

GK Air™

Product description:

GK Air™ is a premium water-based disinfectant for the air. It has a broad spectrum bactericidal action that **kills 99.9999% of bacteria**. Instead of simply masking bad odours with fragrance, it improves air quality by actively destroying odour-causing bacteria at the source. Convenient and ready-to-use, GK Air™ introduces an instant and lasting burst of freshness into your surroundings.

Product features:

- ✓ Freshens air in indoor environments
- ✓ Safe for daily indoor use
- ✓ Non-flammable
- ✓ Refreshing green tea fragrance
- ✓ Contains no propellants
- ✓ Surfactant free

Effective against:

Gram-negative bacteria (*P. Aeruginosa*)

Gram-positive bacteria (*Staph. Aureus*)



Application for use:



Available sizes:



300ml



5L

Made in Singapore by



www.gk-germkiller.com

Product Data reflects results of laboratory tests and is intended to indicate general characteristics only. Because Vance Chemicals Pte Ltd cannot anticipate or control the many different conditions under which this information and/or product may be used, it does not guarantee the applicability or the accuracy of this information or the suitability of its products in any given situation. Users of Vance Chemicals Pte Ltd products should conduct their own tests to determine the suitability of each product for their particular purposes. © 2009 Vance Chemicals Pte Ltd. All rights reserved.

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TEST REPORT: 7191003767-CHM11-01-LYP

Date: 04 APR 2011

Tel: +65 68851346 Fax: +65 67732912

Client's Ref: PO:110385

Email: Yin-Pheng.LEONG@tuv-sud-psb.sg

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PSB Singapore

Choose certainty.
Add value.

SUBJECT

Bactericidal Activity Test

CLIENT

Vance Chemicals Pte Ltd
No.24 Gul Lane
Singapore 629418

Attn : Ms Jane Yeo

SAMPLE SUBMISSION DATE / TEST DATE

30 Mar 2011 / 31 Mar 2011

DESCRIPTION OF SAMPLE

One sample consisting of 2 bottles x 250ml of GK Air.

METHOD OF TEST

BS EN 1040 : 2005

"Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptics – Test method and requirements (Phase 1)".

The test microorganisms used were :

Staphylococcus aureus (ATCC 6538)
Pseudomonas aeruginosa (ATCC 15442)



Laboratory:
TÜV SÜD PSB Pte. Ltd.
No.1 Science Park Drive
Singapore 118221

Phone : +65-6885 1333
Fax : +65-6776 8670
E-mail: testing@tuv-sud-psb.sg
www.tuv-sud-psb.sg
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
3 Science Park Drive, #04-01/05
The Franklin, Singapore 118223
TÜV®

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04 APR 2011



PSB Singapore

RESULTS

Product Name : GK Air
Test Microorganism : *Staphylococcus aureus* (ATCC 6538)

Dilution / Contact Time	Initial Count of Test Microorganism per ml of Test Mixture		Count of Surviving Test Microorganism per ml		Log Reduction	Percentage Kill of Test Microorganism
	CFU per ml	Log ₁₀	CFU per ml	Log ₁₀		
Neat						
1 minute	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999984
5 minutes	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999984
30 minutes	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999984

Test Microorganism : *Pseudomonas aeruginosa* (ATCC 15442)

Dilution / Contact Time	Initial Count of Test Microorganism per ml of Test Mixture		Count of Surviving Test Microorganism per ml		Log Reduction	Percentage Kill of Test Microorganism
	CFU per ml	Log ₁₀	CFU per ml	Log ₁₀		
Neat						
1 minute	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999984
5 minutes	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999994
30 minutes	64 000 000	7.81	Less than 10	Less than 1	More than 6.81	99.999994

Notes :

CFU : Colony Forming Unit



Remarks :

The product shall be deemed to have passed the test if it demonstrates a 5 Log reduction or more (at least >99.999% kill) in viability within 5 minutes or less under the conditions defined by this test when the test organisms are *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

This test method evaluates the basic bactericidal activity of chemical disinfectants with no specific application. It does not evaluate the activity of a product for an intended use. More specific test methods are used for further assessment of the efficacy of chemical disinfectants and antiseptics for a defined purpose.

The above test results relate to the sample as received.

Handwritten signature of Ms Seetoh Ngan Nui in black ink.

MS SEETOH NGAN NUI
TECHNICAL EXECUTIVE

Handwritten signature of Mrs Kam-Leong Yin Pheng in black ink.

MRS KAM-LEONG YIN PHENG
PRODUCT MANAGER
MICROBIOLOGY
CHEMICAL & MATERIALS





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March 2010



Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identifier GK Air™
Product Code DG8312(2)
Product Use Air disinfectant & deodoriser
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
Not Classified	Not Classified	Not Classified

GHS LABEL:
Not Classified

There is no risk or hazards based on GHS classification criteria.

SECTION 3 COMPOSITIONS / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	EINECS #	Weight %
Benzethonium chloride	121-54-0	204-479-9	< 0.5
Ethanol	64-17-5	200-578-6	< 5
Non-hazardous materials	Mixture	-	>90

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

If redness, swelling, pain and blister occur, transport to the nearest medical facility for additional treatment.

Inhalation

Remove the victim into fresh air. Seek for medical treatment in the event of symptoms.

Ingestion

Seek medical advice immediately. Rinse mouth with water and do not induce vomiting.

SECTION 5 FIRE FIGHTING MEASURES



Safety Data Sheet

Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

No restrictions

Specific Hazards Arising from the Chemical

Hazardous decomposition products. Burning produces irritant fumes.

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 face piece operated in the pressure demand or other positive pressure mode. Clean contaminated surface thoroughly.

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 incompatible products. Isolate 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

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Call for assistance for disposal.

Emergency Procedures

Shut off leaks, if possible without personal risks. 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

Do not eat, drink or smoke in work area. Avoid contact with eye, skin and clothing. After handling, always wash hands thoroughly with soap and water. Use only with adequate ventilation. Avoid breathing vapors or spray mists. Avoid large quantities of material into live electrical motors and other such equipments.

Conditions for Safe Storage

Keep container dry. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place.

Storage Temperature : Ambient
Storage/Transport Pressure : Atmospheric

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION



Safety Data Sheet

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Benzethonium Chloride	Not Established	Not Established	Not Established	Not Established
Ethanol	1000ppm	Not Established	1000ppm	1900ppm

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. Properly 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	Clear
Odour	Green Tea
Odour Threshold	Not determined
pH	7
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
Vapour Pressure	Not determined
Upper/lower Flammability	Not determined



Safety Data Sheet

(Explosive) Limits:

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

Acid chlorides, acid anhydrides, oxidizing agents, chloroformates and reducing agents.

Chemical Stability

Stable at normal conditions of use.

Possibility of Hazardous Reactions

Not determined

Hazardous Decomposition Products

No data available.

Conditions to Avoid

Not applicable.

Materials to Avoid

Acid chlorides, acid anhydrides, oxidizing agents, chloroformates and reducing agents.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute toxicity (ATE_{mix})

Acute oral toxicity (LD50): 3261 mg/kg [Rat].

Acute dermal toxicity (LD50): >10000 mg/kg [Rabbit].

Inhalation toxicity (LC50): >100 mg/L

Carcinogenicity: Not listed under IARC.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Non Toxic

Persistence/Degradability

Not expected to bio-accumulate significantly

Bio accumulative Potential

Not expected to bio-accumulate significantly



Safety Data Sheet

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

UN Number : Not regulated
UN Class : NA
Subsidiary Risk : NA
Packing Group : NA
Proper Shipping Name : NA
HIN : 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)

<u>Ingredient</u>	<u>CAS #</u>	<u>CERCLA RQ</u>	<u>RCRA Code</u>
Ethanol	64-17-5	-	-

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

<u>Ingredient</u>	<u>Acute Hazard</u>	<u>Chronic Hazard</u>	<u>Fire Hazard</u>	<u>Pressure Hazard</u>	<u>Reactivity Hazard</u>
Benzethonium chloride	Yes	Yes	No	No	No
Ethanol	Yes	Yes	Yes	No	No

This product does not contain any toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372).



Safety Data Sheet

SECTION 16 OTHER INFORMATION

Department issuing date sheet : Vance Chemicals Quality Control and Laboratory
Original Issue date : 5th August 2011
Revision no. : 04
Revision date : 15 January 2019

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