SAFETY DATA SHEET
SODIUM HYPOCHLORITE 12.5%

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : SODIUM HYPOCHLORITE 12.5%
Other means of identification : Not applicable.
Recommended use : Sanitizer
Product dilution information : 0.004 % - 0.16 %

Company : ECOLAB PTY LTD
2 Drake Avenue
Macquarie Park, NSW Australia 2113
1 800 022 002

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

Issuing date : 25.11.2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification
Product AS SOLD
Skin corrosion/irritation : Category 1B
Serious eye damage/eye irritation : Category 1
Corrosive to metals : 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 : Causes severe skin burns and eye damage.
May be corrosive to metals.

Precautionary Statements : Prevention:
Wash skin thoroughly after handling. Wear protective gloves/
protective clothing/ eye protection/ face protection. Keep only in
original container.
Response:
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: 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
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CENTER or doctor/physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage:
Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

Precautionary Statements

<table>
<thead>
<tr>
<th>Precautionary Statements</th>
<th>Prevention:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wash hands thoroughly after handling.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary Statements</th>
<th>Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Get medical advice/attention if you feel unwell.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary Statements</th>
<th>Storage:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Store in accordance with local regulations.</td>
</tr>
</tbody>
</table>

Product AT USE DILUTION

Precautionary Statements

<table>
<thead>
<tr>
<th>Other hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing this product with acid or ammonia releases chlorine gas.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product AS SOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact with acids liberates toxic gas.</td>
</tr>
</tbody>
</table>

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

<table>
<thead>
<tr>
<th>Pure substance/mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration: (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hypochlorite</td>
<td>7681-52-9</td>
<td>10 - 30</td>
</tr>
</tbody>
</table>

Product AT USE DILUTION

No hazardous ingredients

Section: 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact

<table>
<thead>
<tr>
<th>In case of eye contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

In case of skin contact

<table>
<thead>
<tr>
<th>In case of skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

If swallowed

<table>
<thead>
<tr>
<th>If swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.</td>
</tr>
</tbody>
</table>

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

If inhaled

<table>
<thead>
<tr>
<th>If inhaled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

Protection of first-aiders

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
</tr>
</thead>
<tbody>
<tr>
<td>If potential for exposure exists refer to Section 8 for specific personal protective equipment.</td>
</tr>
</tbody>
</table>
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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
In case of eye contact : Rinse with plenty of water.
In case of skin contact : Rinse with plenty of water.
If swallowed : Rinse mouth. Get medical attention if symptoms occur.
Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).
If inhaled : Get medical attention if symptoms occur.

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:
- Halogenated compounds
- Metal oxides
Special protective equipment for firefighters : In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.
Specific extinguishing methods : 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 : 2X

Section: 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD
Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of 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.

**Product AT USE DILUTION**

**Personal precautions, protective equipment and emergency procedures**
- Refer to protective measures listed in sections 7 and 8.

**Environmental precautions**
- No special environmental precautions required.

**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. Mixing this product with acid or ammonia releases chlorine gas.

**Conditions for safe storage**

**Storage temperature**
- 0 °C to 40 °C

**Product AT USE DILUTION**

**Advice on safe handling**
- Wash hands after handling. For personal protection see section 8.

**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**
- Contains no substances with occupational exposure limit values.

**Engineering measures**
- Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

**Personal protective equipment**

**Eye protection**
- Wear chemical splash goggles.
- Face-shield

**Hand protection**
- Wear the following personal protective equipment:
  - Standard glove type.
  - PVC
  - Impervious gloves

**Skin protection**
- Personal protective equipment comprising: suitable protective gloves,
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safety goggles and protective clothing
Chemical resistant apron

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: Safety glasses
Hand protection: Wear the following personal protective equipment:
Standard glove type.
PVC
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>Property</th>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>yellow</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Chlorine</td>
<td>Chlorine</td>
</tr>
<tr>
<td>pH</td>
<td>12.0 - 13.5, 100 %</td>
<td>8.5 - 10.5</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
<td>Not applicable., Does not sustain combustion.</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>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>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>1.15 - 1.25</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
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SODIUM HYPOCHLORITE 12.5%

octanol/water
Auto-ignition temperature : no data available
Thermal decomposition : no data available
Viscosity, kinematic : no data available
Explosive properties : no data available
Oxidizing properties : no data available
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 : Mixing this product with acid or ammonia releases chlorine gas.
Conditions to avoid : None known.
Incompatible materials : Organic materials
Metals
Acids
Hazardous decomposition products : Decomposition products may include the following materials:
Halogenated compounds
metal oxides

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 : Causes severe skin burns.
Ingestion : 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
Eyes : Health injuries are not known or expected under normal use.
Skin : Health injuries are not known or expected under normal use.
Ingestion : Health injuries are not known or expected under normal use.
Inhalation : Health injuries are not known or expected under normal use.
Chronic Exposure : Health injuries are not known or expected under normal use.
Experience with human exposure

Product AS SOLD
Eye contact: Redness, Pain, Corrosion
Skin contact: Redness, Pain, Corrosion
Ingestion: Corrosion, Abdominal pain
Inhalation: Respiratory irritation, Cough

Product AT USE DILUTION
Eye contact: No symptoms known or expected.
Skin contact: No symptoms known or expected.
Ingestion: No symptoms known or expected.
Inhalation: No symptoms known or expected.

Toxicity

Product AS SOLD
Acute oral toxicity: no data available
Acute inhalation toxicity: no data available
Acute dermal toxicity: no data available
Skin corrosion/irritation: no data available
Serious eye damage/eye irritation: no data available
Respiratory or skin sensitization: no data available
Carcinogenicity: no data available
Reproductive effects: no data available
Germ cell mutagenicity: no data available
Teratogenicity: no data available
STOT - single exposure: no data available
STOT - repeated exposure: no data available
Aspiration toxicity: no data available

Components
Acute oral toxicity: sodium hypochlorite
LD50 rat: 5,230 mg/kg

Components
Acute inhalation toxicity: sodium hypochlorite
4 h LC50 rat: > 5.25 mg/l

Components
Acute dermal toxicity: sodium hypochlorite
LD50 rabbit: > 10,000 mg/kg
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Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity
Environmental Effects : This product has no known ecotoxicological effects.

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

Components
Toxicity to daphnia and other aquatic invertebrates : sodium hypochlorite
48 h EC50: 0.071 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.
Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION
Disposal methods : Diluted product can be flushed to sanitary sewer.
Disposal considerations : 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 : 1791
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Description of the goods: HYPOCHLORITE SOLUTION
Class: 8
Packing group: III
Hazchem Code: 2X
Environmentally hazardous: No

Sea transport (IMDG/IMO)
UN number: 1791
Description of the goods: HYPOCHLORITE SOLUTION
Class: 8
Packing group: III
Marine pollutant: No

Product AT USE DILUTION
Not intended for transport.

Section: 15. REGULATORY INFORMATION

National regulatory information
Standard for the Uniform Scheduling of Medicines and Poisons: Schedule 5

The components of this product are reported in the following inventories:

United States 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: On the inventory, or in compliance with the inventory
Japan. ISHL - Inventory of Chemical Substances (METI): 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
SAFETY DATA SHEET

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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 : 25.11.2015
Date of first issue : 25.11.2015
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.