GENERAL DESCRIPTION: ARREX-100 is recommended for the sanitizing, disinfecting, and odor controlling requirements in food plants, dairy farms, and in food service operations where spillage, waste disposal, and reusable utensils frequently create unsanitary conditions. No potable rinse is required. ARREX-100 is effective against most pathogenic bacteria and guards against mold and bacterial build-up when used on and around equipment, as well as on floors and walls. ARREX-100 is also effective against the Human Coronavirus, which is linked to the SARS virus.

PHYSICAL PROPERTIES:
Chemical Composition: Sanitizers; penetrating agents
Appearance: Clear amber liquid
pH: 7.0
Specific Gravity: 1.008
Stability: 1 Year @ Ambient Temperature
Rinsing: Complete
Foaming: Moderate

DISINFECTANT PROPERTIES
ARREX-100 attacks a wide range of pathogenic bacteria including S. typhosa, Staph aureus (antibiotic resistant variants), E. coli, S. choleraesuis, A. aerogenes. PHENOL COEFFICIENT 26 A.O.A.C. against Staphylococcus aureus, Salmonella typhosa, Streptococcus pyogenes, Salmonella pullorum and Salmonella schottmulleri. ARREX-100 when used on environmental inanimate, hard surfaces at 3.5 ounces per 5 gallons of water is effective against influenza A2, herpes simplex, adenovirus type 5 and vaccinia viruses.D

DIRECTIONS FOR USE:
HOUSEHOLD: For sanitizing and disinfecting floors, walls, and inanimate hard surfaces. For schools, homes, locker rooms, garbage pails, sink tops, corridors, classrooms, offices and shower stalls. Apply solution with mop or cloth. Sanitize with 1 ounce to 4 gallons of water. Disinfect with 3 ounces to 5 gallons of water. Kills Staphylococcus aureus and Salmonella choleraesuis. For heavily soiled or contaminated areas, a pre-cleaning step is recommended.
HOSPITALS: For floors, walls and other hard surfaces. In nursing homes, institutions, as well as sink tops, garbage pails, telephones and restrooms, use 3.5 ounces per 5 gallons of water. Apply with cloth, mop, or sponge. At this level ARREX-100 is effective against Pseudomonas aeruginosa PRd-10.
SANITIZATION - Recommended for use in restaurants, dairies, and bars. When used as directed ARREX-100 is an effective sanitizer against Escherichia coli (ATCC 11229), Escherichia coli 0157:H7 (ATCC 43895), Staphylococcus aureus (ATCC 6538), Yersinia enterocolitica (ATCC 23715), Listeria monocytogenes (ATCC 35152), Salmonella typhi (ATCC 6539), Shigella sonnei (ATCC 11060), Vibrio cholera (ATCC 14085), Methicillin resistant Staphylococcus aureus (MRSA) (ATCC 33592), Vancomycin resistant Enterococcus faecalis (VRE) (ATCC 51299), and Campylobacter jejuni (ATCC 29428).

Remove all gross food particles and soil from areas which are to be sanitized with a good detergent, pre-flush, pre-soak or pre-scrape treatment. Rinse with a potable water rinse. Prepare a fresh solution daily or more frequently as soil is apparent. To sanitize pre-cleaned and potable water-rinsed, nonporous, public eating establishment and dairy food contact surfaces: prepare a 200 ppm active quaternary solution by adding 1 ounce ARREX-100 to 4 gallons of water, 2 1/2 ounces to 10 gallons of water, or 5 ounces to 20 gallons of water.

To sanitize public eating establishment surfaces (counters, tables, finished woods or plastic cutting boards), apply a 200 ppm active quaternary solution with a cloth, sponge, low pressure coarse sprayer or hand pump trigger sprayer making sure that the surface remains wet for at least 60 seconds and let air dry. Do not rinse. Remove items, drain the use-solution from the surface and air dry. Do not rinse.
To sanitize mobile items in public eating establishments (drinking glasses, dishes, eating utensils), immerse in a 200ppm active quaternary solution for at least 60 seconds, making sure to immerse completely.

FOOD PROCESSING EQUIPMENT: For sanitization of previously cleaned food processing equipment and food utensils, dilute 1 ounce per 4 gallons of water to provide 200 ppm of active quaternaries. At this level NO POTABLE WATER RINSE IS REQUIRED.
DAIRIES: To sanitize dairy equipment such as tanks, lines, pails, and milk cans, first clean and rinse the equipment thoroughly. Then apply sanitizing solution containing 1 ounce to 4 gallons of water (200 ppm). At this level, NO POTABLE RINSE IS REQUIRED.
RESTAURANTS AND BAR RINSE: Dishes, glasses, silverware, cooking utensils, wash with soap or synthetic detergent; rinse thoroughly and immerse in a sanitizing solution containing 1 ounce to 4 gallons of water. NO TERMINAL POTABLE WATER RINSE IS REQUIRED.

HANDLING PRECAUTIONS:
CAUTION: WARNING
KEEP OUT OF REACH OF CHILDREN

Contact with skin and eyes may cause severe irritation. Harmful if swallowed. Flood with water if splashed in eyes. Flush with water for 15 minutes and consult a physician immediately. If ingested, drink large amounts of milk, milk of magnesia or gelatin, or if these are not available, drink large amounts of water. Do not induce vomiting. Obtain prompt medical attention.

CODE: ARREX
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name  ARREX-100

Other means of identification

Product Code(s)  ARREX
UN-Number  UN1760
Synonyms  ARREX

Recommended use of the chemical and restrictions on use

Recommended Use  Institutional dish machine detergent
Uses advised against  No information available

Supplier's details

Supplier Address  Envirochem, Inc.
425 Whitehead Ave
South River, NJ
08882
TEL: 732-238-6700

Emergency telephone number

Emergency Telephone  CHEM-TEL, INC.
Number  24 Hour Emergency Contact 1-800-255-3924

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Skin Corrosion/Irritation</th>
<th>Category 1 Subcategory 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word  Danger
Hazard Statements
* Causes severe skin burns and eye damage
Precautionary Statements

Prevention
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

General Advice
- Immediately call a POISON CENTER or doctor/physician

Eyes
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician.

Skin
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse

Inhalation
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Ingestion
- IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage
- Store locked up

Disposal
- Dispose of contents/container to an approved waste disposal plant

Hazard Not Otherwise Classified (HNOC)
Not applicable

Other information
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade secret</th>
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</thead>
<tbody>
<tr>
<td>Alkyl Dimethyl Ethylbenzyl Ammonium Chloride</td>
<td>85409-23-0</td>
<td>3 - 7</td>
<td>*</td>
</tr>
<tr>
<td>Alkyl Dimethyl Benzyl Ammonium Chloride</td>
<td>68391-01-5</td>
<td>3 - 7</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of necessary first-aid measures
Eye Contact  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact  
Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Immediate medical attention is required.

Inhalation  
Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Ingestion  
Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects**  
No information available.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to Physician**  
Treat symptomatically.

---

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**  
None

**Specific Hazards Arising from the Chemical**  
No information available

**Explosion Data**

<table>
<thead>
<tr>
<th>Sensitivity to Mechanical Impact</th>
<th>None.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity to Static Discharge</td>
<td>None.</td>
</tr>
</tbody>
</table>

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

---

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Stop leak if you can do it without risk. If spilled, take caution, as material can cause surfaces to become very slippery.

**Environmental Precautions**

**Environmental Precautions**

Dispose of contents/container to an approved waste disposal plant.

**Methods and materials for containment and cleaning up**

**Methods for Containment**

Stop leak if you can do it without risk

**Methods for Cleaning Up**

Large spillage: Contain spilled material if possible. Wash away small spills with plenty of water.

---

### 7. HANDLING AND STORAGE
Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Do not take internally. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature. Keep from freezing. Keep container closed when not in use.

Incompatible Products
Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the regional specific regulatory bodies.

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Tightly fitting safety goggles.

Skin and Body Protection
Rubber boots. Apron. Rubber gloves. Latex gloves

Respiratory Protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Odor No information available
Appearance Odor Threshold Clear

No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/Method</th>
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<tbody>
<tr>
<td>pH</td>
<td>7.5</td>
<td>None known</td>
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<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>&gt; 100 °C / &gt; 212 °F</td>
<td>None known</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>upper flammability limit</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>lower flammability limit</td>
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</tr>
<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Vapor Density</td>
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<tr>
<td>Relative Density</td>
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<tr>
<td>Specific Gravity</td>
<td>1.22</td>
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<tr>
<td>Water Solubility</td>
<td>100%</td>
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<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>
Decomposition Temperature
Viscosity
Flammable Properties
Explosive Properties
Oxidizing Properties
Other information
VOC Content (%)

10. STABILITY AND REACTIVITY

Reactivity
No data available.
Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Incompatible products.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
Inhalation: May cause irritation of respiratory tract.
Eye Contact: Causes serious eye damage.
Skin Contact: Causes severe skin burns.
Ingestion: May be harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (mg/kg) (Rat)</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
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</thead>
<tbody>
<tr>
<td>Alkyl Dimethyl Benzyl Ammonium</td>
<td>240</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms: No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization: No information available.
Mutagenic Effects: No information available.
Carcinogenicity
Contains no ingredient listed as a carcinogen.

Reproductive Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration Hazard
No information available.

**Numerical measures of toxicity - Product**
The following values are calculated based on chapter 3.1 of the GHS document:

| LD50 Oral | 4800 mg/kg; Acute toxicity estimate |

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkyl Dimethyl Benzyl Ammonium Chloride</td>
<td>LC50 96 h: 0.223 - 0.48 mg/L static (Lepomis macrochirus) LC50 96 h: 0.823 - 1.61 mg/L static (Oncorhynchus mykiss) LC50 96 h: = 2.4 mg/L semi-static (Oryzias latipes) LC50 96 h: = 1.3 mg/L semi-static (Poecilia reticulata)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
No information available.

**Bioaccumulation**
No information available.

**Other Adverse Effects**
No information available.

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**
Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging**
Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

**DOT**
- UN-Number: UN1760
- Proper shipping name: Corrosive liquids, n.o.s.
- Hazard Class: 8
- Packing Group: III
- Description: UN1760, Corrosive liquids, n.o.s. (Quaternary Ammonium Chloride), 8, III
- Emergency Response Guide Number: 154

**TDG**
- UN-Number: UN1760
- Proper Shipping Name: Corrosive liquid, n.o.s.
- Hazard Class: 8
- Packing Group: III
- Description: UN1760, Corrosive liquid, n.o.s. (Quaternary Ammonium Chloride), 8, III
- UN-Number: UN1760
- Proper Shipping Name: Corrosive liquid, n.o.s.
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III |

### ICAO

| **UN-Number** | UN1760 |
| **Proper shipping name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **Description** | UN1760, Corrosive liquid, n.o.s., 8, III |

### IATA

| **UN-Number** | UN1760 |
| **Proper Shipping Name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **ERG Code** | 8L |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III |

### IMDG/IMO

| **UN-Number** | UN1760 |
| **Proper Shipping Name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **EmS No.** | F-A, S-B |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III |

### RID

| **UN-Number** | UN1760 |
| **Proper Shipping Name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **Classification Code** | C9 |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III |

### ADR

| **UN-Number** | UN1760 |
| **Proper Shipping Name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **Classification Code** | C9 |
| **Tunnel Restriction Code** | (E) |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III, (E) |
| **ADR/RID-Labels** | 8 |

### ADN

| **Proper Shipping Name** | Corrosive liquid, n.o.s. |
| **Hazard Class** | 8 |
| **Packing Group** | III |
| **Classification Code** | C9 |
| **Special Provisions** | 274 |
| **Description** | UN1760, Corrosive liquid, n.o.s. (Quarternary Ammonium Chloride), 8, III |
| **Limited Quantity** | 5 L |

### 15. REGULATORY INFORMATION

| **International Inventories** |  |
| **TSCA** | Complies |
| **NDSL** | Complies |
| **EINECS** | Complies |
IECSC - Complies

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
IECSC - China Inventory of Existing Chemical Substances

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information
EPA Pesticide Registration Number: Not applicable

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>Physical Hazard 1, Personal Protection X</td>
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<tr>
<td>HMIS</td>
<td>Health Hazard</td>
<td>Flammability</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
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Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date
18-Apr-2013

Revision Date
18-Apr-2013

Revision Note
Initial Release.

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