## SECTION 1 - IDENTIFICATION

**PRODUCT IDENTIFIER:** ZAAL--- Sea Solve Rinse Aid "Concentrate"

**PRODUCT USE:**
- Light rust removal and Descaling salts and hard water deposits remover anti corrosion properties
- Mild hard surface cleaner
- Marine hard surface ion (salts) rinse aid and Light surfactant cleaner
- Dilution 1>250 parts water

**SUPPLIER:**
Gemini Packaging Limited  
150-12071 Jacobson Way, Richmond, British Columbia, Canada, V6W 1L5  
Telephone: (604) 278-3455  
Emergency Telephone: (604) 813-4688

## SECTION 2 - COMPOSITION

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>% (W/W)</th>
<th>CAS NUMBER</th>
<th>LD50</th>
<th>LC50</th>
<th>EXPOSURE LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalic acid</td>
<td>5.0 – 15.0</td>
<td>144-62-7</td>
<td>375 mg/kg (oral/rat)</td>
<td>N/est.</td>
<td>2 mg/m³ of air (ACGIH TLV/CL)</td>
</tr>
<tr>
<td>Liner Alkylbenzene Sulphonic acid</td>
<td>1.0 – 8.0</td>
<td>27176-87-0</td>
<td>650 mg/kg (oral/rat)</td>
<td>N/est.</td>
<td>N/est.</td>
</tr>
<tr>
<td>Sulfamic acid</td>
<td>1.0 – 5.0</td>
<td>5329-14-6</td>
<td>N/est.</td>
<td>N/est.</td>
<td>N/est.</td>
</tr>
<tr>
<td>Fatty alcohol ethoxylates</td>
<td>0.5-5.0</td>
<td>68439-46-3</td>
<td>N/est.</td>
<td>N/est.</td>
<td>N/est.</td>
</tr>
<tr>
<td>Proprietary ingredients</td>
<td>1.0-3.0</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>
SECTION 3 - HAZARDS IDENTIFICATION
Hazards in this MSDS are
For product in Concentrate

EMERGENCY OVERVIEW:
This product is an acidic cleaning agent. Mild eye and mild skin irritation in humans.

EFFECTS OF SHORT-TERM (ACUTE) EXPOSURE:
INHALATION: Product is irritating to the nose, throat and respiratory tract.
SKIN CONTACT: Prolonged soaking will have symptoms of severe skin irritation such as reddening, swelling, rash, dry skin scaling. Excessive contact may cause drying by absorption of moisture and oils.
EYE CONTACT: Causes eye burns.
INGESTION: Burning pain from mouth to throat and abdominal. Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.
INHALATION: Breathing vapors may irritate the nose and throat and cause coughing and chest discomfort.

EFFECTS OF LONG-TERM (CHRONIC) EXPOSURE:
Prolonged contact with eyes may cause permanent eye lesions. Prolonged skin contact may cause dermatitis.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Pre-existing eye, skin, respiratory tract disorders may be aggravated by exposure.

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SECTION 4 - FIRST AID MEASURES

INHALATION: Move victim to fresh air. Give artificial respiration or administer oxygen, if indicated. Obtain immediate medical attention.
SKIN CONTACT: Remove contaminated clothing and flush skin with running water for at least 15 minutes. Wash affected area thoroughly with soap and water. Launder clothes before reuse.
EYE CONTACT: Seek immediate medical attention. Check for and remove any contact lenses. Flush contaminated eye(s) with lukewarm, gently flowing water for at least 20 minutes. Hold eyelids apart to ensure irrigation of all eye tissue. Take care not to contaminate unaffected eye. If irritation persists repeat the flushing process. Do not transport victim until the recommended flushing time has been achieved unless flushing can continue during transport.
INGESTION: Never give anything by mouth if victim is unconscious, rapidly losing consciousness or convulsing. If conscious: Rinse mouth thoroughly with cold water and give ½ to 1 glass of water to dilute ingested material. Drink a large quantity of milk, egg whites or gelatin solution. If not available, drink water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward, head down, to reduce risk of aspiration. Obtain immediate medical attention.
GENERAL COMMENTS: All first-aid procedures should be reviewed by a physician familiar with the product and its conditions of use in the workplace. Physician should treat this symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLASH POINT</td>
<td>N/av.</td>
</tr>
<tr>
<td>LOWER FLAMMABILITY LIMITS:</td>
<td>N/ap.</td>
</tr>
<tr>
<td>SENSITIVITY TO MECHANICAL IMPACT:</td>
<td>Not expected to be sensitive</td>
</tr>
<tr>
<td>AUTOIGNITION TEMPERATURE:</td>
<td>N/ap.</td>
</tr>
<tr>
<td>UPPER FLAMMABILITY LIMITS:</td>
<td>N/ap.</td>
</tr>
<tr>
<td>SENSITIVITY TO STATIC DISCHARGE:</td>
<td>Not expected to be sensitive</td>
</tr>
</tbody>
</table>
**EXTINGUISHING MEDIA:** Use media suitable to control surrounding fire.

**FIRE FIGHTING INSTRUCTIONS:** Fire-exposed containers should be kept cool by spraying water. Spilled material will cause floors and walkways to become slippery.

**HAZARDOUS COMBUSTION PRODUCTS:** Container packaging emits acrid smoke and irritating fumes under high temperature.

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD INDEX:**

- **HEALTH:** 2 - Causes temporary and only minor injury,
- **FLAMMABILITY:** 0 – Normally stable and will not burn unless heated excessively,
- **REACTIVITY:** 1 - Normally stable,
- **SPECIFIC HAZARDS:** N/ap.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**PERSONAL PROTECTION:** Wear protective clothing, rubber gloves, chemical goggles or a full face shield. Avoid direct contact with material.

**ENVIRONMENTAL PRECAUTIONS:** Prevent bulk release into waterways and sewers.

**REMEDATION MEASURES:** Person not wearing protective equipment should be excluded from the area. Remove combustibles. Stop or reduce leak if it can be done safely. Contain spill with earth, sand or absorbent material which does not react with spilled material. Contaminated absorbent material may pose the same hazards as the spilled product. Put material in suitable, covered and labeled containers. Flush area with large volume of water and contain. For large spills, contact fire and emergency services and supplier for advice. Spillages or uncontrolled discharges into water courses, drains or sewers must be immediately alerted to applicable government authorities.

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## SECTION 7 - HANDLING AND STORAGE

**HANDLING:** Use good housekeeping practices. Avoid contamination of product with other materials. Use in a well ventilated area. Mechanical ventilation should be corrosion and explosion proof.

**STORAGE:** Store away from combustibles and incompatible materials in tightly closed containers. Keep containers in a cool area away from sparks and flames.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Local exhaust ventilation required. Worker exposure to vapor/mist must be kept as low as reasonably achievable.

**RESPIRATORY PROTECTION:** No respiratory protection is warranted under normal use conditions.

**EXPOSURE LIMITS:** See Section 2.

**SKIN PROTECTION:** Wear nitrile gloves and work clothes covering arms and legs.

**EYE AND FACE PROTECTION:** Use chemical safety goggles, or a face shield is necessary.

**OTHER:** Emergency showers and eye-wash stations should be readily available.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPEARANCE:</strong></td>
<td>Clear yellow liquid</td>
</tr>
<tr>
<td><strong>MELTING POINT:</strong></td>
<td>N/ap.</td>
</tr>
<tr>
<td><strong>BOILING POINT:</strong></td>
<td>&gt;100°C</td>
</tr>
<tr>
<td><strong>CRITICAL TEMPERATURE:</strong></td>
<td>N/ap.</td>
</tr>
<tr>
<td><strong>RELATIVE DENSITY:</strong></td>
<td>1.020 to 1.030</td>
</tr>
<tr>
<td><strong>PARTITION COEFFICIENT:</strong></td>
<td>n-OCTANOL/WATER</td>
</tr>
<tr>
<td><strong>SOLUBILITY:</strong></td>
<td>Soluble in water</td>
</tr>
<tr>
<td><strong>ODOUR:</strong></td>
<td>Mild</td>
</tr>
<tr>
<td><strong>pH:</strong></td>
<td>1.0 to 2.0</td>
</tr>
<tr>
<td><strong>VAPOUR PRESSURE:</strong></td>
<td>N/ap.</td>
</tr>
</tbody>
</table>
SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Normally stable.
HAZARDOUS POLYMERIZATION: Will not undergo hazardous polymerization.
INCOMPATIBILITY: Incompatible with Aluminum, zinc (galvanized metal), magnesium and oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: N/A

SECTION 11 - TOXICOLOGICAL INFORMATION

ROUTE(S) OF ENTRY: Inhalation (minor), Ingestion (major), Eye contact (major), Skin contact (minor)

ACUTE EXPOSURE:
No specific animal data is available for this product.

CHRONIC EXPOSURE:
No specific animal data is available for this product.

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SECTION 11 - TOXICOLOGICAL INFORMATION (con’t)

IRRITANCY:
Expected to cause skin, eye, respiratory and gastrointestinal irritation.

SENSITIZATION:
Not reported.

MUTAGENICITY:
Not reported. Probably not mutagenic.

REPRODUCTIVE TOXICITY:
May cause human reproductive effects.

TERATOGENICITY:
Not reported. Probably not teratogenic.

CARCINOGENICITY:
Not reported. Probably not carcinogenic.

POTENTIAL FOR ACCUMULATION:
Not expected to accumulate.

SYNERGISTIC PRODUCTS:
None known.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY: Harmful to aquatic life. In concentrate
ENVIRONMENTAL FATE: This product has considerable solubility and mobility in water and non-significant absorption into soil.
Do not bulk contaminate domestic or irrigation water supplies, lake, streams, ponds, or rivers.

SECTION 13 - DISPOSAL CONSIDERATIONS

DEACTIVATING CHEMICALS: Carefully dilute the product with water and allow the solution to naturally degrade.
WASTE DISPOSAL METHODS: Place used and contaminated material and packaging into suitable containers and dispose of as controlled waste. Review and follow all local, provincial, and federal regulations.

SECTION 14 - TRANSPORT INFORMATION ---in bulk greater than 500kg

ICAO TECHNICAL INSTRUCTIONS, IMDG CODE: N/ap.
US HAZARDOUS MATERIALS REGULATIONS: N/ap.
CANADIAN TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: Class 8 (corrosive), UN 3261, PG III.

SECTION 15 - REGULATORY INFORMATION

CANADIAN FEDERAL REGULATIONS:
CEPA, DOMESTIC SUBSTANCES LIST: All ingredients are listed.
WHMIS CLASSIFICATION: Class II (corrosive)

SECTION 16 - OTHER INFORMATION

PREPARATION DATE: Sept. 23, 2009
PREPARED BY: Gemini Packaging Ltd.

DECLARATION: This Material Safety Data Sheet meets or exceeds all the requirements of the Canadian Controlled Product Regulations.