

SAFETY DATA SHEET

HI-KLEEN – 500ml Aerosol

SECTION 1; IDENTIFICATION OF THE SUBSTANCES/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name HI-KLEEN - Aerosol

1.2. Relevant identified uses of the substances or mixture and uses advised against

Identified uses Spray surface sanitiser

1.3. Details of the supplier of the data sheet

Supplier **Hi-line Industries**
Green Street
Burton on Trent
DE14 3RT
United Kingdom

Emergency Telephone number 01283 533377

SECTION 2; HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and chemical hazards	Extremely Flam. Aerosol - H222
Environment	Aquatic Chronic 2 – H411

The full text for all Hazard statements are displayed in Section 16.

2.2 Label Elements

Label in Accordance with (EC) No. 1272/2008



Signal word

Danger

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated
H411	Toxic to aquatic life with long lasting effects

Precautionary Statements

P102	Keep out of reach of children
------	-------------------------------

P210	Keep away from heat/sparks/open flames/hot surfaces – No Smoking.
P251	Pressurized container: Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P501	Dispose of contents/container in accordance with Local Regulations

Supplementary precautionary statements

P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing.
P410+412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Supplement label information

2.3. Other hazards

This product does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

DIMETHYLETHER CAS-No.: 115-10-6	EC No.: 204-065-8	REACH Reg:01-2119472128-37	60-90%
Classification (EC 1272/2008) Flam Gas 1 – H220			

LKYLDIMETHYLBENZYLAMMONIUMCHLORIDE			<1%
CAS-No.: 68424-85-1	EC No.:270-325-2	REACH Reg: Not available	
Skin Corr 1B – H314			
Acute Tox 4 – H302			
Acute Tox 4 – H312			
Aquatic Acute 1 – H400			
Aquatic Chronic 1 – H410			

The full text for all hazard statements are displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Inhalation

No known effects or symptoms in normal use.

Ingestion

No known effects or symptoms in normal use.

Skin contact

No known effects or symptoms in normal use.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling section 2.2, and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media

Fire can be extinguished using: foam; carbon dioxide; dry powder. Do not use water jet as an extinguisher – this may cause the fire to spread.

5.2 Special hazards arising from the substance or mixture

Unusual fire & Explosion hazards

Aerosols/+Canisters may explode in fire.

Toxic gases/vapours/fumes of: Carbon Dioxide (CO₂). Carbon Monoxide (CO)

5.3 Advice for firefighters

Wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

No Special measures required.

6.2 Environmental precautions

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environment Agency or other regulatory body. Do not discharge into drains or watercourses or onto the ground.

6.3 Methods and material for containment and cleaning up

Absorb with liquid binding materials such as sand, diatomite, universal binders, sawdust etc)

6.4 Reference to other sections

Wear protective clothing as described in section 8 of this safety data sheet. For waste disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

7.2. Conditions for safe storage, including any incompatibilities

Must not be exposed to direct sunlight or temperatures above 50°C.

7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Name	STD	TWA – 8 Hrs		STEL – 15 Min		Notes
DIMETHYLETHER	TRGS 900	400 ppm	766 mg/m ³	500 ppm	958 mg/m ³	

WEL = Workplace exposure limit.

Derived No Effect Level (DNEL)

ALKYLDIMETHYLBENZYLAMMONIUMCHLORIDE

DNEL	Consumer – Oral; Long term systematic effects: 3.4 mg/kg bw/day
	Consumer – Dermal; Long term systematic effects: 3.4 mg/kg bw/day
	Workers – Dermal; Long term systematic effects: 5.7mg/kg bw/day
	Workers - Inhalation; Short term systematic effects: 3.96 mg/m ³
	Consumer – Inhalation; Long term local effects: 1.64 mg/m ³
PNEC	Surface water fresh; 0.0009 mg/l
	Surface water marine; 0.00009 mg/l
	Sediment (Freshwater); 0.267 mg/kg
	Sediment (Marine); 0.0267 mg/kg

8.2 Exposure controls

Protective equipment



Appropriate engineering controls

Observe any occupational exposure limits for the product or ingredients. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Eye/face protection

Safety glasses are not normally used. However, for prolonged use where splashes might occur, use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU).

Hand protection

Rinse and dry hands after use. For prolonged contact, use gloves approved to relevant standards (e.g. EN374).

Other skin and body protection

No special requirements under normal use conditions

Respiratory protection

No special requirements under normal use conditions, however inhalation of vapour/spray should be avoided.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

(a) Appearance	Canister/Aerosol.
(b) Odour	Characteristic
(c) Odour Threshold	No data available
(d) pH	No data available
(e) Melting point/freezing point	No data available
(f) Initial boiling point and boiling range	No data available
(g) Flash point	Estimated at -20°C
(h) Evaporation point	No data available

(i) Flammability (solid gas)	No data available
(j) Upper/lower flammability Or explosive limits	No data available
(k) Vapour pressure	No data available
(l) Vapour density	No data available
(m) Relative density	No data available
(n) Water solubility	No data available
(o) Partition coefficient n-octanol/water	No data available
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	No data available
(s) Explosive properties	No data available
(t) Oxidising properties	No data available.
<u>9.2. Other information</u>	No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Avoid heat, sparks, and flames, stable under normal conditions.

10.3 Possibility of hazardous reactions

None known under normal storage and use conditions.

10.4 Conditions to avoid

Avoid heat, flames and other sources or ignition. Avoid contact with: Strong oxidising agents, Strong alkalis and Strong mineral acids.

10.5 Incompatible materials

Materials to avoid

Strong acids, strong oxidising substances and strong alkalis.

10.6 Hazardous decomposition products

None known under normal storage and use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Dimethylether:

LC50/rat – 164,000ppm

Alkyldimethylbenzylammoniumchlorate

LD50/rat – 398 mg/kg

Skin contact

Dimethylether:

Not classified

Alkyldimethylbenzylammoniumchlorate

LD50/rat – 800-1420 mg/kg

Eye contact

Dimethylether:

Not classified

Inhalation

Dimethylether:

Not classified

Carcinogenicity

Dimethylether:

Not classified

Alkyldimethylbenzylammoniumchlorate

No evidence – ECD 471 (EU B.12/13)

Additional Information

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Dimethylether:

Fish LC50/96 h/Poecilia reticulata (guppy) >4000mg/l

Aquatic invertebrates EC50/48 h/Daphnia >4000 mg/l

Algae No data available

Alkyldimethylbenzylammoniumchlorate

Fish LC50/96 h/ >0.1-1mg/l

Aquatic invertebrates EC50/48 h/Daphnia >0.02 mg/l

Algae EC50/96 h/Pseudokirchneriella subcapitata >0.06 mg/l

OECD 201 (EU C.3)

12.2 Persistence and degradability

No data available

12.3 Bio accumulative potential

Partition coefficient not available – no bioaccumulation expected

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB Assessment

Contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB)

12.6 Other adverse effects

No data available

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Empty containers must not be burned because of explosion hazard. Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION**14.1 UN Number**

UN No. (ADR/RID/ADN) 1950

UN No. (IMDG) 1950

UN No. (ICAO) 1950

14.2 UN proper shipping name

Liquefied gas flammable N.O.S

14.3 Transport hazard class(es)

ADR/RID/ADN class 2.1

ADR/RID/ADN class Class 2: Gases

ADR Label No 2.1 & 6.1

IMDG Class 2.1

ICAO Class/division 2.1

ICAO Subsidiary risk 6.1

CEFIC TEC® No 20GSF

Air Class 2.1

UK Road Class 2.1

Transport labels L.Q.

**14.4 Packing group**

Not applicable.

14.5 Environmental hazards

Environmentally hazardous substance/marine pollutant.

14.6 Special precautions for user

EMS F-D, S-U

Tunnel restriction code (D)

14.7 transport in bulk according to Annex II of MARPOL73/78 and the IBC code.**SECTION 15: REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Labelling according to Regulation (EC) No 1272/2008

The chemicals (Hazard information and packaging for supply) regulations 2009 (S.I 2009 No. 716). Control of substances hazardous to health.

Approved code of practice.

Guidance notes

Workplace exposure limits EH40.

15.1.1 EU-Regulations

Contains no REACH Annex XIV substances.

15.1.2 National Regulations

No additional information available.

SECTION 16: OTHER INFORMATION**General information**

This product should be used as directed. For further information consult the product data sheet or contact technical services.

Information sources

This safety data sheet was compiled using current safety information supplied by distributor raw materials.

Revision comments

This safety data sheet supersedes all previous issues and users are cautioned to ensure that it is current.

Destroy all previous data sheets and if in doubt contact Hi-line Industries Inc.

Hazard statements in full

H220	Extremely flammable gas.
H222	Extremely flammable aerosol



H302	Harmful if swallowed
H312:	Harmful in contact with skin
H314:	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Abbreviations

Skin Corr 1B	Skin corrosion category 1B
Flam Gas 1	Flammable gas category 1
Acute Tox 4	Acute toxicity category 4
Aquat Acute 1	Acute aquatic toxicity category 1
Aquat Chron 1	Chronic aquatic toxicity category 1
Aquat Chron 2	Chronic aquatic toxicity category 2
LD50	Lethal Dose 50%
LC50	Lethal Concentration 50%
IARC	International Agency for Research on Cancer
OECD	Organisation for Economic and Co-operative Development
PBT	Persistent Bioaccumulative Toxicity
vPvB	Very Persistent Very Bioaccumulative
MDG	International Maritime Transport of Dangerous Goods
ICAO	International Civil Aviation Organisation

ISSUE: REV 4.2
DATE: APRIL 2020

Microbiological Report

RM-0E73
13 May 2020

EVALUATION OF HI-KLEEN ANTI-BAC & SURFACE SANITISER IN ACCORDANCE WITH BS EN 1276:2019

CONTENTS

Sample & Method details – page 1
Test product performance – page 2
Experimental validation – page 2
Interpretation of results – page 3
Summary & Conclusion – page 3

Information emanating from this company is given after the exercise of all reasonable care and skill in its compilation, preparation and issue, but is provided without liability in its application and use.
This report may not be reproduced in its entirety or in part without the written consent of Donnington Laboratories.
All results/testing information given above remain the property of Donnington Laboratories Ltd until paid for.


signed _____
on behalf of Donnington Laboratories Ltd
date 14/05/2020

For:

Hi-line Industries Ltd
Green Street
Burton on Trent
Staffs
DE14 3RT



For:	Steve Smith	Company:	Hi-line Industries Ltd
By:	John Reed	Date:	13/05/2020
Rept No:	RM-0E73	EVALUATION OF HI-KLEEN ANTI-BAC AND SURFACE SANITISER IN ACCORDANCE WITH BS EN 1276:2019	

Sample details:

DLL ref	Description	Client Ref (Lot)
M-0E73-1	HI-KLEEN ANTI-BAC AND SURFACE SANITISER	Not disclosed
<i>Active system:</i> Benzalkonium chloride (0.3%)		

Client:

Hi-line Industries Ltd

Date received:

05/05/2020

Date of test:

07 - 09/05/2020

Storage conditions:

18 – 20°C (ambient)

Test method:

BS EN 1276: 2019 - *Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants & antiseptics used in food, industrial, domestic and institutional areas – Test method and requirements (phase2/step1).*

Test performed under conditions simulating light and heavy organic soil.

Test organism(s):

Pseudomonas aeruginosa	ATCC 15442	(PA)
Staphylococcus aureus	ATCC 6538	(SA)
Escherichia coli	ATCC 10536	(EC)
Enterococcus hirae	ATCC 10541	(EH)

Organisms derived from Selectrol discs and maintained on Tryptic Soy Agar slopes. Suspensions for experimental purposes prepared from 18h/37°C plate cultures on Tryptic Soy Agar (Oxoid).

Suspending medium:

Maximum Recovery Diluent (Oxoid)

Interfering substances:

0.3% and 3.0% bovine serum albumen Cohn Factor V

Test product concentration:

Neat (80% in test mixture)

Contact time(s):

5m±5s

Test temperature:

19 - 21°C

Neutralising diluent:

D/E neutralizing broth supplemented with 5g/l Tween 80 + 12.5g/l sodium lauryl ether sulphate (30% aqueous solution).

Bacterial enumeration:

Tryptone Soy Agar without additional neutralizer(s). Pour plates (1ml) prepared in duplicate at each dilution. Plates incubated aerobically at 37±1°C for 24±2h and re-examined after a further 24±2h incubation at 37±1°C.

Validation:

Performed in accordance with BS EN 1276: 2019 sections 5.5.2.3 - 5.5.2.6.

Test product performance:

[A] Contact time 5m±5s: 0.3% albumin:

Test Organism	Inoculum level cfu/ml	Recovery after 5m contact time	cfu/ml recovered	Log reduction factor (R)	Log reduction factor ≥ 5.00	% Reduction
PA	2.55x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.23	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
SA	2.08x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.14	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
EC	2.37x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.20	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
EH	2.47x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.22	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				

[B] Contact time 5m±5s: 3.0% albumin:

Test Organism	Inoculum level cfu/ml	Recovery after 5m contact time	cfu/ml recovered	Log reduction factor (R)	Log reduction factor ≥ 5.00	% Reduction
PA	2.55x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.23	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
SA	2.08x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.14	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
EC	2.37x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.20	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				
EH	2.47x10e07	10 ⁻¹ : 0, 0	<1.50x10e2	>5.22	Pass	>99.99
		10 ⁻² : 0, 0				
		10 ⁻³ : 0, 0				

[C] Experimental validation:

Neutraliser toxicity	Test strain	Validation suspension cfu/ml (Nv)	Neutraliser toxicity control cfu/ml (B)	B $\geq 0.05Nv$
	PA	2.55x10e03	2.47x10e02	complies
	SA	2.08x10e03	2.03x10e02	complies
	EC	2.37x10e03	2.57x10e02	complies
	EH	2.47x10e03	2.55x10e02	complies

Neutralisation-dilution	Test strain	Validation suspension cfu/ml (Nv)	Neutralisation-dilution control cfu/ml (C)	C $\geq 0.05Nv$
	PA	2.55x10e03	2.37x10e02	complies
	SA	2.08x10e03	1.85x10e02	complies
	EC	2.37x10e03	2.30x10e02	complies
	EH	2.47x10e03	2.75x10e02	complies

Interpretation of results:

Pass: product achieves a reduction in viability of $\geq 1.0 \times 10^5$ (log reduction factor of ≥ 5.00) within 5m when the test organisms are *Pseudomonas aeruginosa* ATCC 15442, *Escherichia coli* ATCC 10536, *Staphylococcus aureus* ATCC 6538 and *Enterococcus hirae* ATCC 10541.

Fail: product fails to achieve a reduction in viability of $\geq 1.0 \times 10^5$ (log reduction factor of < 5.00) within 5m when the test organisms are *Pseudomonas aeruginosa* ATCC 15442, *Escherichia coli* ATCC 10536, *Staphylococcus aureus* ATCC 6538 and *Enterococcus hirae* ATCC 10541.

Summary and Conclusion: HI-KLEEN ANTI-BAC AND SURFACE SANITISER			
Test strain	Test concentration: Neat (80% in test mixture)		BS EN 1276: 2019 ** Test method and requirements (phase2/step1)
	Contact time: 5m±5s		
	0.3g/l albumin	3.0g/l albumin	
Pseudomonas aeruginosa ATCC 15442	>5.23 (Pass)	>5.23 (Pass)	Passes
Staphylococcus aureus ATCC 6538	>5.14 (Pass)	>5.14 (Pass)	
Escherichia coli ATCC 10536	>5.20 (Pass)	>5.20 (Pass)	
Enterococcus hirae ATCC 10541	>5.22 (Pass)	>5.22 (Pass)	
** Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants & antiseptics used in food, industrial, domestic and institutional areas			