



Material Safety Data Sheet

MSDS# 15-0323

Section 1. Chemical Product and Company Identification

Product name	ARQUAD® C-50	
Material Uses	: Surfactant.	In Case of Emergency
Supplier/ Manufacturer	AKZO NOBEL SURFACE CHEMISTRY LLC 525 West Van Buren Chicago, IL 60607-3823 www.surfactants.akzonobel.com AKZO NOBEL CHEMICALS LTD. 1 City Centre Drive, Suite 318 Mississauga, Ontario L5B 1M2 Canada	CHEMTREC: 800-424-9300 CANUTEC: 613-996-6666 Medical/Handling: 914-693-6946 Product/Technical: 800-906-9977

Section 2. Hazards Identification

Physical State	Liquid.
Color	Colorless to light yellow.
Odor	Alcohol like.
Emergency Overview	<p>DANGER! CAUSES EYE AND SKIN BURNS. VERY TOXIC TO AQUATIC ORGANISMS. MAY CAUSE SEVERE ALLERGIC SKIN REACTION. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA. FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: GASTROINTESTINAL TRACT.</p> <p>Keep away from heat, sparks and flame. Do not get in eyes, on skin or on clothing. Avoid prolonged contact with eyes, skin, and clothing. Do not ingest. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.</p>
Possible Carcinogenic Effects	<p>Quaternary ammonium compounds, coco alkyl trimethyl, chlorides: IARC, NTP, OSHA, ACGIH: Not listed. Isopropanol: IARC 3; ACGIH NTP OSHA Not listed. water: IARC, NTP, OSHA, ACGIH: Not listed. amines, coco alkyldimethyl: IARC, NTP, OSHA, ACGIH: Not listed. Cocoalkyl dimethylamine hydrochlorides: IARC, NTP, OSHA, ACGIH: Not listed.</p>
Routes of Entry	Absorbed through skin. Dermal contact. Eye contact.

See Toxicological Information (section 11)

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Section 3. Composition/ Information on Ingredients

Name	CAS #	% by Weight
Quaternary ammonium compounds, coco alkyl trimethyl, chlorides	61789-18-2	45-55
Isopropanol	67-63-0	30-35
water	7732-18-5	10-20
amines, coco alkyldimethyl	61788-93-0	0.001-2
Cocoalkyl dimethylamine hydrochlorides	Not Assigned	0.001-2

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Medical Conditions Aggravated by Overexposure	Repeated or prolonged exposure is not known to aggravate medical condition.

Section 5. Fire Fighting Measures

Flammability of the Product	Flammable.
Auto-ignition Temperature	The lowest known value is 399°C (750.2°F) (Isopropanol).
Flash Points	Closed cup: 19°C (66.2°F). (Pensky-Martens.)
Flammable Limits	The greatest known range is LOWER: 2% UPPER: 12.7% (Isopropanol)
Products of Combustion	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...), halogenated compounds, hydrogen chloride.
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames, sparks and static discharge.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Take precautionary measures against static discharges. No sparking tools should be used.

Section 6. Accidental Release Measures

Small Spill and Leak	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill and Leak	Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

Section 7. Handling and Storage

Handling	Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8. Exposure Controls/ Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
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Personal Protection

Eyes	Splash goggles.
Body	Lab coat.
Respiratory	Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves.
Feet	Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Ingredient Name

Quaternary ammonium compounds, coco alkyl trimethyl, chlorides
Isopropanol

Exposure Limits United States

Not available.

ACGIH TLV (United States, 2005). Notes: ACGIH 2003 Adoption Refers to Appendix A -- Carcinogens.

STEL: 400 ppm 15 minute(s). Form: All forms

TWA: 200 ppm 8 hour(s). Form: All forms

NIOSH REL (United States, 2001).

STEL: 1225 mg/m³ 15 minute(s). Form: All forms

STEL: 500 ppm 15 minute(s). Form: All forms

TWA: 980 mg/m³ 10 hour(s). Form: All forms

TWA: 400 ppm 10 hour(s). Form: All forms

OSHA PEL (United States, 1997).

TWA: 980 mg/m³ 8 hour(s). Form: All forms

TWA: 400 ppm 8 hour(s). Form: All forms

OSHA PEL 1989 (United States, 1989).

STEL: 1225 mg/m³ 15 minute(s). Form: All forms

	STEL: 500 ppm 15 minute(s). Form: All forms
	TWA: 980 mg/m ³ 8 hour(s). Form: All forms
	TWA: 400 ppm 8 hour(s). Form: All forms
water	Not available.
amines, coco alkyldimethyl	Not available.
Cocoalkyl dimethylamine hydrochlorides	Not available.

Section 9. Physical and Chemical Properties

Physical State	Liquid.
Color	Colorless to light yellow.
Odor	Alcohol like.
pH	6 to 9 [Basic.]
Boiling/Condensation Point	80°C (176°F)
Melting/Freezing Point	-9°C (15.8°F)
Density	0.872 g/cm ³ (25°C / 77°F)
Vapor Pressure	5.9 kPa (44 mmHg) (at 20°C)
Vapor Density	The highest known value is 2.07 (Air = 1) (Isopropanol).
Odor Threshold	The lowest known value is 37 to 600 ppm (Isopropanol)
Evaporation Rate	Weighted average: 1.28 compared to Butyl acetate.
Solubility	Easily soluble in cold water, hot water, acetone. Soluble in methanol.
Dispersion Properties	See solubility in water, methanol, acetone.
Physical Chemical Comments	Viscosity = 2.2 cSt @ 20C. (Isopropanol)

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Incompatibility with Various Substances	Reactive with OXIDIZING AGENTS.
Hazardous Decomposition Products	These products are halogenated compounds, hydrogen chloride.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Toxicity to Animals

Ingredient Name or Product name	Test	Result	Route	Species
Quaternary ammonium compounds, coco alkyl trimethyl, chlorides	LD50	684 mg/kg	Oral	Rat based on data for: (similar material)
	LD50	1600 mg/kg	Dermal	Rabbit based on data for: (similar material)
Isopropanol	LD50	5045 mg/kg	Oral	Rat
	LD50	6410 mg/kg	Oral	Rabbit
	LD50	3600 mg/kg	Oral	Mouse
	LD50	12800 mg/kg	Dermal	Rabbit
	LDLo	1537 mg/kg	Oral	Dog
	LDLo	3570 mg/kg	Oral	human
	LDLo	5272 mg/kg	Oral	man
	LC50	12000 ppm (8 hour(s))	Inhalation	Rat
	LC50	16970 ppm (4 hour(s))	Inhalation	Rat
amines, coco alkyldimethyl	LD50	1400 mg/kg	Oral	Rat based on data for: (similar material)

Special Remarks on Toxicity to Animals	Quaternary ammonium compounds, coco alkyl trimethyl, chlorides: Similar Material: Acute Oral LD50 (Bobwhite quail) = 565 mg/kg Similar Material: 8-day dietary LC50 (Bobwhite quail) >5000 ppm Similar Material: 8-day dietary LC50 (Mallard ducks) >5000 ppm
Chronic Effects on Humans	CARCINOGENIC EFFECTS: Classified None. by NIOSH [Isopropanol]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropanol]. MUTAGENIC EFFECTS: Non-mutagenic for bacteria and/or yeast. [Quaternary ammonium compounds, coco alkyl trimethyl, chlorides]. Non-mutagenic for bacteria and/or yeast. [Isopropanol]. Contains material which causes damage to the following organs: upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea. Contains material which may cause damage to the following organs: gastrointestinal tract.
Special Remarks on Chronic Effects on Humans	Quaternary ammonium compounds, coco alkyl trimethyl, chlorides: Similar Material was not teratogenic. Similar Material was not clastogenic. Similar Material was not mutagenic in the Ames test. Cytogenicity of Similar Material: EC50 (neutral uptake) = 1.0 ug/ml; EC50 (LOH leakage) = 4.2 ug/ml; EC50 (SRB protein) = 1.3 ug/ml. based on data for: (similar material)
Acute Effects Skin	Corrosive to the skin. Harmful in contact with skin. May cause sensitization by skin contact.
Acute Effects Eyes	Corrosive to the eyes.
Special Remarks on Other Toxic Effects on Humans	: Skin and Eyes and Sensitization based on data for: (similar material)

Section 12. Ecological Information

Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
Quaternary ammonium compounds, coco alkyl trimethyl, chlorides	Bluegill. based on data for: (similar material) (LC50)	96 hour(s)	1.94 mg/l
	Trout based on data for: (similar material) (LC50)	96 hour(s)	2.35 mg/l
	daphnia based on data for: (similar material) (EC50)	48 hour(s)	0.28 mg/l
Isopropanol	Pimephales promelas (EC50)	48 hour(s)	10000 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	>1400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	6550 mg/l
	Pimephales promelas (LC50)	96 hour(s)	9640 mg/l
	Pimephales promelas (LC50)	96 hour(s)	10400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	11130 mg/l

Biodegradability and Ecotoxicity Remarks	Quaternary ammonium compounds, coco alkyl trimethyl, chlorides: 75% @ 28 day(s) CBT based on data for: (similar material) amines, coco alkyldimethyl: 69% @ 28 day(s) CBT based on data for: (similar material)
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Products of Degradation	These products are carbon oxides (CO, CO ₂) and water, nitrogen oxides (NO, NO ₂ ...), halogenated compounds.
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Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
RCRA Classification	Code: D001 Ignitable Waste

Consult your local or regional authorities.

Section 14. Transport Information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	UN2924	Flammable liquids, corrosive, n.o.s. (Isopropanol, Quaternary ammonium salts)	3 8	II	 	Packaging Instruction Passenger Aircraft Quantity limitation: 1 L Packaging instructions: 305 Cargo Aircraft Quantity limitation: 5 L Packaging instructions: 307
TDG Classification	UN2924	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (Isopropanol, Quaternary ammonium salts)	3 8	II	 	-
IMDG Class	UN2924	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (Isopropanol, Quaternary ammonium salts)	3 8	II	 	-
IATA-DGR Class	UN2924	Flammable liquid, corrosive, n.o.s. (Isopropanol, Quaternary ammonium salts)	3 8	II	 	-

Section 15. Regulatory Information

HCS Classification

Flammable liquid
Target organ effects
Corrosive Material

U.S. Federal Regulations

TSCA: All intentionally present components are listed on the TSCA inventory.

DSL: All intentionally present components are listed on the DSL.

TSCA 5(a)2 final significant rules: No products were found.

CERCLA: Hazardous substances.: No products were found.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: ARQUAD® C-50

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ARQUAD® C-50: Fire Hazard, Immediate (Acute) Health Hazard

SARA 313 Form R Reporting Requirements

Isopropanol

30-35

SARA 313 Supplier Notification

Isopropanol

30-35

State Regulations

Pennsylvania RTK: Isopropanol: (environmental hazard, generic environmental hazard)

Massachusetts RTK: Isopropanol

New Jersey: Isopropanol

Continued on Next Page

California prop. 65: No products were found.

WHMIS (Canada)

Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
Class E: Corrosive liquid.

CEPA DSL: Quaternary ammonium compounds, coco alkyl trimethyl, chlorides; Isopropanol; water; amines, coco alkyldimethyl

European Union	Component	EC Number	EC Status	EC Annex
	Quaternary ammonium compounds, coco alkyl trimethyl, chlorides	263-038-9	Not available.	Not available.
	Isopropanol	200-661-7	Not available.	603-117-00-0
	water	231-791-2	Not available.	Not available.
	amines, coco alkyldimethyl	263-020-0	Not available.	Not available.
	Cocoalkyl dimethylamine hydrochlorides	Not available.	Not available.	Not available.

Other International Lists

Australia (NICNAS): Quaternary ammonium compounds, coco alkyl trimethyl, chlorides; Isopropanol; water; amines, coco alkyldimethyl

China: Isopropanol; water; amines, coco alkyldimethyl

Germany water class: Isopropanol; amines, coco alkyldimethyl

Japan (MITI): Quaternary ammonium compounds, coco alkyl trimethyl, chlorides; Isopropanol; water; amines, coco alkyldimethyl

Japan (MOL): Isopropanol

Korea (TCCL): Quaternary ammonium compounds, coco alkyl trimethyl, chlorides; Isopropanol; water; amines, coco alkyldimethyl

Philippines (RA6969): Quaternary ammonium compounds, coco alkyl trimethyl, chlorides; Isopropanol; water; amines, coco alkyldimethyl

Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	3
Fire Hazard	3
Reactivity	0
Personal Protection	

National Fire Protection Association (U.S.A.)

	3	Fire Hazard
Health	3	Reactivity
	0	Specific Hazard

Other Information Arquad® is a registered trademark of Akzo Nobel or affiliated companies and is registered in one or more countries including the United States.

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Validated by

Print Date

Phone Number

Product Safety Specialist

5/15/2007.

312-544-7038

Notice to Reader

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