



Section 01 - Identification

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| Product Identifier | Clean Plus |
| Other Means of Identification | None |
| Product Use and Restrictions on Use | Liquid detergent for commercial dishwashers with feed systems. |
| Initial Supplier Identifier | Advance Chemicals Ltd. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 |
| Prepared By | ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503 |
| 24-Hour Emergency Phone | Phone: 1 (306) 664 – 2522 |

Section 02 - Hazard Identification

GHS-Classification

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|--------------------------------------|-------------|
| Acute Toxicity-Oral | Category 4 |
| Skin Damage/Irritation | Category 1A |
| Serious Eye Damage/Irritation | Category 1 |
| STOT-Single Exposure | Category 3 |

Physical Hazards

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| Corrosive to Metals | Category 1 |
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Danger

Hazards Statements

H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage.
H290 – May be corrosive to metals.
H335 – May cause respiratory irritation.

Pictograms



Precautionary Statements

P405 – Store locked up.

P234 – Keep only in original container.

P260 – Do not breathe mist, vapours or spray.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P270 – Do not eat, drink or smoke when using this product.

P301 +P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 – Wash contaminated clothing before reuse.

P310 – Immediately call a POISON CENTER or doctor/physician.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P390 – Absorb spillage to prevent material damage.

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

| Chemical Name | CAS Number | Weight % | Unique Identifiers |
|---|------------|----------|--------------------|
| Potassium Hydroxide | 1310-58-3 | 5-20% | |
| Sodium Hydroxide | 1310-73-2 | 1-15% | |
| Tetrapotassium Pyrophosphate | 7320-34-5 | 1-15% | |
| Sodium Silicate | 1344-09-8 | 1-15% | |
| Water and/or ingredients not classified as hazardous under the Hazardous Products Regulations | | Balance | |

Section 04 - First Aid Measures

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| Inhalation | If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention. |
| Skin Contact / Absorption | Remove contaminated clothing. Immediately rinse skin with lukewarm, gently flowing water for at least 60 minutes. Seek immediate medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard. |
| Eye Contact | Immediate flush eye(s) with lukewarm, gently flowing water for at least 60 minutes, while holding the eyelid(s) open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. Neutral saline solution may be used as soon as it is available. Seek immediate medical attention. |
| Ingestion | NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Seek immediate medical attention. |
| Additional Information | Not Available |

Section 05 - Fire Fighting Measures

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| Suitable Extinguishing Media | Use extinguishing media suitable for surrounding fire. Use water to cool fire exposed containers to prevent vapour build-up and rupture. Water may also be used to flush spills away from dangerous exposures. |
| Unsuitable Extinguishing Media | Not Available |
| Specific Hazards Arising From the Chemical | Hydrogen gas may be generated when product comes into contact with soft metals. |

Special Protective Equipment and Precautions for Fire-Fighters Wear NIOSH-approved self-contained breathing apparatus and protective gear.

Further Information Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Environmental Precautions Prevent material from entering sewers or waterways.

Methods and Materials for Containment and Cleaning Up SMALL SPILLS: Liquid should be wiped up with absorbent material and disposed of in government approved waste containers for proper disposal. The spill area may then be flushed with large quantities of water.
LARGE SPILLS: Contain spill by diking with sand, soil or other absorbent, non-combustible material, then transferred into approved waste containers for proper disposal. Do not allow spilled, or waste containers for proper disposal
Note: empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

Section 07 - Handling and Storage

Precautions for Safe Handling Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Conditions for Safe Storage Keep container tightly closed when not in use. Store upright in a cool, dry, well-ventilated place away from incompatible materials. Do not use pressure to empty container.

Incompatibilities Acids, acrylonitrile, chlorinated hydrocarbons, chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, nitropropane, nitrophenol, phosphorus, potassium persulfate and tetrahydrofuran.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

| Component | Regulation | Type of Listing | Value |
|---------------------|------------|-----------------|--------------------|
| Potassium Hydroxide | ACGIH | TLV-C | 2mg/m ³ |
| | OSHA | PEL-C | 2mg/m ³ |
| Sodium Hydroxide | ACGIH | TLV-C | 2mg/m ³ |
| | OSHA | PEL-C | 2mg/m ³ |

Engineering Control(s)

Ventilation Requirements Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

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| Hand Protection | Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. |
| Skin and Body Protection | Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work. |
| Respiratory Protection | Not needed under normal conditions. |
| Thermal Hazards | Not Available |

Section 09 - Physical and Chemical Properties

Appearance

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| Physical State | Liquid |
| Colour | Deep red |
| Odour | Caustic-like odour |
| Odour Threshold | Odourless |

Property

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| pH | 14.5 |
| Melting Point/Freezing Point | Not Available |
| Initial Boiling Point and Boiling Range | Not Available |
| Flash Point | Not Applicable |
| Evaporation Rate | Not Available |
| Flammability | Non-flammable |
| Upper Flammable Limit | Not Applicable |
| Lower Flammable Limit | Not Applicable |
| Vapour Pressure (mm Hg, 20°C) | Not Available |
| Vapour Density (Air=1) | Not Available |
| Relative Density | Not Available |
| Solubility(ies) | Completely soluble in water. |
| Partition Coefficient: n-octanol/water | Not Available |
| Auto-ignition Temperature | Not Applicable |
| Decomposition Temperature | Not Available |
| Viscosity | Not Available |

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|-----------------------------------|---------------|
| Explosive Properties | Not Available |
| Specific Gravity (Water=1) | 1.20 g/mL |
| % Volatiles by Volume | Not Available |
| Formula | Mixture |
| Molecular Weight | Not Available |

Section 10 - Stability and Reactivity

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| Reactivity | Not Available |
| Stability | Stable. |
| Possibility of Hazardous Reactions | Polymerization will not occur. |
| Conditions to Avoid | Contact with soft metals. Product may absorb carbon dioxide gas from the atmosphere or other sources, and form sodium carbonate. May spatter upon contact with water. |
| Incompatible Materials | Acids, acrylonitrile, chlorinated hydrocarbons, chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, nitropropane, nitrophenol, phosphorus, potassium persulfate and tetrahydrofuran. |
| Hazardous Decomposition Products | Sodium carbonate, hydrogen gas. |

Section 11 - Toxicological Information

Acute Toxicity Estimate

| Component | Oral LD₅₀ | Dermal LD₅₀ | Inhalation LC₅₀ |
|------------------|-----------------------------|-------------------------------|-----------------------------------|
| Clean Plus | 1,498 mg/kg | 8,217 mg/kg | Not Available |

This product has been classified in accordance with the Hazardous Products Regulations using ATE formula documented in the GHS standard.

Chronic Toxicity – Carcinogenicity

| Component | IARC |
|------------------|--|
| Clean Plus | None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen. |

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| Skin Corrosion/Irritation | Corrosive. May cause severe and deep skin burns. Painful tissue destruction may result and the sensation of pain may be delayed. |
| Ingestion | May cause pain and severe vomiting, burns of the throat and esophagus, and perforation of the esophagus. May be fatal. |
| Inhalation | Severe irritation of the throat and nasal passages may result from inhaling dust or mists of the product. |
| Serious Eye Damage/Irritation | Corrosive. Causes corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur. Damage may be delayed and not immediately apparent. |
| Respiratory or Skin Sensitization | Not Available |
| Germ Cell Mutagenicity | Not Available |

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| Reproductive Toxicity | Not Available |
| STOT-Single Exposure | May cause respiratory irritation. |
| STOT-Repeated Exposure | Not Available |
| Aspiration Hazard | Not Available |
| Synergistic Materials | Not Available |

Section 12 – Ecological Information

Ecotoxicity

| Component | Toxicity to Algae | Toxicity to Fish | Toxicity to Daphnia and Other Aquatic Invertebrates |
|---------------------|--|---|--|
| Potassium Hydroxide | Not Available | LC ₅₀ (Gambusia affinis, 96hr): 80mg/L | Not Available |
| Sodium Hydroxide | Not Available | LC ₅₀ (Gambusia affinis, 96hr): 125mg/L | EC ₅₀ (Ceriodaphnia dubia, 48hr): 40.38mg/L |
| Sodium Silicate | EbC ₅₀ (Green Algae, 72hr): 207mg/L | LC ₅₀ (Gambusia affinis, 96hr): 1800mg/L | EC ₅₀ (Ceriodaphnia dubia, 48hr): 0.4mg/L |

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| Biodegradability | Not Available |
| Bioaccumulation | This product is not expected to bioaccumulate based on the individual components. |
| Mobility | Not Available |
| Other Adverse Effects | Potassium hydroxide and sodium hydroxide are toxic to aquatic life through an immediate raise in pH to toxic levels. |

Section 13 – Disposal Considerations

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| Waste From Residues/Unused Products | Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act. |
| Contaminated Packaging | Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act. |

Section 14 – Transport Information

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| UN Number | UN3266 | |
| UN Proper Shipping Name | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide) | |
| Transport Hazard Class(es) | 8 | |
| Packaging Group | II | |
| Environmental Hazards | Not listed as a marine pollutant under Canadian TDG Regulations, schedule III. | |
| Special Precautions | Not Available | |
| Transport in Bulk | Not Available | |
| Additional Information | <u>Packing Group</u> | <u>Limited Quantity Index</u> |
| | I | 0 |
| | II | 1 L |
| | III | 5 L |

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| Other | Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position. |
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TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods

