

MATERIAL SAFETY DATA SHEET

Aqua Kinetics, Inc.

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Latest Revision: 1 - 07- 09

I.

IDENTITY**EPA Registration Number:** 10324-21-37327**Trade Name:** AK-150**Chemical Family:** Quaternary Ammonium Chloride**Chemical Name:** Alkyl(67%C₁₂ 25%C₁₄ 7%C₁₆ 1%C₁₈) dimethyl benzyl ammonium chloride**CAS #:** 68391-01-5**DOT Proper Shipping Name:** Disinfectants, Liquid, Corrosive, NOS (Quaternary Ammonium Compound), 8, UN 1903, PGII

II.

HAZARDOUS INGREDIENTS

Name	Weight	CAS #
Alkyl dimethyl benzyl ammonium chloride (C ₁₂₋₁₈)	50.0 %	68391-01-5

III. PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE & EXPLOSION)

Boiling Point: ND

Solubility in Water: Soluble

Appearance and Odor: Colorless to light straw in color. Benzaldehyde Odor

pH: 6-8

Percent Volatile: 50 % (by weight)

Specific Gravity: 0.98 (water = 1)

Evaporation Rate: ND (Butyl Acetate)

Vapor Pressure: approximately 24mmHg

Flash Point: > 200 F (>93.3 C) Pensky Martin Closed Cup

Upper % Lower Flame Limits: Not determined.

Extinguishing Media: Dry Chemical, Water Fog, CO, Foam. Solid water streams may spread burning liquid.

Firefighting Equipment and Instructions: Firefighters should wear full protective clothing including self-contained breathing apparatus. Cool fire-exposed containers with spray.

Unusual Firefighting Procedures: Explosive mixtures can form with air. Combustion products are toxic. Solvent vapors can travel to an ignition source and flash back.

Hazardous Combustion Products: Irritating and toxic gases or fumes may be released

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IV. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	NA
Incompatibility:	Strong oxidizers or reducing agents.
Conditions to Avoid:	Mixing with strong oxidizers or reducing agents.
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	Toxic hydrogen chloride fumes, oxides of carbon and nitrogen.

V. HEALTH HAZARDS

Emergency Overview:	Clear, colorless to straw colored liquid. Corrosive to the eyes, skin, gastrointestinal tract, and respiratory system.
Routes of Entry:	Skin contact, inhalation, eye contact.

Acute Effects:

Inhalation:	Irritation of mucous membrane can be caused by solvent vapors or mists of products.
Eye Contact:	Corrosive. Severe eye damage can result from direct contact.
Skin Contact:	Severe irritation. Corrosive.
Ingestion:	May be fatal. Burning pain in the mouth, throat, abdomen, severe swelling of the larynx, skeletal muscle paralysis affecting the ability to breathe, circulatory shock, convulsions.

VI. FIRST AID MEASURES

Skin or Clothing:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poisoning control center or doctor for treatment advice.
Eyes:	Immediately flush eyes with water for 15-20 minutes, while holding eyelids open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Seek medical attention at once.
Inhalation:	If symptoms are experienced, move victim to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Ingestion:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

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VII. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀: 735 mg/kg for males and females combined.
Acute Dermal: Greater than 3350 mg/kg.
Primary Skin: Corrosive, severe irritant.
Primary Eye: Corrosive, severe ocular irritant.

ECOTOXICITY STUDIES

Acute Oral Toxicity Study in the Northern Bobwhite Quail

Acute LD₅₀: 164 mg/kg

Acute Toxicity Test with Bluegill Sunfish, *Lepomis macrochirus*

Acute LC₅₀: 515 ppb

Acute Toxicity Test with Rainbow Trout, *Oncorhynchus mykiss*

Acute LC₅₀: 930 ppb

Acute Toxicity Test with Daphnids, *Daphnia magna*

Acute LC₅₀: 5.8 ppb

Acute Toxicity Test in the Sheepshead Minnow, *Cyprinodon variegatus*

Acute LC₅₀: 860 ppb

Acute Toxicity Test in the Embryo Larvae of the Eastern Oyster, *Crassostrea virginica*

Acute LC₅₀: 55.2 ppb

Acute EC₅₀: 47.6 ppb

Acute Toxicity Test in the Saltwater Mysid, *Mysidopsis bahia*

Acute LC₅₀: 92 ppb

Early Life Stage Toxicity Test to Fathead Minnows

Clear effects (greater than or equal to 448.7 ppb) and no effects (237.2 ppb) on hatchability were observed. The 28-day post hatch LC₅₀ was determined to be 94 ppb and no-effect levels for survival (32.2 ppb) and growth (greater than or equal to 32.2 ppb) were determined.

Chronic 21-Day Toxicity Test to *Daphnia magna*

Clear effect on reproduction (greater than or equal to 5.02 ppb) was determined in the range-finding study and no effects on survival, growth, or reproduction (less than or equal to 4.15 ppb) were observed in the definite study.

Acute Toxicity to Fathead Minnow, *Pimephales promelas*, in Dilution Water with 0, 10 and 20 mg/l Humic Acid (3 Studies)

The 96-hour LC₅₀S for ADBAC in clean dilution water and in dilution water amended with 10 mg/l and 20 mg/l humic acid are 280, 800 and 1400 ppb, respectively.

Chronic Toxicity of Sediment-Incorporated ADBAC to *Chironomus tentans* (Midge)

The 28-day LC₅₀ was determined to be 479 mg/kg, the 28-day NOEC was 520 mg/kg and the 28-day LOEC was 1200 mg/kg. Effects on growth and time to emerge were observed at levels greater than or equal to 520 mg/kg and greater than or equal to 1200 mg/kg, respectively.

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VIII.

SPECIAL PROTECTION INFORMATION

Engineering Controls:	Provide adequate local exhaust ventilation (explosion proof) to maintain worker exposure below exposure limits.
Respiratory Protection:	If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures. Respiratory protection may be needed for emergency situations.
Skin :	Use impervious gloves (rubber or neoprene). Wear suitable protective clothing.
Eye Protection:	Wear chemical goggles. Use face shield if splashing is possible.
Other Equipment:	Impervious apron, eyewash facility, emergency shower, face shield.

IX. ACCIDENTAL RELEASE MEASURES

Emergency Action:	Isolate spill or leak area immediately. Keep unauthorized personnel away. Stay upwind. Keep out of low areas where vapors may accumulate. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).
Spill Cleanup:	Ventilate closed spaces before entering. All equipment used when handling the product must be grounded. Floor will be slippery. Do not touch or walk through spilled material. Stop leak if you can do it without risk. A vapor suppressing foam may used to reduce vapors. Prevent entry into waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed materials.

IX. ACCIDENTAL RELEASE MEASURES CONTINUED

Large Spills:	Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor but will increase foaming. Water may not prevent ignition in closed spaces.
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X. HANDLING AND STORAGE

Handling Procedures: Avoid contact with eyes and skin. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water.

Storage Procedures: Keep the container tightly closed and in a cool, well-ventilated place. Keep from freezing. Do not handle or store near an open flame, heat or other sources of ignition. Prevent electrostatic charge by using common bonding and grounding techniques.

XI. DISPOSAL CONSIDERATIONS

Disposal Instructions: The pure substances does not exhibit the characteristics of a Hazardous Waste under U. S. RCRA regulations. Solutions of this substance should be tested to determine if the pH equals or exceeds 12.5 . If so, solutions would be considered a corrosive hazardous waste if discarded and would be identified with the RCRA ID number of D002.

The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state and local regulations.

XII. REGULATORY INFORMATION

TSCA STATUS: While all ingredients are listed on the TSCA Chemical Inventory, this product is regulated as a pesticide under FIFRA and not subject to TSCA Inventory rules.

SARA Title III, Sections 311/312: This act requires reporting under the Community Right-to-Know provisions due to the inclusion of the following components of this material in one of more of the five hazard categories listed in the 40 CFR 370:

Classification of this Product: Immediate, fire.

SARA Title 313: This act requires submission of annual report of releases of the following components of this material if the threshold reporting quantities, as listed in 40 CFR 372, are met or exceeded: No ingredients listed in this section.

The information given and recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guarantee of accuracy is made. It is the purchaser's responsibility before using this product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.