Material Safety Data Sheet

AKZO NOBEL

MSDS# 15-0346

Section 1. Chemical Product and Company Identification

Product name **ARQUAD® T-50**

Material Uses : Surfactant.

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

In Case of Emergency

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 Yellow.

Odor Alcohol like.

Emergency Overview

DANGER!
CAUSES EYE AND SKIN BURNS.
VERY TOXIC TO AQUATIC ORGANISMS.
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 SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS:
GASTROINTESTINAL TRACT.
MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.

Keep away from heat, sparks and flame. Do not get in eyes, on skin or on clothing. Do not ingest. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.

Possible Carcinogenic Effects

Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides: IARC, NTP, OSHA, ACGIH: Not listed.
Isopropanol: IARC 3; ACGIH NTP OSHA Not listed.
water: IARC, NTP, OSHA, ACGIH: Not listed.
amines, dimethyltallow alkyl: IARC, NTP, OSHA, ACGIH: Not listed.
Dimethyl tallowalkyl amines hydrochlorides: IARC, NTP, OSHA, ACGIH: Not listed.

Routes of Entry Absorbed through skin. Dermal contact. Eye contact.

See Toxicological Information (section 11)

Section 3. Composition/ Information on Ingredients

Name	CAS #	% by Weight

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Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides	8030-78-2	45-55
Isopropanol	67-63-0	30-40
water	7732-18-5	5-15
amines, dimethyltallow alkyl	68814-69-7	0.001-2
Dimethyl tallowalkyl amines 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 contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

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: 16°C (60.8°F).

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. If necessary: **Use suitable protective equipment (Section 8).**

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 get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Use suitable protective equipment (Section 8).**

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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.

Personal Protection

Eyes Face shield.

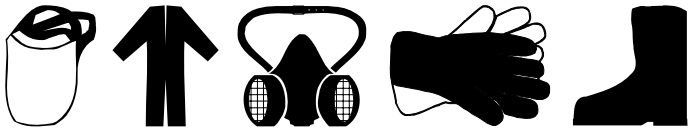
Body Full suit.

Respiratory Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Boots.

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	Exposure Limits United States
Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides	Not available.
Isopropanol	**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/m^3 15 minute(s). Form: All forms STEL: 500 ppm 15 minute(s). Form: All forms TWA: 980 mg/m^3 10 hour(s). Form: All forms TWA: 400 ppm 10 hour(s). Form: All forms **OSHA PEL (United States, 1997).** TWA: 980 mg/m^3 8 hour(s). Form: All forms TWA: 400 ppm 8 hour(s). Form: All forms **OSHA PEL 1989 (United States, 1989).** STEL: 1225 mg/m^3 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, dimethyltallow alkyl	Not available.
Dimethyl tallowalkyl amines hydrochlorides	Not available.

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Section 9. Physical and Chemical Properties

Physical State	Liquid.
Color	Yellow.
Odor	Alcohol like.
pH	Basic.
Boiling/Condensation Point	80°C (176°F)
Melting/Freezing Point	0°C (32°F)
Density	0.84 g/cm^3 (65°C / 149°F)
Vapor Pressure	3.3 kPa (25 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)
Solubility	Easily soluble in hot water, acetone. Soluble in cold water, methanol.
Dispersion Properties	See solubility in water, methanol, acetone.
Physical Chemical Comments	Viscosity= 40(cp) @ 20C; 45(cp) @ 30C; 80(cp) @ 40C.

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, trimethyl tallow alkyl, chlorides	LD50	1260 mg/kg	Oral	Rat based on data for: (similar material)
	LD50	>2000 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, dimethyltallow alkyl	LD50	1230 mg/kg	Oral	Rat based on data for: (similar material)
	LD50	8000 mg/kg	Dermal	Rabbit based on data for: (similar material)

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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, trimethyl tallow alkyl, 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, trimethyl tallow alkyl, chlorides: Mutagenic Effects based on data for: (similar material)

Acute Effects Skin

Corrosive to the skin. Practically non-toxic in contact with skin.

Acute Effects Eyes

Corrosive to the eyes.

Section 12. Ecological Information

Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides	Trout based on data for: (similar material) (LC50)	96 hour(s)	0.3 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
amines, dimethyltallow alkyl	daphnia based on data for: (similar material) (EC50)	48 hour(s)	0.35 mg/l
	Bluegill. based on data for: (similar material) (LC50)	96 hour(s)	2.1 mg/l
	Shrimp. based on data for: (similar material) (LC50)	96 hour(s)	0.074 mg/l

Biodegradability and Ecotoxicity Remarks

Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides: 48% @ 28 day(s) CBT based on data for: (similar material); 51% @ 57 day(s) CBT based on data for: (similar material)

Products of Degradation

These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2...), halogenated compounds.

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		-

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

SARA 313 Form R Reporting Requirements
Isopropanol 30-40

SARA 313 Supplier Notification
Isopropanol 30-40

State Regulations

Pennsylvania RTK: Isopropanol: (environmental hazard, generic environmental hazard)
Massachusetts RTK: Isopropanol
New Jersey: Isopropanol

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, trimethyl tallow alkyl, chlorides; Isopropanol; water; amines, dimethyltallow alkyl

European Union

Component	EC Number	EC Status	EC Annex
Quaternary ammonium compounds, trimethyl tallow alkyl, chlorides	232-447-4	Not available.	Not available.
Isopropanol	200-661-7	Not available.	603-117-00-0
water	231-791-2	Not available.	Not available.
amines, dimethyltallow alkyl	272-339-4	Not available.	Not available.
Dimethyl tallowalkyl amines hydrochlorides	Not available.	Not available.	Not available.

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Other International Lists

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

China: Isopropanol; water; amines, dimethyltallow alkyl

Germany water class: Isopropanol

Japan (MITI): Isopropanol; water

Japan (MOL): Isopropanol

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

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

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.)

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.

Validation Date	**5/14/2007.**	**Validated by**	**Product Safety Specialist**
Previous Validation Date	5/23/2005.	**Print Date**	5/15/2007.
		Phone Number	**312-544-7038**

Notice to Reader

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