SAFETY DATA SHEET

KAYQUAT II

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: KAYQUAT II
Other means of identification: Not applicable.
Recommended use: Sanitizer
Restrictions on use: Reserved for industrial and professional use.
Product dilution information: 0.19 % - 0.39 %

Company:
Kay Chemical Company c/o ECOLAB PTY LTD
2 Drake Avenue
Macquarie Park, NSW Australia 2113
1 300-300-441

Emergency telephone number: 1800 205 506, +64 7 958 2372
Issuing date: 08.04.2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification
Product AS SOLD
Acute toxicity (Oral): Category 4
Acute toxicity (Dermal): Category 4
Skin corrosion/irritation: Category 1A
Serious eye damage/eye irritation: Category 1

Product AT USE DILUTION
Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD
Hazard pictograms:

Signal Word: Danger
Hazard Statements: Harmful if swallowed or in contact with skin
Causes severe skin burns and eye damage.
Precautionary Statements: Prevention:
Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED:
SAFETY DATA SHEET

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Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. 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. Wash contaminated clothing before reuse.

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

Product AT USE DILUTION

Precautionary Statements:
Prevention:
Wash hands thoroughly after handling.
Response:
Get medical advice/attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Product AS SOLD

Other hazards:
None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD
Pure substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration: (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride</td>
<td>68424-85-1</td>
<td>4</td>
</tr>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Octyl decyl dimethyl ammonium chloride</td>
<td>32426-11-2</td>
<td>3</td>
</tr>
<tr>
<td>Dioctyl dimethyl ammonium chloride</td>
<td>5538-94-3</td>
<td>1.2</td>
</tr>
<tr>
<td>Didecyl Dimethyl Ammonium Chloride</td>
<td>7173-51-5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Product AT USE DILUTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration: (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride</td>
<td>68424-85-1</td>
<td>0.0156</td>
</tr>
<tr>
<td>Octyl decyl dimethyl ammonium chloride</td>
<td>32426-11-2</td>
<td>0.0117</td>
</tr>
<tr>
<td>Dioctyl dimethyl ammonium chloride</td>
<td>5538-94-3</td>
<td>0.0047</td>
</tr>
<tr>
<td>Didecyl Dimethyl Ammonium Chloride</td>
<td>7173-51-5</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Section: 4. FIRST AID MEASURES

Product AS SOLD
In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact: Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed: Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled: Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician: Treat symptomatically.

Most important symptoms and effects, both acute and delayed: See Section 11 for more detailed information on health effects and symptoms.

**Product AT USE DILUTION**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>In case of eye contact</td>
<td>Rinse with plenty of water.</td>
</tr>
<tr>
<td>In case of skin contact</td>
<td>Rinse with plenty of water.</td>
</tr>
<tr>
<td>If swallowed</td>
<td>Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766). Rinse mouth. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>If inhaled</td>
<td>Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

---

**Section: 5. FIREFIGHTING MEASURES**

**Product AS SOLD**

- **Suitable extinguishing media**: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- **Unsuitable extinguishing media**: None known.
- **Specific hazards during firefighting**: Exposure to decomposition products may be a hazard to health.
- **Hazardous combustion products**: Decomposition products may include the following materials:
  - Carbon oxides
  - Nitrogen oxides (NOx)
  - Sulphur oxides
  - Oxides of phosphorus
- **Special protective equipment for firefighters**: Use personal protective equipment.
- **Specific extinguishing methods**: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

**Hazchem Code**: 3Z

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**Section: 6. ACCIDENTAL RELEASE MEASURES**

**Product AS SOLD**

- **Personal precautions,**: Ensure adequate ventilation. Keep people away from and upwind of
SAFETY DATA SHEET

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protective equipment and emergency procedures

spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up

Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling

Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing.

Conditions for safe storage

Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature

0 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling

Avoid contact with skin and eyes. Wash hands thoroughly after handling.

Conditions for safe storage

Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Form of exposure</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td>TWA</td>
<td>1,000 ppm 1,880 mg/m3</td>
<td>AU OEL</td>
</tr>
</tbody>
</table>
Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.
Wash face, hands and any exposed skin thoroughly after handling.
Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>liquid</td>
<td>light pink</td>
</tr>
<tr>
<td>Odour</td>
<td>slight</td>
<td>slight</td>
</tr>
<tr>
<td>pH</td>
<td>6.0 - 9.0, 100 %</td>
<td>8.0</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 100 °C</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
<td></td>
</tr>
</tbody>
</table>
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Upper explosion limit : no data available
Lower explosion limit : no data available
Vapour pressure : no data available
Relative vapour density : no data available
Relative density : 0.984 - 1.008
Water solubility : soluble
Solubility in other solvents : no data available
Partition coefficient: n-octanol/water : no data available
Auto-ignition temperature : no data available
Thermal decomposition : no data available
Viscosity, kinematic : no data available
Explosive properties : no data available
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : no data available
VOC : no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : None known.
Incompatible materials : None known.
Hazardous decomposition products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD
Eyes : Causes serious eye damage.
Skin : Harmful in contact with skin. Causes severe skin burns.
Ingestion : Harmful if swallowed. Causes digestive tract burns.
Inhalation : May cause nose, throat, and lung irritation.
Chronic Exposure : Health injuries are not known or expected under normal use.
### Product AT USE DILUTION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>Health injuries are not known or expected under normal use.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Health injuries are not known or expected under normal use.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Health injuries are not known or expected under normal use.</td>
</tr>
<tr>
<td>Chronic Exposure</td>
<td>Health injuries are not known or expected under normal use.</td>
</tr>
</tbody>
</table>

### Experience with human exposure

#### Product AS SOLD

<table>
<thead>
<tr>
<th>Contact</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Redness, Pain, Corrosion</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Redness, Pain, Corrosion</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Corrosion, Abdominal pain</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Respiratory irritation, Cough</td>
</tr>
</tbody>
</table>

#### Product AT USE DILUTION

<table>
<thead>
<tr>
<th>Contact</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No symptoms known or expected.</td>
</tr>
</tbody>
</table>

### Toxicity

#### Product AS SOLD

<table>
<thead>
<tr>
<th>Toxicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>no data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>no data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Reproductive effects</td>
<td>no data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td>no data available</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>no data available</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>no data available</td>
</tr>
</tbody>
</table>

### Components

<table>
<thead>
<tr>
<th>Toxicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride</td>
</tr>
<tr>
<td></td>
<td>LD50 rat 344 mg/kg</td>
</tr>
</tbody>
</table>
ethanol
LD50 rat: 10,470 mg/kg

Octyl decyl dimethyl ammonium chloride
LD50 rat: 238 mg/kg

Dioctyl dimethyl ammonium chloride
LD50 rat: 238 mg/kg

Didecyl Dimethyl Ammonium Chloride
LD50 rat: 1,150 mg/kg

Components
Acute inhalation toxicity:
Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride
4 h LC50 rat: > 0.054 mg/l

ethanol
4 h LC50 rat: 117 mg/l

Octyl decyl dimethyl ammonium chloride
4 h LC50 rat: 0.07 mg/l

Dioctyl dimethyl ammonium chloride
4 h LC50 rat: 0.07 mg/l

Didecyl Dimethyl Ammonium Chloride
4 h LC50 rat: 0.07 mg/l

Components
Acute dermal toxicity:
Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride
LD50 rabbit: 3,340 mg/kg

ethanol
LD50 rabbit: > 15,800 mg/kg

Octyl decyl dimethyl ammonium chloride
LD50 rabbit: 2,930 mg/kg

Dioctyl dimethyl ammonium chloride
LD50 rabbit: 2,930 mg/kg

Didecyl Dimethyl Ammonium Chloride
LD50 rabbit: 2,930 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity

Environmental Effects: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Product
Toxicity to fish: no data available
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Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Components

Toxicity to fish:
- Ethanol 96 h LC50 Pimephales promelas (fathead minnow): > 100 mg/l
- Octyl decyl dimethyl ammonium chloride 96 h LC50 Fish: 1 mg/l
- Didecyl Dimethyl Ammonium Chloride 96 h LC50 Fish: 1 mg/l

Toxicity to daphnia and other aquatic invertebrates:
- Alkyl (50% C14, 40% C12, 10% C16) dimethyl benzyl ammonium chloride 48 h EC50 Daphnia magna (Water flea): 0.016 mg/l
- Dioctyl dimethyl ammonium chloride 48 h EC50 Daphnia: 0.1 mg/l

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Other adverse effects: no data available

Section: 13. DISPOSAL CONSIDERATIONS

Product AS SOLD
Disposal methods: Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

The product should not be allowed to enter drains, water courses or the soil.

Disposal considerations: Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION
Disposal methods: Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations: Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of
in accordance with local, state, and federal regulations. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

**Section: 14. TRANSPORT INFORMATION**

**Product AS SOLD**

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

**Land transport (ADG)**

- **UN number**: 3082
- **Description of the goods**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (quaternary ammonium compound)
- **Class**: 9
- **Packing group**: III
- **Hazchem Code**: 3Z
- **Environmentally hazardous**: Yes

**Sea transport (IMDG/IMO)**

- **UN number**: 3082
- **Description of the goods**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (quaternary ammonium compound)
- **Class**: 9
- **Packing group**: III
- **Marine pollutant**: Yes

**Section: 15. REGULATORY INFORMATION**

**National regulatory information**

- **Standard for the Uniform Scheduling of Medicines and Poisons**: No poison schedule number allocated
- **On TSCA Inventory**: On TSCA Inventory
- **Canadian Domestic Substances List (DSL)**: All components of this product are on the Canadian DSL.
- **Australia. Industrial Chemical (Notification and Assessment) Act**: On the inventory, or in compliance with the inventory
- **New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand**: On the inventory, or in compliance with the inventory
- **Japan. ENCS - Existing and New Chemical Substances Inventory**: not determined
- **Japan. ISHL - Inventory of Chemical Substances (METI)**: 
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On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI):
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS):
On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances:
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
IARC: (International Agency for Research on Cancer)
US. National Toxicology Program (NTP) Report on Carcinogens
ECHA List of Publishable Substances Registered
EU HPVCs (High Production Volume Chemicals)

Issuing date: 08.04.2016
version: 1.0
Prepared by: Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.