

SAFETY DATA SHEET

Conforms to the requirements of the United States Hazard Communication regulation 29 CFR 1910.1200

1.	Identification of the substance/mixture and of the company/undertaking		
1.1	Product identifier		
	Trade name:	AK-151	
1.2	Relevant identified uses of the substance or mixture and uses advised against		
	Uses of the Substance/Mixture:	Water treatment biocide (for further information refer to the product technical datasheet)	
1.3	Details of the supplier of the safety data sheet		
	Company:	Aqua Kinetics P. O. Box 249 Irwin, PA 15642	
	Prepared by:	SDS Coordinator	
	Date prepared:	7/14/20	Supersedes: New Reason: New
1.4	Emergency telephone		
	Emergency telephone number:	1-800-837-0499	

2.	Hazards identification		
GHS classification			
	Acute toxicity-oral:	Category 4	
	Skin corrosion/irritation:	Category 1B	
	Eye damage/irritation:	Category 1	
	Flammable:	Category 3	
	Acute aquatic toxicity:	Category 2	
GHS label elements			
	Hazardous products:	CAS#68424-85-1	Quaternary ammonium compounds, benzyl-C12-C16 alkyldimethyl, chlorides
		CAS#64-17-5	Ethanol



Hazard pictograms/symbols

Signal Word:

Hazard Statements:

Warning

H226: Flammable liquid and vapor

H302: Harmful if swallowed

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage

H401: Toxic to aquatic life

Precautionary Statements:

Prevention:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240: Ground/bond container and receiving equipment

P241: Use explosion-proof electrical/ventilating/lighting equipment

P242: Use only non-sparking tools

P243: Take precautionary measures against static discharge

P260: Do not breathe mist/vapors/spray

P264: Wash hands thoroughly after handling

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

P280: Wear protective gloves and eye protection

Response:

P301+P330+P331+P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell

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

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

P310: Immediately call a POISON CENTER of doctor/physician

P363: Wash contaminated clothing before reuse

P370+P378: In case of fire: Use water spray, foam, multi-purpose powders, carbon dioxide (CO2) to extinguish

Storage:

P233: Keep container tightly closed

Disposal:

P501: Dispose of contents/container to an approved waste disposal plant

2.1 Emergency overview

Appearance: Pale amber liquid with characteristic alcohol odor
Warning statements: Warning! Causes severe skin burns and eye damage. Harmful if swallowed. Toxic to aquatic life. Avoid contact with eyes. Do not ingest. Wash thoroughly after handling. Avoid contact of spilled material with runoff with soil and surface waterways.

2.2 Potential health effects

Inhalation effect: Inhalation not likely. Direct contact or exposure to mists may cause irritation.
Skin effect: Causes severe skin burns
Eye effect: Causes serious eye damage
Ingestion effect: Harmful if swallowed
Chronic effects: Does not contain an ingredient designated by IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater as probable or suspected human carcinogens

2.3 Other hazards

No information available

3. Composition/information on ingredients

3.1 Information on components and impurities

Chemical name	CAS number(s)	GHS Classification	Concentration, %
Quaternary ammonium compounds, benzyl-C12-C16 alkyl dimethyl, chlorides	68424-85-1, 8001-54-5	Eye damage/irritation: Category 1, Skin corrosion/irritation: Category 1B, Acute toxicity (oral): Category 4; H301, H314, H318, H401	≥48.5-≤51.5
Ethanol	64-17-5	Flammable liquids: Category 2; Eye damage/irritation: Category 2B; H225, H320, H336	≥6.5-≤7.5
Other components		Not classified	Balance

4. First aid measures

4.1 Description of first-aid measures

General advice: Show this material safety data sheet to medical personnel. Do not leave affected person unattended. Isolate exposed apparel for laundry before re-use.
If inhaled: Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.
Skin contact: Wash affected areas with plenty of water. Seek medical attention if irritation develops or persists.
Eye contact: Rinse eyes with water. Remove any contact lenses, and continue flushing eyes with running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Seek medical attention if irritation develops or persists.
Ingestion: Do not give anything by mouth to an unconscious or convulsing person. Rinse mouth with water. Prevent aspiration of vomit.

4.2 Most important symptoms and effects, both acute and delayed

Risks: The most important known symptoms and effects are described in the labeling (section 2.2) and/or in section 11. Corrosive effects. Symptoms may include stinging, tearing, redness, swelling and blurred vision. Permanent eye damage including blindness could result. Prolonged or repeated skin contact may aggravate existing skin conditions. Inhalation of mists may aggravate existing chronic respiratory conditions such as asthma, emphysema or bronchitis.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically.

5. Firefighting measures

Flash Point and Method: <100°F (40°C) SetaFlash Closed Cup

Flammability class: Flammable

Autoignition temperature: No information available

Flammability/Explosive limit: No information available

5.1 Extinguishing media

Suitable extinguishing media: Water spray, foam, multi-purpose powders, carbon dioxide (CO₂)
Use media suitable for the material that is burning.

Unsuitable extinguishing media: High volume water jet (frothing possible)

5.2 Special hazards arising from the substance or mixture

Special hazards during fire fighting: Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. Container may rupture on heating. Harmful or toxic vapors may be released.

On combustion or on thermal decomposition: On combustion release of carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters: As in any fire, wear NIOSH/MSHA approved, pressure-demand self-contained breathing apparatus and full protective gear.

Specific firefighting methods: Move containers from area if it can be done without risk. Cool fire-exposed containers with water from side. Contain the extinguishing fluids by diking

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. Spill area may be slippery. Wear appropriate protective equipment (See Section 8).

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system

6.3 Methods and material for containment and cleaning up

Recovery: Stop leak if safe to do so. Absorb spills with vermiculite, fuller's earth, or sand. Shovel up and place in a non-metal waste container for disposal. Dike large spills with soil or sandbags to contain it and prevent its spread. Keep in suitable, properly labeled, closed containers for disposal.

Decontamination/cleaning: Wash non-recoverable remainder with large amounts of water. Clean contaminated surfaces thoroughly. Recover the cleaning water for subsequent disposal.

Disposal: Dispose of in accordance with local regulations.

Additional advice: Spill area may be slippery.

6.4 Reference to other sections

No information available

7. Handling and storage

7.1 Precautions for safe handling

Technical measures:

Does not require any specific or particular measures

Advice on safe handling and usage:

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Avoid release to the environment. Wear appropriate protective equipment. Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures for storage:

Does not require any specific or particular measures

Storage conditions

Recommended:

Keep container tightly closed. Keep away from heat, and sunlight. Storage temperature range: 5-30°C. If material freezes, gently thaw prior to use. Mild agitation may be required.

Incompatible products:

Hazardous reactions may occur on contact with certain chemicals. Refer to the list of incompatible materials section 10: "Stability-Reactivity"

7.3 Specific end use(s)

No information available

8. Exposure controls/personal protection

Introductory remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers

8.1 Control parameters

Components with workplace control parameters

Components	Value type	Value	Basis
Ethanol CAS#64-17-5	TWA	200 ppm	ACGIH Threshold Limit Values (TLV)
	STEL	400 ppm	
	TWA	400 ppm 980 mg/m3	Occupational Exposure Limits (OSHA)
	TWA	400 ppm 980 mg/m3	
ST	500 ppm 1,225 mg/m3	NIOSH Recommended Exposure Limits	
Central Nervous System impairment. Upper Respiratory Tract irritation. Eye irritation. Substances for which there is a Biological Exposure Index or Indices (see section below). Not classifiable as a human carcinogen.			

**8.2 Exposure controls
Control measures**

Engineering measures:	In applications where the product will be exposed to elevated temperatures, use local ventilation to remove potential decomposition products.
Personal protective equipment	
Respiratory protection:	In operations where mists are generated, wear a NIOSH/MSHA approved respirator that has been selected by a technically qualified person for the specific work conditions.
Hand protection:	Wear natural rubber gloves. Observe instructions regarding permeability and breakthrough time provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and contact time.
Eye protection:	Wear safety glasses with side shields or goggles. Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
Skin and body protection:	Wear footwear protecting against chemicals, and impervious clothing. Choose body protection according to the amount and concentration of the substances in the workplace.
Hygiene measures:	Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
Protective measures:	Ensure that eyewash stations and safety showers are close to the workstation location, and that emergency equipment is immediately accessible with instructions for use. The protective equipment must be selected in accordance with current local standards and in following proper use instructions from the supplier of the protective equipment. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.

9. Physical and chemical properties

Physical and chemical properties listed represent typical properties and should not be considered product specifications. Refer to product Certificate of Analysis for Product Specifications or contact Gray Beard Solutions for additional information.

9.1 Information on basic physical and chemical properties

Appearance:	Pale amber liquid
Odor:	Mild characteristic alcohol
Odor Threshold:	No data available
pH:	5 - 9 (10% aqueous solution)
Freezing point:	No information available
Melting point/range:	No information available
Boiling point/boiling range:	80°C
Flash point:	<100°F (40°C) SetaFlash Closed Cup
Evaporation rate:	No information available
Flammability (solid, gas):	No information available
Flammability/Explosive limit:	No information available
Auto-ignition temperature:	No information available
Vapor pressure:	No information available
Vapor density:	No information available
Density:	0.93 g/ml
Solubility:	Water solubility: soluble
Solubility in other solvents:	Alcohols: soluble
Partition coefficient: n-octanol/water:	Not applicable Surface-Active
Thermal decomposition:	No information available
Viscosity:	No information available
Explosive properties:	No information available
Oxidizing properties:	Not considered as oxidizing, Structure-activity relationship (SAR)

9.2 Other information

Ionic character:	Cationic
------------------	----------

10.	Stability and reactivity
10.1	Reactivity No information available
10.2	Chemical stability Stable under normal conditions
10.3	Possibility of hazardous reactions Hazardous polymerization does not occur
10.4	Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.
10.5	Incompatible materials No information available
10.6	Hazardous decomposition products On combustion or on thermal decomposition: carbon monoxide, aldehydes, flammable hydrocarbon fragments

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral:	LD ₅₀ Rat 430 mg/kg
Acute dermal:	LD ₅₀ Rat 3560 mg/kg
Acute inhalation:	No information available
Acute toxicity (other):	No information available

Skin corrosion/irritation

Skin irritation: Causes skin burns

Serious eye damage/eye irritation

Eye irritation: Causes serious eye damage

Respiratory or skin sensitization

Sensitization: Not classified as sensitizing by skin contact

CMR Summary-

Carcinogenicity

Carcinogenicity: This product does not contain any ingredient designated as probable or suspected human carcinogens by IARC, ACGIH

Mutagenicity

Genotoxicity in vitro: No information available
Genotoxicity in vivo: No information available

Reproduction and development toxicity

Toxicity to reproduction/fertility: No information available
Developmental toxicity/teratogenicity: No information available

Specific Target Organ Toxicity (STOT)

STOT-single exposure: No information available
STOT-repeated exposure: No information available

Aspiration toxicity

Aspiration toxicity: No information available

Other Hazards

No information available

12. Ecological information

12.1 Toxicity

Based on closely related materials

Aquatic toxicity: Invertebrate (*Daphnia magna*): NOEL 0.0042 mg/L
Fish (bluegill *Lepomis macrochirus*): LC₅₀ 5.7 mg/L, 96hrs
Category 2 Acute aquatic toxicity: Toxic to aquatic life

12.2 Persistence and degradability

Biodegradation: No information available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: No bioaccumulation is to be expected (log Pow<=4)
Bioconcentration factor (BCF): No information available

12.4 Mobility in soil

Known distribution to environmental compartments: No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Other adverse effects

Environmental assessment: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. Disposal considerations**13.1 Waste treatment methods**

RCRA Waste Code: Not regulated under RCRA 40CFR261
 Product disposal: Observe all applicable federal, state, and local regulations.
 Packaging: Remove all residue when emptying.

14. Transportation information

DOT Hazard Classification:
 14.1 UN Number: UN 2920
 14.2 Dangerous Good Description: UN 2920 Corrosive liquids, Flammable, n.o.s. (Quaternary ammonium compounds, Ethanol), 8, 3, II
 14.3 Transport hazard class(es): 8, 3
 14.4 Packing group: II
 14.5 Environmental hazards: Marine pollutant
 14.6 Special precautions for user: For personal protection see section 8

15. Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Notification status:

Country	Regulatory list	Notification
USA	TSCA	Listed or in compliance with the requirements the inventory
Canada	DSL	Listed or in compliance with the requirements the inventory
EU	EINECS	Listed or in compliance with the requirements the inventory; 263-087-6
Australia	AICS	Listed or in compliance with the requirements the inventory
China	IECSC	Listed or in compliance with the requirements the inventory
Korea	ECL	Listed or in compliance with the requirements the inventory; KE-30024
New Zealand	NZIoC	Listed or in compliance with the requirements the inventory
Philippines	PICCS	Listed or in compliance with the requirements the inventory

OSHA Hazard Communication Standard (29 CFR 1910.1200): Hazardous

CERCLA (RQ)

Ingredient(s)	CAS#	Weight	CERCLA RQ	Section 302 TPQ
Not listed				

SARA/EPCRA Extremely Hazardous Substances (302/304)

Ingredient(s)	CAS#	Weight	RQ	TPQ
Not listed				

SARA Hazard Categories (311/312)

Fire	Reactive	Acute health hazard	Chronic health hazard
Yes	No	Yes	No

SARA Toxic Substances (313) The following components are subject to SARA Section 313 reporting requirements

Ingredient(s)	CAS#	Weight
Not listed		

CAA (311) Volatile Organic compounds

Ingredient(s)	CAS#	Weight
Ethanol	64-17-5	≥6.5-≤7.5

State regulations

California

Prop 65 Components:

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Carcinogens & Reproductive Toxicity (CRT):

Not listed

CARB Identified Toxic Air Contaminants:

Not listed

SB-258 Cleaning Products Right to Know:

Not listed

15.2 Other regulations**WHMIS Classification**

Classified in accordance with Health Canada Hazardous Products Regulations (SOR/2015-17)

Classification: Class D2B: Material causing other toxic effects

Harmonized Tariff Schedule Codes

US Census Bureau Schedule B (2014): 3402.12.0000

Departmental Consolidation of the *Customs Tariff* (2014) (Canada): 3402.12.0000**Chemical Weapons Convention List Schedules I, II & III Chemicals**

Not listed

Montreal Protocol (Annexes A, B, C, E)
 Not listed
Stockholm Convention on Persistent Organic Pollutants
 Not listed
Rotterdam Convention on Prior Informed Consent (PIC)
 Not listed
UNECE Aarhus Protocol on POPs and Heavy Metals
 Not listed

16. Other information

NFPA-Classification		HMIS-Classification	
Health	2 moderate	Health	2 moderate
Flammability	3 high	Flammability	3 high
Instability or Reactivity	0 insignificant	Reactivity	0 insignificant
		HMIS PPE	B
		B=Safety glasses, Gloves	

Key or legend to abbreviations and acronyms used in the safety data sheet	
ACGIH: American Conference of Governmental Industrial Hygienists	NIOSH: National Institute for Occupational Safety and Health
HMIS: Hazardous Materials Identification System	NTP: National Toxicology Program
IARC: International Agency for Research on Cancer	OSHA: Occupational Safety and Health Administration
NFPA: National Fire Protection Association	

Nothing contained herein grants or extends a license, express or implied, in connection with patents, issued or pending, of the manufacturer or others and is correct to the best of our knowledge, information, and belief at the date of publication. The information contained herein is based on the manufacturer's own study and the works of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be held liable (regardless of fault) to the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information. The buyer assumes all risks of the use and/or handling as such information is only given as guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification.