

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations


Printing date: January 28, 2019

Revision: January 28, 2019

1 Identification

- **Product identifier**
- **Trade name:** Microclean UHP™
- **Other means of identification:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Descalant
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
King Lee Technologies
8949 Kenamar Drive. Bldg 107
San Diego, CA 92121
858-693-4062
klt@kingleetech.com
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Dam. 1 H318 Causes serious eye damage.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS05
- **Signal word:** Danger
- **Hazard statements:**
H315 Causes skin irritation.
H318 Causes serious eye damage.
- **Precautionary statements:**
P264 Wash thoroughly after handling.
P280 Wear protective gloves and eye protection.
P302+P352 If on skin: Wash with plenty of water.
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 center/doctor.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
- **Other hazards** There are no other hazards not otherwise classified that have been identified.

(Cont'd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019











Trade name: Microclean UHP™

(Cont'd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

	Trade Secret Quaternary ammonium compound  Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302	<5%
	Trade Secret ammonium chloride compound  Skin Corr. 1B, H314  Acute Tox. 4, H302	<5%
	Trade Secret ammonium chloride compound  Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302	<5%
	Trade Secret ammonium chloride compound  Acute Tox. 3, H301; Acute Tox. 2, H310  Skin Corr. 1B, H314; Eye Dam. 1, H318	<5%
	Trade Secret solvent  Flam. Liq. 2, H225  Eye Irrit. 2A, H319	<5%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
 For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Coughing

Dizziness

Irritant to skin and mucous membranes.

Strong irritant with the danger of severe eye injury.

Gastric or intestinal disorders when ingested.

· **Danger:**

May be harmful if swallowed.

Danger of gastric perforation.

· **Indication of any immediate medical attention and special treatment needed:**

No relevant information available.

(Cont'd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information:** Cool endangered product with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
- **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up**
Towel or mop up material and collect in a suitable container.
For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
Avoid contact with the eyes and skin.
Avoid breathing mist, vapors, or spray.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
Avoid storage near extreme heat.
Use only receptacles specifically permitted for this substance/product.
Store in cool, dry conditions in well sealed receptacles.

(Cont'd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 3)

- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with acids.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· Control parameters

- **Components with limit values that require monitoring at the workplace:**

Trade Secret solvent

PEL (USA)	Long-term value: 1900 mg/m ³ , 1000 ppm
REL (USA)	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m ³ , 1000 ppm
EL (Canada)	Short-term value: 1000 ppm
EV (Canada)	Long-term value: 1,900 mg/m ³ , 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm A3

· Exposure controls

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**

Not required under normal conditions of use.
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR
Natural rubber, NR
Neoprene gloves
Butyl rubber, BR
Fluorocarbon rubber (Viton)

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

(Cont'd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 4)

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No relevant information available.
- **Risk management measures** No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

- | | |
|--------------------------|-----------------------------------|
| · Form: | Liquid |
| · Color: | Clear, colorless to light yellow. |
| · Odor: | Characteristic |
| · Odor threshold: | Not determined. |

- | | |
|---------------------------------------|-----------------------|
| · pH-value: | 7.1±0.3 (1% solution) |
| · Melting point/Melting range: | Not determined. |
| · Boiling point/Boiling range: | Not determined. |

- | | |
|-----------------------|-------------------------------|
| · Flash point: | The product is not flammable. |
|-----------------------|-------------------------------|

- | | |
|---|-----------------|
| · Flammability (solid, gaseous): | Not applicable. |
|---|-----------------|

- | | |
|-------------------------------------|-----------------|
| · Auto-ignition temperature: | Not determined. |
|-------------------------------------|-----------------|

- | | |
|-------------------------------------|-----------------|
| · Decomposition temperature: | Not determined. |
|-------------------------------------|-----------------|

- | | |
|-------------------------------|---|
| · Danger of explosion: | Product does not present an explosion hazard. |
|-------------------------------|---|

· **Explosion limits**

- | | |
|-----------------|-----------------|
| · Lower: | Not determined. |
| · Upper: | Not determined. |

- | | |
|--------------------------------|-----------------|
| · Oxidizing properties: | Not determined. |
|--------------------------------|-----------------|

- | | |
|--------------------------|-----------------|
| · Vapor pressure: | Not determined. |
|--------------------------|-----------------|

· **Density:**

- | | |
|----------------------------|-----------------|
| · Relative density: | 1.01±0.09 |
| · Vapor density: | Not determined. |
| · Evaporation rate: | Not determined. |

· **Solubility in / Miscibility with**

- | | |
|-----------------|-----------------|
| · Water: | Fully miscible. |
|-----------------|-----------------|

- | | |
|---|-----------------|
| · Partition coefficient (n-octanol/water): | Not determined. |
|---|-----------------|

· **Viscosity**

- | | |
|---------------------|-----------------|
| · Dynamic: | Not determined. |
| · Kinematic: | Not determined. |

- | | |
|----------------------------|------------------------------------|
| · Other information | No relevant information available. |
|----------------------------|------------------------------------|

10 Stability and reactivity

(Cont'd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 5)

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Contact with acids releases toxic gases.
Reacts with many consumer products, releasing chlorine or chlorine oxide gas.
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong oxidizing agents.
Reacts with certain metals.
- **Conditions to avoid**
Avoid acids.
Excessive heat.
- **Incompatible materials**
Oxidizers
Strong acids
- **Hazardous decomposition products**
Under fire conditions only:
Nitrogen oxides
Chlorine
Hydrogen chloride (HCl)
Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** May be harmful if swallowed.

- **LD/LC50 values that are relevant for classification:**

Trade Secret quaternary ammonium compound

Oral	LD50	344 mg/kg (rat)
Dermal	LD50	3340 mg/kg (rabbit)

Trade Secret ammonium chloride compound

Oral	LD50	658 mg/kg (rat)
------	------	-----------------

Trade Secret ammonium chloride compound

Oral	LD50	238 mg/kg (rat)
Dermal	LD50	191 mg/kg (rabbit)

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

- **IARC (International Agency for Research on Cancer):**

Trade Secret solvent	1
----------------------	---

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

(Cont'd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 6)

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

- Ingestion.
- Inhalation.
- Eye contact.
- Skin contact.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity**

Toxic to aquatic life with long lasting effects.

Trade Secret quaternary ammonium compound

LC50 0.28 mg/l (pimephales promelas)

EC50 0.0059 mg/l (daphnia)

Trade Secret ammonium chloride compound

EC50 0.071 mg/kg (daphnia) (48 hr)

LC50 0.49 mg/l (zebra fish) (96 hr)

Trade Secret ammonium chloride compound

LC50 0.35 mg/l (Oncorhynchus mykiss)

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Toxic for fish

· **Additional ecological information**

· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

(Cont'd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019



Trade name: Microclean UHP™



(Cont'd. of page 7)

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	UN3082
· DOT, ADR/RID/ADN, IMDG, IATA	UN3082
· UN proper shipping name	Environmentally hazardous substances, liquid, n.o.s. (Quaternary ammonium compounds)
· DOT	Environmentally hazardous substances, liquid, n.o.s. (Quaternary ammonium compounds)
· ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds)
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Quaternary ammonium compounds), MARINE POLLUTANT
· IATA	Environmentally hazardous substance, liquid, n.o.s. (Quaternary ammonium compounds)
· Transport hazard class(es)	
· DOT, IMDG, IATA	
 	
· Class	9
· Label	9

· ADR/RID/ADN	
 	
· Class	9 (M6)
· Label	9
· Packing group	III
· DOT, ADR/RID/ADN, IMDG, IATA	III
· Environmental hazards	
· Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F

(Cont'd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 8)

<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	Not regulated when carried in single or combination packaging containing a net quantity of 5 L or less for liquids or 5 kg or less for solids per the following: DOT: 171.4(c)(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197
<ul style="list-style-type: none"> · DOT · Remarks: 	Transport labeling is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

(Cont'd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: January 28, 2019

Revision: January 28, 2019

Trade name: Microclean UHP™

(Cont'd. of page 9)

None of the ingredients are listed.

· IARC (International Agency for Research on Cancer):

Trade Secret solvent	1
----------------------	---

· Canadian Domestic Substances List (DSL) (Substances not listed.):

Non-Hazardous Ingredients

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Abbreviations and acronyms:

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bio-accumulable, Toxic
- vPvB: very Persistent and very Bioaccumulative
- OSHA: Occupational Safety & Health Administration
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 2: Acute toxicity – Category 2
- Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· Sources

- Website, European Chemicals Agency (echa.europa.eu)
- Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
- Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
- Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
- Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.
- Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com