

SAFETY DATA SHEET

ARQUAD 12-50

Version 1

Revision Date 06/09/2014

Print Date 07/25/2015

US / Z8

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ARQUAD 12-50

Product Use Description : Surfactant

Company : Akzo Nobel Surface Chemistry LLC
525 West Van Buren
Chicago IL 60607
USA

Telephone : +18009069977

Fax : +13125447188

E-mail address :

Emergency telephone : Chemtrec: 800-424-9300 Canutec: 613-996-6666 Medical/Handling:
914-693-6946

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Color	colorless, light yellow
Odor	alcohol-like

GHS Classification

Flammable liquids : Category 2

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)

Acute aquatic toxicity : Category 1

GHS Label element

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H336 May cause drowsiness or dizziness.

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

H400 Very toxic to aquatic life.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces. -
No smoking.
P280 Wear protective gloves/ protective clothing/ eye
protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off
immediately all contaminated clothing. Rinse skin with water/
shower.
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 or doctor/
physician.
P370 + P378 In case of fire: Use dry sand, dry chemical or
alcohol-resistant foam for extinction.

Potential Health Effects

Inhalation : Inhalation of aerosols may cause irritation to mucous
membranes.
Thermal decomposition can lead to release of irritating gases
and vapors.
Contains organic solvents.
Inhalation may cause central nervous system effects.

Skin : Symptoms may be delayed.
Causes severe skin burns.

Eyes : Causes serious eye damage.

Ingestion : Harmful if swallowed.
Causes burns.

Aggravated Medical Condition : None known.

Symptoms of Overexposure : No information available.

Carcinogenicity:

IARC : No ingredient of this product present at levels greater than or
equal to 0.1% is identified as probable, possible or confirmed
human carcinogen by IARC.

OSHA : No ingredient of this product present at levels greater than or
equal to 0.1% is identified as a carcinogen or potential
carcinogen by OSHA.

NTP : No component of this product present at levels greater than or
equal to 0.1% is identified as a known or anticipated
carcinogen by NTP.

ACGIH : No ingredient of this product present at levels greater than or
equal to 0.1% is identified as a carcinogen or potential
carcinogen by ACGIH.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous ingredients**

Chemical Name	CAS-No.	Classification	Concentration [%]
Dodecyltrimethylammonium chloride	112-00-5	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 M-Factor (Acute): 1	30 - 50
2-Propanol	67-63-0	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	30 - 50

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

- General advice : Immediate medical attention is required.
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air.
Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- Eye contact : Rinse with plenty of water.
Get medical attention immediately. Continue to rinse during transport of patient.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

Notes to physician

Symptoms : No information available.

Risks : No information available.

Treatment : No information available.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Specific hazards during fire fighting / Specific hazards arising from the chemical : Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
- Combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Halogenated compounds
Hydrogen chloride
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.
- Further information : Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up / Methods for containment : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- Additional advice : For personal protection see section 8.

7. HANDLING AND STORAGE

Handling

- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

Container may be opened only under exhaust ventilation hood.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid formation of aerosol.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.
Take measures to prevent the build up of electrostatic charge.

Storage

Requirements for storage areas and containers : No smoking.
Store in cool place.
Keep in a well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Other data : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
2-Propanol	67-63-0	TWA	200 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen			
		STEL	400 ppm	2013-03-01	ACGIH	
	Further information	:	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section) A4: Not classifiable as a human carcinogen			
		TWA	400 ppm 980 mg/m3	2005-09-01	NIOSH REL	
		ST	500 ppm 1,225 mg/m3	2005-09-01	NIOSH REL	
		TWA	400 ppm 980 mg/m3	1997-08-04	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate.			
		TWA	400 ppm 980 mg/m3	1989-01-19	OSHA P0	
		STEL	500 ppm 1,225 mg/m3	1989-01-19	OSHA P0	

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

STEL: Short term exposure limit

TWA: Time Weighted Average

Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Hydrogen chloride	7647-01-0, 7647-01-0	C	2 ppm	2007-01-01	ACGIH	
	Further information	:	Upper Respiratory Tract irritation A4: Not classifiable as a human carcinogen			
		C	5 ppm 7 mg/m3	2005-09-01	NIOSH REL	
	Further information	:	Often used in an aqueous solution.			
		C	5 ppm 7 mg/m3	2006-02-28	OSHA Z-1	
	Further information	:	(b): The value in mg/m3 is approximate. (C): Ceiling limit is to be determined from breathing-zone air samples.			
		C	5 ppm 7 mg/m3	1989-01-19	OSHA P0	

Engineering measures

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection : Glove material: Neoprene
: Glove material: Nitrile rubber

Skin and body protection : Protective suit

Respiratory protection : In the case of vapor formation use a respirator with an approved filter.
Wear full face mask supplied with:
Combination filter: ABEKP.

In the case of vapor or aerosol formation use a respirator with an approved filter.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

Form	: liquid
Color	: colorless light yellow
Odor	: alcohol-like
Odor Threshold	: No data available

Safety data

pH	: > 7
Melting point/freezing point	: -10 °C
Boiling point/boiling range	: 80 °C
Flash point	: 19 °C Method: closed cup
Evaporation rate	: 1.6
Flammability (solid, gas)	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapor pressure	: 59 hPa at 20 °C
Relative vapor density	: 2 (Air = 1.0)
Density	: 892 kg/m3 at 25 °C
Relative density	: 0.89 at 25 °C
Water solubility	: soluble
Solubility in other solvents	: Acetone Methanol soluble
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: 398 °C
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: 178 mm2/s at 38 °C
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

Conditions to avoid	: Heat, flames and sparks.
Materials to avoid	: Incompatible with oxidizing agents. None known.
Hazardous decomposition products	: Halogenated compounds Hydrogen chloride
Thermal decomposition	: No data available
Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under recommended storage conditions.
Hazardous reactions	: No dangerous reaction known under conditions of normal use.

11. TOXICOLOGICAL INFORMATION**PRODUCT INFORMATION:****Toxicology Assessment**

Further information	: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin. May cause drowsiness or dizziness.
---------------------	---

Test result

Acute oral toxicity	: Acute toxicity estimate: 1,042 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate : > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method

Carcinogenicity:

IARC	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

TOXICOLOGY DATA FOR THE INGREDIENTS:**Toxicology Assessment****Component: 2-Propanol**

CMR effects : Mutagenicity: Not mutagenic in Ames Test.

Test result**Component: Dodecyltrimethylammonium chloride**

Acute oral toxicity : LD50: > 300 - 2,000 mg/kg
Species: rat
Read-across (Analogy)

Skin irritation : Result: Causes burns.

Eye irritation : Result: Risk of serious damage to eyes.

Component: 2-Propanol

Acute oral toxicity : LD50: 5,840 mg/kg
Species: rat
Method: OECD Test Guideline 401
Literature data.

Acute inhalation toxicity : LC50 (rat): 72.6 mg/l
Exposure time: 4 h

LC50 (mouse): 27.2 mg/l
Exposure time: 4 h

Skin irritation : Species: rabbit
Result: No skin irritation
Exposure time: 4 h
Literature data.

Eye irritation : Species: rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405
Literature data.

Sensitization : Buehler Test
Species: guinea pig
Result: Does not cause skin sensitization.
Method: OECD Test Guideline 406
Literature data.

Germ cell mutagenicity
Genotoxicity in vitro : Ames test
Bacteria
Result: negative
Method: OECD Test Guideline 471
Literature data.

Genotoxicity in vivo : Species: mouse

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

Method: Mutagenicity (micronucleus test)
Result: negative
Literature data.

Target Organ Systemic : Routes of exposure: Inhalation, Ingestion
Toxicant - Single exposure : May cause drowsiness or dizziness.

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.

Further information on ecology

Hazardous to the ozone layer

Regulation : 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

INGREDIENTS:

Test result

Component: Dodecyltrimethylammonium chloride

Ecotoxicity effects

Toxicity to fish : LC50: > 1 - 10 mg/l
Exposure time: 96 h
Species: Fish
Read-across (Analogy)

Toxicity to daphnia and other aquatic invertebrates : EC50: > 0.1 - 1 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Read-across (Analogy)

Toxicity to algae : IC50: > 0.01 - 0.1 mg/l
Exposure time: 72 h
Species: algae
Read-across (Analogy)

M-Factor : 1

Elimination information (persistence and degradability)

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

Bioaccumulation : No data available

Mobility : No data available

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D

Further information on ecology

Biochemical Oxygen Demand (BOD) : No data available

Component: 2-Propanol

Ecotoxicity effects

Toxicity to fish : LC50: 1,400 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill sunfish)

Toxicity to daphnia and other aquatic invertebrates : EC50: 2,285 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Elimination information (persistence and degradability)

Bioaccumulation : Not expected considering the low log Pow value.

Mobility : No data available

Biodegradability : Result: Readily biodegradable.

Further information on ecology

Biochemical Oxygen Demand (BOD) : 1,171 mg/g

Chemical Oxygen Demand (COD) : 2,294 mg/g

13. DISPOSAL CONSIDERATIONS

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION**International regulation****IATA-DGR**

UN/ID No. : UN 2924
Proper shipping name : Flammable liquid, corrosive, n.o.s.
(Isopropyl alcohol, Quaternary alkyl ammonium chloride)
Class : 3
Subsidiary risk : 8
Packing group : II
Labels : 3 (8)
Packing instruction (cargo aircraft) : 363
Packing instruction (passenger aircraft) : 352
Packing instruction (LQ) : Y340
Environmentally hazardous : yes

IMDG-Code

UN number : UN 2924
Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(Isopropyl alcohol, Quaternary alkyl ammonium chloride)
Class : 3
Subsidiary risk : 8
Packing group : II
Labels : 3 (8)
EmS Code : F-E, S-C
Marine pollutant : yes
(Quaternary alkyl ammonium chloride)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number : UN 2924
Proper shipping name : Flammable liquids, corrosive, n.o.s.
(Isopropyl alcohol, Quaternary alkyl ammonium chloride)
Class : 3
Subsidiary risk : 8
Packing group : II
Labels : 3 (8)
ERG Code : 132
Marine pollutant : yes
(Quaternary alkyl ammonium chloride)
Reportable Quantity : This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

15. REGULATORY INFORMATION**Notification status**

CH INV : YES. The mixture contains substances listed on the Swiss Inventory
TSCA : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL : YES. All components of this product are on the Canadian DSL.
AICS : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory
ENCs : YES. On the inventory, or in compliance with the inventory

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

ISHL : YES. On the inventory, or in compliance with the inventory
KECI : YES. On the inventory, or in compliance with the inventory
PICCS : YES. On the inventory, or in compliance with the inventory
IECSC : YES. On the inventory, or in compliance with the inventory

For explanation of abbreviations, see section 16.

OSHA Hazards : Flammable Liquid, Toxic by ingestion, Corrosive to skin,
Corrosive to eyes, Corrosive to respiratory system

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the
reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels
established by SARA Title III, Section 313:
2-Propanol 67-63-0

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):

2-Propanol 67-63-0

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

.

California Prop. 65

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

16. OTHER INFORMATION

Full text of H-Statements

H225 : Highly flammable liquid and vapor.
H302 : Harmful if swallowed.
H314 : Causes severe skin burns and eye damage.
H318 : Causes serious eye damage.

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

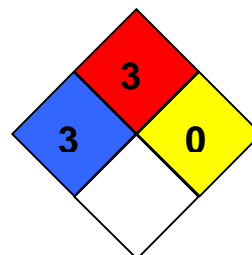
US / Z8

H319 : Causes serious eye irritation.
H336 : May cause drowsiness or dizziness.
H400 : Very toxic to aquatic life.

Further information

HMIS Classification : Health Hazard: 3
Flammability: 3
Reactivity: 0

NFPA Classification : Health Hazard: 3
Fire Hazard: 3
Reactivity Hazard: 0



Notification status explanation

REACH	1907/2006 (EU)
CH INV	Switzerland. New notified substances and declared preparations
TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances (METI)
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

Further information

Revision Date 06/09/2014

AkzoNobel, Tomorrow's Answers Today are trademarks of the AkzoNobel N.V. For more information on our brands and products please visit: www.akzonobel.com/brands_products

The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the context of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

The information provided in this Material 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

ARQUAD 12-50

Version: 1.1

Revision Date: 06/09/2014

Print Date: 07/25/2015

US / Z8

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.