precautionary statements	Hazard class	Hazard category
P403+P235	**Store in a well-ventilated place. Keep cool.**	Flammable liquid (chapter 2.2)	3
P410+ P412	**Protect from sunlight. Do not expose to temperatures not exceeding 50°C/122°F.**	Flammable aerosol (chapter 2.3)	2

Disposal:

Code	Disposal precautionary statements	Hazard class	Hazard category
P501	**Dispose of content/containers according to the local/regional/national/international regulation.**	Flammable liquid (chapter 2.2)	3
		Hazardous to the aquatic environment, acute (chapter 4.1)	3

SECTION 3 COMPOSITIONS / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	EINECS #	R Phrase	S Phrase	Weight %
Quaternary Ammonium	68424-95-3	270-331-5	R22, R34, R50	S26, S28, S37/39	<1

Compounds					
Isopropyl Alcohol	67-63-0	200-661-7	R11,R36,R67	S7,S16, S24/25, S26	10-30
Linear Alkylbenzene Sulfonic Acid	68584-22-5	271-528-9	R22, R34	S26, S36/37/39, S45	<5
Butane	106-97-8	203-448-7	R12	S2, S9, S16	10-30
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	Use water spray, fog or foam to cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect men attempting to stop a leak. Either allow fire to burn under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam.
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.

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SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment	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	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	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. Prevent product vapours decomposition from electric arc action (welding). Preferably transfer by pump or gravity. Use only equipment and materials which are compatible with the product. Keep away from heat and sources of ignition. Keep away from incompatible products.

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
Quaternary Ammonium Compounds	Not Established	Not Established	Not Established	Not Established
Linear Alkylbenzene Sulphonic Acid	Not Established	Not Established	Not Established	Not Established
Isopropyl alcohol	200ppm	400ppm	400ppm	500ppm

Butane	800ppm	Not Established	1000ppm	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	Clear
Odour	Citrus
Odour Threshold	NA
pH	8 -10
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]	30°C
Evaporation Rate	Not determined
Flammability (solid, gas)	Flammable gas
Vapour Pressure	Not determined
Upper/lower Flammability (Explosive) Limits:	Not determined
Vapour Density	Not determined

Relative Density	0.99 ± 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. 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 caustics and alkalis, strong oxidizers,

SECTION 11 TOXICOLOGICAL INFORMATION

Ingredient Name: Quaternary ammonium compounds

Effects on humans:

Eye contact

- Direct eye contacts my produce severe irritation and/or chemical burns with possible irreversible damage.

Skin contact

- Direct skin contacts my produce severe irritation and/or chemical burns with possible irreversible damage.

Inhalation

- Solvent vapours or mists of product may cause irritation of mucous membranes. Prolonged vapours or mists of product may produce drowsiness, lassitude and inability to concentrate.

Ingestion:

- Can cause immediate burning pain in the mouth, throat and abdomen; severe swelling of the larynx. Ingestion can cause skeletal muscle paralysis affecting the ability to breathe; circulatory shock; and/or convulsions.

Acute toxicity: Acute Oral rat LD50: 61-455 mg/kg
Dermal rabbit LD50: 397 mg/kg

Skin corrosion/irritation: DOT test on rabbit: corrosive

Serious eye damage/irritation: Extreme irritation that did not clear by day 7, post dose
Carcinogenicity: Not carcinogenic under IARC

Ingredient Name: Linear Alkylbenzene sulfonic acid
Effects on humans: Eye contact - May be corrosive to eyes. Symptoms including itching, burning, redness, tearing. Skin contact - May be corrosive to skin. Inhalation - May be moderately to severely irritating to the respiratory tract and mucous membranes. Ingestion - May result in moderately severe burns to mouth and esophagus with more severe burns and damage to the stomach.
Acute toxicity: Oral rat LD50: 1150mg/kg
Skin corrosion/irritation: Corrosive effect on skin and mucous membranes
Serious eye damage/irritation: Strong corrosive effect
Carcinogenicity: Not carcinogenic under IARC

Ingredient Name: Isopropyl alcohol
Effects on humans: Eye contact - Can cause eye irritation Skin contact - May cause mild skin irritation Inhalation - Breathing in small amounts of this material during normal handling is not likely to cause harmful effects. However, breathing large amounts may be harmful and may affect the respiratory system and mucous membranes (irritation), behavior and brain (Central nervous system depression - headache, dizziness, drowsiness, and stupor, in coordination, unconsciousness, coma and possible death), peripheral nerve and sensation, blood, urinary system, and liver. Ingestion - Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. Swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhea, abdominal pain. It also may affect the urinary system, cardiovascular system, sense organs, behavior or central nervous system (somnolence, generally depressed activity, irritability, headache, dizziness, drowsiness), liver, and respiratory system (breathing difficulty).
Acute toxicity: Acute oral toxicity (LD50): 5650 mg/kg;]. Acute gas Inhalation LC50, 4 h: Rat 12,500 ppm
Skin corrosion/irritation: Not irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Serious eye damage/irritation: May cause eye irritation
Skin sensitisation: Not a skin sensitizer
Carcinogenicity: Not classifiable as to its carcinogenicity to humans
Specific target organ toxicity: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE]. May cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS)
Chronic effects: May cause defatting of the skin and dermatitis and allergic reaction. May cause adverse reproductive effects based on animal data (studies). Special Remarks on Chronic Effects on Humans: May cause adverse reproductive/teratogenic effects (fertility, fetoxicity, developmental abnormalities (developmental toxin)) based on animal studies. Detected in maternal milk in human.

Ingredient Name: Butane
Effects on humans: Eye effects: - Adverse effects are not anticipated as product is a gas at room temperature. Skin effects: - Adverse effects not anticipated. Inhalation effects: - Product is relatively nontoxic. Simple hydrocarbons can irritate the eyes, mucous membranes and respiratory system at high concentrations. Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects. This product may displace oxygen if released in a confined space. Maintain oxygen levels above 19.5% at sea level to prevent asphyxiation. Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgement, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death. Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals. Ingestion effects: - Ingestion is unlikely.
Acute toxicity: Acute gas Inhalation LC50 658 g/m3/4H
Skin corrosion/irritation: Not irritating to skin.
Serious eye damage/irritation: Irritating to eye
Skin sensitisation: Not a skin sensitizer
Carcinogenicity: Not classifiable as to its carcinogenicity to humans
Chronic effects: Data not available.

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SECTION 12 ECOLOGICAL INFORMATION

Toxicity	Acute ecotoxicity Fish, LC50, 96h, 336mg/l Crustacea, EC50, 96h, 38mg/l
Bio accumulative Potential	Not expected to bioccumulate significantly
Mobility in soil	It will have high mobility in soil and potential to leach into groundwater. Upon release to the environment, the compound is expected to partition to and be transported in surface water and groundwater.

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.

Empty Container Warning (where applicable):
Empty containers may retain residue and can be dangerous. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

Land (ADR)

UN number	1950
UN Class	2.1
Subsidiary risk	NA
Packing Group	II
Proper shipping name	Aerosols, Flammable
HIN	NA

Sea (IMDG)

UN number	1950
UN Class	2.1
Subsidiary risk	NA
Packing Group	II
Proper shipping name	Aerosols, Flammable
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	1950
UN Class	2.1
Subsidiary risk	NA
Packing Group	II
Proper shipping name	Aerosols, Flammable

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

EU Information

Risk Phrase:

R11	Highly flammable

R12	Extremely flammable
R22	Harmful if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R50	Very toxic to aquatic organisms.
R67	Vapours may cause drowsiness and dizziness.

Safety Phrase:

S2	Keep out of the reach of children.
S7	Keep container tightly closed.
S9	Keep container in a well-ventilated place.
S16	Keep away from sources of ignition – No smoking
S24/S25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28	After contact with skin, wash immediately with plenty of soap and water.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S37/39	Wear suitable gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

USA Information

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA)

Ingredient	CAS #	CERCLA RQ	RCRA Code
Isopropyl Alcohol	67-63-0	-	-
Butane	106-97-8	-	-

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
Isopropyl Alcohol	Yes	Yes	No	No	No
Butane	Yes	No	Yes	Yes	No

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372): Isopropyl Alcohol

Canada Information

WHMIS classification:

Isopropyl Alcohol

- B2 Flammable liquid
- D2B Toxic material causing other toxic effects

Butane

- A Compressed gas
- B1 Flammable gas

SECTION 16 OTHER INFORMATION

Department issuing date sheet: Vance Chemicals Quality Control and Laboratory
Original Issue date: 1st January 2010
Issue date: N.A
Revision date: 14th March 2011

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