

## Safety Data Sheet

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### 1. Product and company identification

Product name : AQUALYTE CX  
Part No. : D311174-1  
Name of manufacturer : HIRANUMA Co., Ltd.  
Address : 1739 Motoyoshida, Mito, Ibaraki, 310-0836, JAPAN  
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### 2. Summary of danger and Hazard

#### GHS classification

##### Physical and chemical hazard

Flammable liquids : Category 2  
Pyrophoric liquids : Out of category

##### Human health hazard

Acute toxicity (oral)  
: Category 4  
Acute toxicity (dermal)  
: Out of category  
Acute toxicity (inhalation: vapors)  
: Out of category  
Serious eye damage/eye irritation  
: Category 2A  
Reproductive toxicity  
: Category 1B  
Specific target organ systemic toxicity (single exposure)  
: Category 1, Category 3 (anesthetic action)  
Specific target organ systemic toxicity (repeated exposure)  
: Category 1

##### Environmental hazard

Hazardous to the aquatic environment-acute hazard  
: Out of category

Hazardous to the aquatic environment—chronic hazard

: Out of category

Pictogram or symbol



Signal word : Danger

Hazard statement : Highly flammable liquid and vapor  
 Harmful if swallowed  
 Causes serious eye irritation  
 May damage fertility or the unborn child  
 Causes damage to organs (central nervous system, visual organs, systemic toxicity)  
 May cause drowsiness and dizziness  
 Causes damage to organs (central nervous system, visual organs) through prolonged or repeated exposure

Cautions

Safety measurements

: Do not handle until all safety precautions have been read and understood.  
 Keep away from ignition sources such as heat, sparks, or open flame.  
 Keep containers tightly closed.  
 Ground container and receiving equipment in case of transport and stirring.  
 Use explosion-proof apparatus.  
 Use only non-sparking tools.  
 Do not breathe dust, mist, and vapor.  
 Use only in a well-ventilated area.  
 Do not eat, drink or smoke when using this product.  
 Wear appropriate protective gloves, glasses, clothing, face shield, or mask.  
 Wash hands thoroughly after handling.

First-aid measures : If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical treatment if you feel unwell.  
 If swallowed: Rinse mouth, Get medical treatment if you feel unwell.

	If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.
	If on skin : Remove contaminated clothing and the substance. Get medical treatment, if you feel unwell. Wash hands thoroughly after handling.
	If exposed, get medical treatment. Get medical treatment, if you feel unwell.
Storage	: Tightly container closed and store in a well-ventilated area. Store locked up.
Disposal	: Dispose of contents and containers appropriately in accordance with related regulations.

### 3. Composition/Information on ingredients

#### Substance/Mixture

: Mixture

#### Chemical name or commercial name

: Mixture of methanol and tetraethylammonium bromide

#### Ingredients and composition

: Methanol 87%

Tetraethylammonium bromide 13%

#### Chemical formula

: Methanol CH<sub>3</sub>OH

Tetraethylammonium bromide (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NBr

#### CAS No.

: Methanol 67-56-1

Tetraethylammonium bromide 71-91-0

#### Dangerous and hazardous ingredients

: Methanol

### 4. First aid measures

#### Inhalation

: Remove the victim to fresh air, and make him blow his nose and gargle.

#### Skin contact

: Wash the affected areas under running water.

#### Eye contact

: Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

#### Ingestion

: Give the victim water or salt water and make him vomit. Get medical attention.

#### Protection for first aid person

: Rescuers should wear proper protective equipment like rubber gloves, goggles.

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5. Fire fighting measures

Extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand, alcohol resistant foam

Prohibited extinguishing media

: Foam extinguisher

Particular fire fighting

: Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.

Protection for firefighters

: Wear breathing apparatus.

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6. Accidental release measures

Cautions for personnel

: Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Cautions for environment

: Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Removal measure : Absorb spill with inert material (e.g., diatomaceous earth, sand) and flush residual area with copious amounts of water.

Prevention of second accident

: Remove nearby sources of ignition and prepare extinguishing media.

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7. Cautions of handling and storage

Handling

Engineering measures

: Wear proper protective equipment to avoid contact with skin or

inhalation of vapor. Fire is strictly prohibited.

Ventilate well at working places.

Cautions for safety handling

: Use with an enclosed system or a local exhaust ventilation.  
Use in well-ventilated areas.

Cautions

: Do not allow contact with oxidizing substances.

Storage

Adequate storage condition

: Store in a dark, cool place and tightly closed.

Safety adequate container materials

: Glass, fluorine resin

Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

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8. Exposure control/Personal protection

Engineering measures

: Use with an enclosed system or a local exhaust ventilation.

Control parameters

ACGIH(2015) : 200ppm (as methanol)(TLV-TWA)

250ppm (as methanol)(TLV-STEL)

Transdermal absorption

Protective equipment

Respiration protective equipment

: If necessary, wear chemical cartridge respirator with an  
organic vapor cartage

Hands protective equipment

: Impervious protective gloves

Eyes protective equipment

: Safety goggles

Skin and body protective equipment

: Protective clothing, protective boots

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9. Physical and chemical properties

Appearance : Liquid

Color : Colorless

Odor : Aromatic odor

Boiling point : 65 °C (as methanol)

Melting point : -97 °C (as methanol)

Flash point : 12 °C (as methanol)

Auto-ignition point : Not available

Explosion characteristics

Explosion limit : upper : 36.5vol% lower : 6.0vol% (as methanol)

Vapor pressure : 128hPa(20°C)(as methanol)

Vapor density : Not available

Density : 0.79g/cm<sup>3</sup> (20 °C)(as methanol)

Solubility

Solubility in solvents

: Water ; Miscible

log Pow : -0.82 (as methanol)

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10. Stability and reactivity

Stability : Stable under normal conditions.

Reactivity : React with oxidizing substances.

Incompatible conditions

: Light, heat

Incompatible materials : Oxidizing substances

Hazardous decomposition products

: Carbon monoxide, nitrogen oxide, Bromine, Hydrogen bromide

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11. Toxicological information

Acute toxicity : Harmful if swallowed (category 4)

Dermal : Not possible to classify because of insufficient data.

Inhalation (vapor) : Not possible to classify because of insufficient data.

Inhalation (dust, mist) : Not possible to classify because of insufficient data.

Since rat oral LD50 value of methanol is 6200mg/kg and 9100mg/kg, it was classified into out of category, but there is description that toxicity of methanol appears highly in primates compared with rodent, and the dose leading to death in an about half in humans is 1400mg/kg, it was classified into category 4. Therefore this product was also classified into same category.

(as Methanol)

rat oral LD50=6200-9100mg/kg

mouse oral LD50=7300mg/kg

rat inhalation LC50>31500ppm/4H

rabbit skin LD50=15800mg/kg

Skin corrosiveness/irritation

: Not possible to classify because of insufficient data.

Serious eye damage/eye irritation

: Causes serious eye irritation(category 2A)

Methanol transiently causes cornea damages and strong conjunctiva dropsy in human.

Respiratory sensitization or Skin sensitization

: Respiratory sensitization : Not possible to classify because of insufficient data.

Skin sensitization : Not possible to classify because of insufficient data.

Methanol shows no sensitization in skin sensitization test using guinea pigs. However, the classification is not possible because there is no data on other ingredients.

Mutagenicity

: Not possible to classify because of insufficient data.

As for methanol, there are negative data on in vivo micronucleus examinations in mouse erythrocytes (both inhalation exposure and intraperitoneal administration).

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system

: May damage fertility or the unborn child (category 1B)

As for methanol, in inhalation exposure tests in pregnant mice during organogenetic period, fetal resorption, exencephaly etc. were observed. In another inhalation or oral exposure test, similar results including cleft palate were observed. Based on evidence from animal studies, it is considered that methanol may cause adverse effects on human reproduction if the exposure amount is sufficient.

Thus, the product was classified into category 1B.

Specific target organ systemic toxicity single exposure

: Cause damage to organs (central nervous system, visual organ, systematic toxicity)(category 1)

May cause drowsiness and dizziness(category 3)

The symptoms of acute poisoning from methanol include CNS-depression.

Formate accumulates in the blood during a latency period which leads to metabolic acidosis, visual impairment or even total blindness, headaches, dizziness, nausea, vomiting, Kussmaul

breathing and coma. In some cases death is the final outcome. Further, CNS disorders, especially parkinsonism-like extrapyramidal symptoms were reported. Morphological changes, necrosis in the white substance of the brain were demonstrated. Based on the human information, methanol was classified into category 1 (central nervous system). Additionally, the eye was regarded as a target organ since visual impairment is a characteristic effect. Additionally, systemic toxicity is regarded as a target organ based on the reports of headache, nausea, vomiting, tachypnea and coma as signs of metabolic acidosis. The effects of single exposures by inhalation include narcosis. As an acute toxicity in humans, a narcotic effect results from central nervous system depression. Based on the data, methanol was classified into category 3 (narcotic effects).

Specific target organ systemic toxicity repeated exposure

: Cause damage to organs (central nervous system, visual organs) through prolonged or repeated exposure (category 1)  
 Since central nervous system depression and visual organs disorder were observed in human prolonged exposure cases of methanol, the product was set as category 1 (central nervous system, visual organs).

Aspiration hazard : Not possible to classify because of insufficient data.

## 12. Ecological information

### Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Out of category  
 Chronic aquatic toxicity : Out of category  
 (as methanol)  
 Crustacea(brine shrimp) LC50=1340mg/L/96H

### Persistence and degradability

: Methanol has high biodegradability

## 13. Disposal consideration

Residual disposal : Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after



removing the content thoroughly.

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#### 14. Transport information

UN class : Class 3 (Flammable liquids) P. G. II

UN number : 1992

##### Marine regulation information

UN No. : 1992

Proper shipping name

: FLAMMABLE LIQUID, TOXIC, N.O.S.

Class : 3

Sub risk : 6.1

Packing group : II

Marine pollutant : Not applicable

##### Aviation regulation information

UN No. : 1992

Proper shipping name

: Flammable liquid,toxic, n.o.s.

Class : 3

Sub risk : 6.1

Packing group : II

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#### 15. Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### 16. Other information

##### References

1) Company data on file (SDS provided by manufacturer)

2) NITE: National Institute of Technology and Evaluation

\* The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet(SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet(MSDS) which is prepared based on JIS Z7250:2010.