

## MATERIAL SAFETY DATA SHEET

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Version 1.4

## Section 1 - Product and Company Information

Product Name CETYLTRIMETHYLAMMONIUM CHLORIDE,  
25 WT. % SOLUTION IN WATER  
Product Number 292737  
Brand ALDRICH  
Company Sigma-Aldrich  
Street Address 3050 Spruce Street  
City, State, Zip, Country SAINT LOUIS MO 63103 US  
Technical Phone: 314 771 5765  
Emergency Phone: 414 273 3850 Ext. 5996  
Fax: 800 325 5052

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
CETYLTRIMETHYLAMMONIUM CHLORIDE, SOLUTION IN WATER	112-02-7	No

Ingredient Name	CAS #	Percent	SARA 313
WATER	7732-18-5	75	No
CETYLTRIMETHYLAMMONIUM CHLORIDE	112-02-7	25	

Formula C19H42ClN  
Synonyms Adogen 444 \* Arquad 16 \* Arquad 16-29 \* Arquad  
16-50 \* Arquad 16-25W \* Barquat CT 29 \* CETAC \*  
CTMA \* Dehyquart A \* Dodigen 1383 \* HTAC \*  
Cetyltrimethylammonium chloride \*  
Hexadecyltrimethylammonium chloride (6CI) \*  
Intexan CTC 29 \* Intexsan CTC 29 \* Intexsan CTC  
50 \* Lebon TM 16 \* Morpan CHA \* Nissan Cation PB  
40 \* Palmityltrimethylammonium chloride \* PB 40 \*  
Pionin B 611 \* Surfroyal CTAC \* Swanol CA 2350 \*  
N,N,N-Trimethyl-1-hexadecanaminium chloride \*  
Trimethylhexadecylammonium chloride \* Variquart E  
228  
RTECS Number: ML9145000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Irritant. Dangerous for the environment.  
Irritating to skin. Risk of serious damage to eyes. May cause  
sensitization by skin contact. Very toxic to aquatic organisms.

## HMIS RATING

HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 0

## NFPA RATING

HEALTH: 3

FLAMMABILITY: 0  
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

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#### Section 4 - First Aid Measures

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##### ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

##### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

##### DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

##### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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#### Section 5 - Fire Fighting Measures

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##### FLASH POINT

N/A

##### AUTOIGNITION TEMP

N/A

##### FLAMMABILITY

N/A

##### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

##### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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#### Section 6 - Accidental Release Measures

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##### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

##### METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

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#### Section 7 - Handling and Storage

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##### HANDLING

User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

##### STORAGE

Suitable: Keep tightly closed.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Mechanical exhaust required. Safety shower and eye bath.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Faintly turbid viscous liquid Color: Colorless	
Property	Value	At Temperature or Pressure
Molecular Weight	320.01 AMU	
pH	6.0 - 7.0	20 °C Concentration: 20 g/l
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.9650 - 0.9750 g/cm <sup>3</sup>	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	< 0.1 Pas	20 °C
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.372	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen chloride gas, Nitrogen

oxides Carbon monoxide, Carbon dioxide.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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#### Section 11 - Toxicological Information

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##### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes severe eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

##### SENSITIZATION

Skin: May cause allergic skin reaction.

##### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

##### TOXICITY DATA

Oral

Rat

2,284 mg/kg

LD50

Skin

Rabbit

4300 UL/KG

LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Behavioral:Change in motor activity (specific assay). Behavioral:Food intake (animal).

##### CHRONIC EXPOSURE - MUTAGEN

Species: Hamster

Dose: 3600 UG/L

Cell Type: lung

Mutation test: Other mutation test systems

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#### Section 12 - Ecological Information

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##### PHYSICAL PROPERTIES AFFECTING ECOTOXICITY

COD: 17 %

BOD: 65 %

##### ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish

Species: Brachydanio rerio

Time: 96 h

Value: 0.7 mg/l

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#### Section 13 - Disposal Considerations

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##### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an

afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

### IATA

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.  
IATA UN Number: 3082  
Hazard Class: 9  
Packing Group: III

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi-N  
Indication of Danger: Irritant. Dangerous for the environment.  
R: 38-41-43-50  
Risk Statements: Irritating to skin. Risk of serious damage to eyes. May cause sensitization by skin contact. Very toxic to aquatic organisms.  
S: 26-39-60-61  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Irritant. Dangerous for the environment.  
Risk Statements: Irritating to skin. Risk of serious damage to eyes. May cause sensitization by skin contact. Very toxic to aquatic organisms.  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

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## Section 16 - Other Information

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### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our

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