

## Safety Data Sheet

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### 1. Product and company identification

Product name : AQUALYTE CN  
Part No. : HSG370032  
Name of manufacturer : HIRANUMA Co., Ltd.  
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### 2. Summary of danger and Hazard

#### GHS classification

##### Physical and chemical hazard

Flammable liquids : Category 2

Self-reactive substances and mixtures  
: Type G

##### Human health hazard

Acute toxicity (oral)  
: Category 4

Skin corrosion/irritation  
: Category 2

Serious eye damage/eye irritation  
: Category 2A

Reproductive toxicity  
: Category 1B

Specific target organ toxicity (single exposure)  
: Category 1、Category 3 (respiratory tract irritation)、  
Category 3 (anesthetic action)

Specific target organ toxicity (repeated exposure)  
: Category 1

##### Environmental hazard

Aquatic acute : Category 3

Aquatic chronic : Category 3

## Pictograms or symbols



Signal word : Danger

Hazard statements : Highly flammable liquid and vapor  
 Harmful if swallowed  
 Causes skin irritation  
 Causes serious eye irritation  
 May damage fertility or the unborn child  
 Causes damage to organs (central nervous system, visual organs, systemic toxicity, blood)  
 May cause respiratory irritation  
 May cause drowsiness and dizziness  
 Causes damage to organs (central nervous system, visual organs) through prolonged or repeated exposure  
 Harmful to aquatic life  
 Harmful to aquatic life with long lasting effects

## Precautionary statements

Prevention : 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.  
 Avoid release to the environment.  
 Do not eat, drink or smoke when using this product.  
 Wear appropriate protective gloves, glasses, clothing, face shield, or mask.  
 Wash protective equipment thoroughly after use.  
 Wash hands thoroughly after handling.

Response : 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 continuously 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.

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### 3. Composition/Information on ingredients

Distinction of substance or mixture

: Mixture

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Methanol	77	CH <sub>3</sub> OH	Listed	200-659-6	67-56-1
Nitroethane	20	CH <sub>3</sub> CH <sub>2</sub> NO <sub>2</sub>	Listed	201-188-9	79-24-3
Lithium chloride	3	LiCl	Listed	231-212-3	7447-41-8

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### 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 : Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

Anticipated acute and delayed symptoms  
: When the steam of the methanol is inhaled, the cough, headache, dizziness, losing breath, and the evil intention, etc. might be caused. The symptom might appear delaying.

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 waste water into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment : 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.

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

Methanol	ACGIH TWA : 200ppm ACGIH STEL : 250ppm
Nitroethane	ACGIH TWA : 100ppm
Lithium chloride	Not established

Engineering measures

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

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
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 12°C (as methanol)
Auto-ignition temperature	
	: No data available
Decomposition temperature	
	: No data available
Flammability	: Flammable
Vapor pressure	: No data available
Relative density	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (log Pow)	
	: No data available
Explosive limits (vol %)	
	: No data available
Viscosity, kinematic	: No data available
Particle characteristics	
	: No data available

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#### 10. Stability and reactivity

Reactivity	: React with oxidizing substances.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	
	: React with oxidizing substances.
Conditions to avoid	: Light, heat
Incompatible materials	: Oxidizing substances
Hazardous decomposition products	
	: Carbon monoxide, nitrogen oxides, chlorine, hydrogen chloride

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#### 11. Toxicological information

Acute toxicity (oral)	: Harmful if swallowed (as methanol) rat LD50=6200mg/kg
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As far as animal studies are concerned, methanol is considered to be out of category in Acute toxicity (Oral). However, as methanol shows strong toxicity in primates, the product was classified into category 4.

(as nitroethane)

rat LD50=1625mg/kg

(as lithium chloride)

rat LD50=526-840mg/kg

Acute toxicity (dermal)

: No classification

Acute toxicity (inhalation)

No classification (vapor)

Classification not possible (dust, mist)

Skin corrosiveness/irritation

: Causes skin irritation

Based on the result that irreversible crust formation was recognized at one in three rabbits during 14-day observation period, lithium chloride was judged as irritation property, so the product was classified into category 2.

Serious eye damage/eye irritation

: Causes serious eye irritation

In a rabbit Draize test of methanol, mean scores of conjunctivitis were judged to be 2 and higher (2.1) at 24, 48 and 72-hour after installation. Chemosis (score of 2.00) observed up to 4-hour had decreased significantly by 72-hour (score of 0.50). Based on the data, the product was classified into category 2A.

Respiratory sensitization

: Classification not possible

Skin sensitization

: Classification not possible

Germ cell mutagenicity

: Classification not possible

Carcinogenicity

: Classification not possible

Reproductive toxicity : May damage fertility or the unborn child

In inhalation exposure tests of methanol 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 toxicity (single exposure)

: Cause damage to organs (central nervous system, visual organ, systemic toxicity, blood)

May cause respiratory irritation

May cause drowsiness and dizziness

Methanol : The symptoms of acute poisoning from the substance 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, the substance 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, the substance was classified into category 3 (anesthetic action).

Nitroethane : From description that cyanosis and increase in methemoglobin was seen in 2 children's cases in which oral ingestion was carried out, it was set as category 1 (blood). Moreover, from description that respiratory irritant and anesthetic actions were seen in rabbits and guinea pigs in the test which inhalation exposure was carried out, it was classified into category 3 (respiratory irritant, anesthetic actions).

The product was classified into category 1 (central nervous system, visual organs, systemic toxicity, blood) and category 3 (respiratory tract irritation, anesthetic action).

Specific target organ toxicity (repeated exposure)

: Cause damage to organs (central nervous system, visual organs) through prolonged or repeated exposure



Based on a report that the most noted health consequence of longer-term exposure to lower levels of methanol is a broad range of ocular effects, and that cases of chronic poisoning from occupational exposure to methanol were manifested by bilateral blindness, it was classified into category 1 (visual organs).

Additionally, based on the report that cases of chronic poisoning from repeated exposure to methanol vapor are manifested by headache, giddiness, insomnia, and gastric disturbances, it was classified into category 1 (central nervous system).

Aspiration hazard : Classification not possible

## 12. Ecological information

### Ecotoxicity

Aquatic acute : Harmful to aquatic life  
(as nitroethane)  
Desmodium subspicatus ErC50=6mg/L/72H  
(as lithium chloride)  
Ptychocheilus lucius LC50=17mg/L/96H

Aquatic chronic : Harmful to aquatic life with long lasting effects

### Persistence and degradability

: (as methanol) Readily biodegradable BOD : 92%

### Bioaccumulative potential

: (as methanol) Low bioconcentration log Pow : -0.82

Mobility in soil : (as methanol) High mobility Koc : 2.75

### Hazardous to the ozone layer

: Classification not possible

## 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.

## 14. Transport information

### International Regulations

Transport by sea (IMDG)

UN No. (IMDG)      : 1992

Proper shipping name (IMDG)

: FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol, Nitroethane, Solution)

Packing group (IMDG)

: II

Transport hazard class(es) (IMDG)

: 3 (6.1)

Air transport (IATA)

UN No. (IATA)      : 1992

Proper shipping name (IATA)

: Flammable liquid, toxic, n.o.s. (Methanol, Nitroethane, Solution)

Packing group (IATA)

: II

Transport hazard class(es) (IATA)

: 3 (6.1)

Marine pollutant      : Not applicable

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

Pollutant category    : Y

MFAG-No              : 131

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15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

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16. Other information

References

1) Company data on file

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.