

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

This SDS is used for the following Arcot products:

- Arcot #5005 DISH-CLEAN (and other versions of 5005)
- Arcot #6001 Max-Control Low Temperature Dish Machine Detergent
- Arcot #6005 Max-Control High Temperature Dish Machine Detergent
- Arcot #8703 SEACLEAN Liquid Machine Dishwashing Detergent
- Arcot #9703 DISH BRITE (and other versions of 9703)
- Arcot #PR5001 Premier Low Temperature Automatic Dish Machine Detergent

Manufacturer: Arcot Manufacturing Corporation, 2950 Mowery Road, Houston, Texas, U.S.A. 77045

Emergency Response Telephone: 1-800-633-8253 (Account #9390)

Arcot Customer Service Telephone: 713-413-9700

Website: www.ArcotManufacturing.com

Recommended Use: Machine dishwashing detergent

Restrictions On Use: Do not use for hand dishwashing. Do not mix with other chemicals. Corrosive.

2. HAZARDS IDENTIFICATION

GHS Hazard Classification (in accordance with 29 CFR 1910, OSHA HCS):

- Eye damage/ irritation (Category 1), H318
- Skin corrosion/irritation (Category 1A), H314
- Acute toxicity, Oral (Category 4), H302
- Corrosive to metals (Category 1), H290
- Acute aquatic toxicity (Category 3), H402

Signal Word: **DANGER!** CORROSIVE



Hazard Statements:

- H290: May be corrosive to metals. (Category 1)
- H302: Harmful if swallowed. (Category 4)
- H314: Causes severe skin burns and eye damage. (Category 1)
- H318: Causes serious eye damage. (Category 1)
- H402: Harmful to aquatic life in concentrated form. (Category 3)

Precautionary statements:

Prevention:

- P233: Keep container tightly closed.
- P234: Keep only in original container.
- P260: Do not breathe mist, vapors or spray.
- P262: Do not get in eyes, on skin, or on clothing.

P264: Wash thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use in a well-ventilated area.
 P273: Avoid release to the environment.
 P280: Wear protective gloves, protective clothing and eye protection or face protection.
 Causes burns to the gastrointestinal and respiratory tracts. May cause permanent eye damage and blindness.

Response:

P390: Absorb spillage to prevent material damage.
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 + P363: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.
 P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310: Immediately call a POISON CENTER or doctor.
 P321: Specific treatment (see supplemental first aid instructions on the label.)

Storage:

P406: Store in a corrosive resistant container with a resistant inner liner.
 P405: Store locked up.
 P420: Store away from other materials.

Disposal:

P501: Dispose of contents and container to an approved waste disposal plant in accordance with applicable local, state, federal and international regulations.

Safety Phrases:

S36: Wear suitable protective clothing.
 S37: Wear suitable gloves.
 S39: Wear eye or face protection.
 S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Concentration
Water	7732-18-5	Proprietary
Potassium Hydroxide	1310-58-3	Proprietary
Sodium Bicarbonate	144-55-8	Proprietary
Other ingredients are nonhazardous and considered trade secrets. The exact percentage of composition has been withheld as a trade secret. This SDS is used for a group of substantially similar mixtures.		

4. FIRST-AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: Move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

In case of skin contact: Take off contaminated clothing and shoes immediately. Wash skin with soap and plenty of water. Consult a physician. Wash contaminated clothing before reuse.

In case of eye contact: Immediately and thoroughly flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If easy to do, remove contact lenses. Continue rinsing eyes and consult a physician, preferably an ophthalmologist.

If swallowed: Never give anything by mouth to an unconscious person. If conscious and alert, rinse mouth with water and drink large quantities of water. Follow with citrus juice. Do not induce vomiting. Consult a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed: Burning pain and severe corrosive skin damage. Diarrhea, nausea, and vomiting. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing. Symptoms may be delayed.

Treatment: Treat symptomatically. If any irritation or symptoms persists, seek medical attention immediately.

5. FIRE-FIGHTING MEASURES

Specific hazards that may develop from this product during fire: Hazardous decomposition and byproducts may include carbon oxides (such as carbon monoxide and carbon dioxide) and gases hazardous to health and of unknown stability.

Suitable extinguishing media: Product is not flammable. Water fog, foam, dry chemical powder or carbon dioxide may be used for surrounding fires.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Advice for firefighters: Wear self-contained breathing apparatus and full protective clothing in case of fire.

Precautions for firefighters: Use water spray to keep fire-exposed containers cool.

General advice: Move containers from fire area if you can do so without risk. Do not allow product to mix with strong acids to prevent violent or explosive reaction.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. See section 8 for personal protection. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Methods and materials for containment and cleanup procedures:

Large Spills: Stop the flow of material, if this is safe. Completely contain spilled material with dikes, sandbags, etc., where this is possible. Spilled material may be removed with a vacuum truck. Remaining

material may be diluted with water and neutralized with dilute acid, then absorbed and collected. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water.

Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Keep in suitable, closed containers for disposal. Dispose of as hazardous waste. For waste disposal, see Section 13 of the SDS.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Discharge into the environment must be avoided.

7. HANDLING AND STORAGE

Precautions for safe handling: See Sections 2 and 8. Read the SDS and label carefully and completely before handling this product. Do not get in eyes, on skin or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Observe good hygiene practices. Do not eat, drink or smoke where the product is being used. Wash thoroughly after handling.

Conditions for safe storage: Keep containers tightly closed, properly labeled and upright to prevent leakage. Store in corrosive resistant containers. Store in a cool, dry, shaded and well-ventilated place away from sunlight and extreme temperatures. Store at temperatures between 55°F and 85°F. Store locked up. Containers which are opened must be carefully resealed. Do not mix with other chemicals. Store away from acids and other incompatible materials (see section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Component	OSHA PEL, TWA	ACGIH TLV, TWA	NIOSH, TWA
Potassium hydroxide	Not Available	2 mg/m ³	2 mg/m ³

Appropriate engineering controls: Provide sufficient mechanical ventilation to maintain airborne levels below recommended exposure limits.

Personal Protective Equipment (PPE):

Eye Protection: Wear safety glasses with side shields or chemical safety goggles and a face shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Wear appropriate thermal protective clothing, when necessary. Contaminated clothing should be removed, then discarded or laundered.

Hand Protection: Wear appropriate impermeable, chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash and dry hands after handling this product.

Protective Material Types: Natural rubber, Neoprene or Nitrile with minimum layer thickness of 0.11 mm and break through time of 480 minutes.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use an NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Handle in accordance with good hygiene and safety practices. Do not eat, drink or smoke where the product is being used. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Form: liquid Color: clear red or colorless
Odor	odorless
Odor Threshold	No data available
pH	> 12
Freezing point	approximately 32°F
Initial boiling point	approximately 212°F
Flash point	No data available (Not Flammable)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	1.1 g/mL (9 Lb./Gal.) at 25 °C (77 °F)
Water solubility	completely soluble
Partition coefficient (n-octanol/water)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressures in original containers. Reacts violently with strong acids. This product may react with oxidizing agents. Mixing with water, acid or incompatible materials may cause splattering and release of large amounts of heat.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

Conditions to avoid: Do not mix with other chemicals. Contact with incompatible materials.

Incompatible materials: Acids. Oxidizing agents. Metals. Halogenated materials. Magnesium. Chlorinated hydrocarbons. Alcohols. Maleic anhydride. Phenols. Acid chlorides. Sugars. Organic compounds. Nitro compounds.

Hazardous decomposition products: Carbon oxides. Heat is generated from contact with acids, water and/or alcohols. When wet, attacks metals producing extremely flammable hydrogen gas and can form explosive mixtures with air. In the event of fire, see section 5.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure:

Ingestion: Causes digestive tract burns. Harmful if swallowed.

Inhalation: May cause irritation and burns to the respiratory system. Prolonged inhalation may be harmful.

Skin contact: Causes severe skin burns.

Eye contact: Causes severe eye burns. Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics:

Burning pain and severe corrosive skin damage. Diarrhea, nausea, and vomiting. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing.

Information on toxicological effects: Acute toxicity. Harmful if swallowed.

Component	Toxicity Test	Species	Test Results
Potassium Hydroxide 45%	Acute, Oral, LD50	Rat	607 mg/Kg estimated
Potassium Hydroxide	Acute, Oral, LD50	Rat	273 mg/Kg
Sodium Bicarbonate	Oral, LD50	Rat	> 5,000 mg/Kg
Sodium Bicarbonate	Inhalation, LC50	Rat	> 4.74 mg/L 4.5 hours

Respiratory or skin sensitizer: Not a respiratory sensitizer. Not expected to cause skin sensitization.

Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: This product is not classified as a carcinogen by NTP, IARC, ACGIH or OSHA.

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Additional Information: RTECS: Not available

12. ECOLOGICAL INFORMATION

Aquatic toxicity: In concentrated form, harmful to aquatic life with long lasting effects. Avoid release of unused, concentrated product into the environment.

Component	Toxicity Test	Species	Test Results
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Potassium Hydroxide 45%	Aquatic, Fish, LC50	Fish	177.7778 mg/l, 96 hours estimated
Potassium Hydroxide	Aquatic, Fish, LC50	Western mosquitofish (Gambusia affinis)	80 mg/l, 96 hours

Biodegradation: no data available for this product. The organic ingredients of this product are biodegradable. Inorganic material are not subject to biodegradation.

Persistence: no data available for this product. Most of the ingredients of this mixture are believed to either be biodegradable or exist in the disassociated state in the environment.

Bioaccumulative potential: no data available for this product. Based on ingredient studies, this product is not expected to bioconcentrate in organisms.

Mobility in soil: no data available for this product.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

See section 8.

Disposal Instructions: Collect and reclaim or dispose in sealed, corrosive resistant containers such as HDPE containers through a licensed disposal company. Unused product and its container must be disposed of as hazardous waste. Product is highly alkaline. It may be neutralized using a weak acid. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and international regulations.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. If emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

DOT (US): UN1760, Corrosive liquids, n.o.s. (contains Potassium hydroxide, solution), 8, **PGII**.

Reportable Quantity (RQ): 1000 Lb. for Potassium hydroxide (based on 49CFR, APPENDIX A TO §172.101—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES)

Poison Inhalation Hazard: No

Ground transport only. Do not ship via air.

15. REGULATORY INFORMATION

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA 302 Components (Extremely Hazardous Substances):

None of the ingredients are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Emergency Release Notification: Not Regulated

SARA 313 Components: Not Regulated

SARA 311/312 Hazards: Acute (Immediate) Health Hazard. Chronic (Delayed) Health Hazard. Reactivity Hazard.

CERCLA Hazardous Substance List (40 CFR 302.4):

Potassium hydroxide (CAS 1310-58-3) is listed with Reportable Quantity of 1000 Lb.

16. OTHER INFORMATION

HMIS & NFPA Ratings: Health = 3 Fire = 0 Reactivity = 1

HMIS & NFPA ratings involve data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS must be considered.

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstract Service

GHS = Globally Harmonized System

HCS = Hazard Communication Standard

LC50 = Median Lethal Concentration

LD = Lethal Dose

NIOSH = National Institute for Occupational Safety & Health

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit

RTECS = Registry of Toxic Effects of Chemical Substances

STEL = Short Term Exposure Limit (based on 15-minute exposures)

TC = Toxic Concentration

TLV = Threshold Limit Values

TWA = Time Weighted Average limit or ceilings (C) (exposure limit) (based on 8 hour/day, 40 hour/week exposures)

DISCLAIMER: The information contained herein is based upon data obtained from sources believed to be reliable and reflects our best professional judgment. Since it is impossible to anticipate all of the conditions under which our products may be used, we do not guarantee that the recommendations will be adequate for all individuals and situations. Each user of this product should determine the suitability of the product for his or her particular purpose and should comply with all federal, state and local regulations. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. We shall not be held liable for any damage resulting from handling or from contact with the above product or from improper use of our products. We do not provide any warranties, expressed or implied, and do not assume any responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. We update SDS and labels on a regular basis. Please do not hesitate to contact us for current information.

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