



your partner in food safety

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Version 1

Safety Data Sheet

1. IDENTIFICATION

Product identifier

Product Name Quadra-Quat

Other means of identification

SDS # BIR-043

Product Code I00177
UN/ID No UN1903

Recommended use of the chemical and restrictions on use

Recommended Use Four-way quaternary ammonium (Quat) sanitizer/disinfectant.

Details of the supplier of the safety data sheet

Supplier Address

Birko Corporation
9152 Yosemite Street
Henderson, CO 80640-8027
www.birkocorp.com

Emergency telephone number

Company Phone Number Phone: 303-289-1090 or 1-800-525-0476
Fax: 303-289-1190
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Appearance Colorless to Amber, Gray, or
Pale Pink

Physical state Liquid

Odor Alcohol

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

Signal Word

Danger

Hazard statements

Causes skin irritation
Causes serious eye damage



Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Alkyl dimethyl benzyl ammonium chloride (C12-16)	68424-85-1	1-5
Decyldimethyloctylammonium Chloride	32426-11-2	1-5
N,N-Dioctyl-N, N-dimethylammonium Chloride	5538-94-3	1-5
Ethyl Alcohol	64-17-5	1-5
Didecyldimethylammonium chloride	7173-51-5	1-5

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**Description of first aid measures**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin Contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Inhalation	Remove to fresh air.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms	Causes skin irritation. Causes serious eye damage.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray (fog). Carbon dioxide (CO2). Dry chemical. Foam blanket.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wear protective gloves/protective clothing and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Acids. Oxidizers. Strong alkalis. Anionic surfactants. Metal salts.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl Alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear eye/face protection. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Clear	Odor	Alcohol
Color	Colorless to Amber, Gray, or Pale Pink	Odor Threshold	Not determined
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	6.9		
Melting point / freezing point	-6.6°C - 0°C / 20°F - 32°F		
Boiling point / boiling range	100°C - 104.4°C / 212°F - 220°F		
Flash point	>93.3°C / >200°F		
Evaporation Rate	<1		
Flammability (Solid, Gas)	Liquid - not applicable		
Flammability Limit in Air			
Upper flammability or explosive limits	Not determined		
Lower flammability or explosive limits	Not determined		
Vapor Pressure	Not determined		
Vapor Density	>1		
Relative Density	0.99		
Water Solubility	100%		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Autoignition temperature	Not determined		
Decomposition temperature	Not determined		
Kinematic viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible materials

Acids. Oxidizers. Strong alkalis. Anionic surfactants. Metal salts.

Hazardous decomposition products

Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Causes serious eye damage.
Skin Contact	Causes skin irritation.
Inhalation	Do not inhale.
Ingestion	Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Alkyl dimethyl benzyl ammonium chloride (C12-16) 68424-85-1	= 426 mg/kg (Rat)	-	-
Didecyltrimethylammonium chloride 7173-51-5	= 84 mg/kg (Rat)	-	-
Ethyl Alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Please see section 4 of this SDS for symptoms.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	Ethanol has been shown to be carcinogenic in long-term studies only when consumed as an alcoholic beverage.
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Chemical name	ACGIH	IARC	NTP	OSHA
Ethyl Alcohol 64-17-5	A3	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Oral LD50	6,163.58 mg/kg
ATEmix (inhalation-dust/mist)	11,084.40 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethyl Alcohol 64-17-5		100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static	10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static 9268 - 14221: 48 h Daphnia magna mg/L LC50

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Chemical name	Partition coefficient
Ethyl Alcohol 64-17-5	-0.32

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Ethyl Alcohol 64-17-5	Toxic Ignitable

14. TRANSPORT INFORMATION**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1903
Proper Shipping Name	Disinfectant, liquid, corrosive, n.o.s. (Quaternary Ammonium Compounds)
Hazard class	8
Packing Group	II

IATA

UN number	UN1903
Proper Shipping Name	Disinfectant, liquid, corrosive, n.o.s. (Quaternary Ammonium Compounds)
Transport hazard class(es)	8
Packing Group	II

IMDG

UN number	UN1903
Proper Shipping Name	Disinfectant, liquid, corrosive, n.o.s. (Quaternary Ammonium Compounds)
Transport hazard class(es)	8
Packing Group	II

15. REGULATORY INFORMATION**International Inventories**

Chemical name	TSCA	DSL/NDSL	EINECS/E LINC	ENCS	IECSC	KECL	PICCS	AICS
Alkyl dimethyl benzyl ammonium chloride (C12-16)	X	X	X	X	X	X	X	X
Decyldimethyloctylammonium Chloride	X	X	X		X	X	X	
N,N-Dioctyl-N, N-dimethylammonium Chloride	X	X	X		X	X	X	X
Ethyl Alcohol	X	X	X	X	X	X	X	X
Didecyldimethylammonium chloride	X	X	X	X	X	X	X	X

Legend:*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINC - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS - Japan Existing and New Chemical Substances**IECSC - China Inventory of Existing Chemical Substances**KECL - Korean Existing and Evaluated Chemical Substances**PICCS - Philippines Inventory of Chemicals and Chemical Substances**AICS - Australian Inventory of Chemical Substances***US Federal Regulations****CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Ethyl Alcohol - 64-17-5	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Ethyl Alcohol 64-17-5	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	1	1	0	-
<u>HMIS</u>	Health Hazards	Flammability	Physical hazards	Personal Protection
	1	1	1	C

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet