

Safety Data Sheet

1. Product and company identification

Product name : AQUALYTE Water Standard 10
Part No. : D312140-1
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 3

Human health hazard

Serious eye damage/eye irritation
: Category 2B

Reproductive toxicity
: Category 2

Pictograms or symbols



Signal word : Warning

Hazard statements : Flammable liquid and vapor
Causes eye irritation
Suspected of damaging fertility or the unborn child

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Keep containers tightly closed.

Ground container and receiving equipment in case of transport and stirring.
 Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take action to prevent static discharges.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response : If on skin (or hair) : Take off immediately all contaminated clothing. Rinse skin with water.
 If in eyes : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists : Get medical advice/attention.
 Wash hands thoroughly after handling.
 If exposed or concerned : Get medical advice/attention.

Storage : Store in a cool and well-ventilated area.
 Store locked up.

Disposal : Dispose of contents and containers appropriately in accordance with related regulations.

3. Composition/Information on ingredients

Distinction of substance or mixture
 : Mixture

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Diethylene glycol dimethyl ether	99.0	$(\text{CH}_3\text{OCH}_2\text{CH}_2)_2\text{O}$	Listed	203-924-4	111-96-6
Water	1	H_2O	Listed	231-791-2	7732-18-5

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

: Savers wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand

Prohibited extinguishing media

: None

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. Foam extinguisher is effective for a large scale fire.

Protection for firefighters

: Wear breathing apparatus.

6. Accidental release measures

Cautions for personnel

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

Cautions for environment

: Attention should be given not to cause damage to the environment by flowing of spillage to rivers. In case of the dilution of copious water, do not cause damage to the environment by untreated wastewater.

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 equipment not to contact with skin or inhale the vapor. Fire is strictly prohibited.
 Ventilate well at working places.

Cautions for safety handling

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

Cautions

: Do not contact with oxidizing substances.

Storage

Adequate storage condition

: Store the bottle tightly closed in a cool, dark place because the substance has hygroscopic property.

Safety adequate container materials

: Glass, fluorine resin, stainless steel
 Do not use polyvinyl chloride resin, polystyrene.

8. Exposure control/Personal protection

Diethylene glycol dimethyl ether	ACGIH TWA : Not established
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Engineering measures

: Use only with adequate ventilation and in closed systems.

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

9. Physical and chemical properties

Appearance : Liquid
 Color : Colorless
 Odor : Slight ether like odor
 pH : No data available
 Melting point : -68 °C
 Freezing point : No data available
 Boiling point : 159.76 °C
 Flash point : 63 °C

Auto-ignition temperature
: 200 °C

Decomposition temperature
: No data available

Flammability : Flammable

Vapor pressure : 7hPa (20 °C)

Relative density : No data available

Density : 0.944g/cm³ (25 °C)

Relative gas density : 4.63

Solubility : Water : Miscible
Organic solvents : Soluble in ethanol, diethyl ether, hydrocarbons.

Partition coefficient n-octanol/water (log Pow)
: -0.36

Explosive limits (vol %)
: 1.5 - 17.4 vol %

Viscosity, kinematic : 3.31mm²/s (20 °C)

Particle characteristics
: No data available

10. Stability and reactivity

Reactivity : May react with oxidizing substances.

Chemical stability : Stable under normal usage.

Possibility of hazardous reactions
: May react with oxidizing substances

Conditions to avoid : Light, heat

Incompatible materials : Oxidizing substances

Hazardous decomposition products
: Carbon monoxide

11. Toxicological information

Acute toxicity (oral) : No classification
rat LD50=4760mg/kg

Acute toxicity (dermal)
: Classification not possible

Acute toxicity (inhalation)
: Classification not possible (vapor)
No classification (dust, mist)
rat LC50=24mg/L/4H(as mist)

Skin corrosion/irritation

: No classification

Based on the data that mild irritation had been observed for 24 hours when applied 0.5mL to rabbit skin and no irritation was observed at the test using other rabbits, the substance was decided to have minor irritation, it was classified as no classification.

Serious eye damage/irritation

: Causes eye irritation

Based on the data that mild irritation had been observed for 24 hours when applied 0.1mL to rabbit eyes and no irritation was observed at the test using other rabbits, the substance was decided to have mild irritation, it was classified as category 2B.

Respiratory sensitization

: Classification not possible

Skin sensitization

: No classification

Based on the result of no sensitization by Buehler test and Alternative footpad method using guinea pigs, it was classified as no classification.

Germ cell mutagenicity

: Classification not possible

Negative results in in vivo mutagenicity test using somatic cells (chromosome aberration test using rat bone marrow cells), and negative result in in vitro mutagenicity test (several Ames tests).

Carcinogenicity

: Classification not possible

Reproductive toxicity : Suspected of damaging fertility or the unborn child

Decrease in fertility was observed in reproduction test by inhalation exposure of male rats, and rate of deformation of offspring was low, but increase in resorption of fetuses was observed at developmental toxicity test by inhalation exposure (100% at 400ppm) in organogenesis period of rats. Deformation of fingers and legs of offspring, exencephaly, malformation of bones were observed at the dose causing death of parent animals in developmental toxicity test by oral administration in organogene

Deformation of fingers and legs of offspring, exencephaly, malformation of bones were observed at the dose causing death of parent animals in developmental toxicity test by oral

administration in organogenesis period of mice, moreover resorption of fetuses and deformation of bones were observed at the dose causing toxicity of parent animals in reproduction test using rabbits. From the above results, it was classified into category 2.

Specific target organ toxicity (single exposure)

: Classification not possible

Although irregular respiration was observed by inhalation exposure (10mg/L/7H) with rats, there were no other data, so it was not possible to classify.

Specific target organ toxicity (repeated exposure)

: Classification not possible

The change of bone marrow, pancreas, thymus gland, leucocyte, and erythrocyte was observed at the concentration of 61.4mg/L (90 days corresponding value:9.6mg/L/6H) which exceeded guidance value of category 2 at 2- week inhalation exposure test using male and female rats (0.614, 2.06, 61.4mg/L/6H).

Atrophied thymus gland and congested adrenal gland were observed at the concentration of 3.35mg/L which was equivalent to guidance value of category 2 at 3-week inhalation exposure test (1.12, 3.35mg/L/6H), but these degrees were unknown, it was not possible to classify.

Aspiration hazard : Classification not possible.

12. Ecological information

Ecotoxicity

Aquatic acute : No classification

Aquatic chronic : No classification

Crustacea(Daphnia magna) EC0>1000mg/L/48H

Persistence and degradability

: Diethylene glycol dimethyl ether is a substance that is judged to have good degradability by microorganisms.

Bioaccumulative potential

: No data available

Mobility in soil : No data available

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.
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14. Transport information

International Regulations

Transport by sea(IMDG)

- UNNo.(IMDG) : 3271
- Proper shipping name(IMDG)
: ETHERS, N.O.S

Packing group(IMDG)

: III

Transport hazard class(es) (IMDG)

: 3

Air transport(IATA)

- UN No.(IATA) : 3271
- Proper shipping name(IATA)
: Ethers, n.o.s.

Packing group(IATA)

: III

Transport hazard class(es) (IATA)

: 3

Marine pollutant : Not applicable

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

Pollutant category : No information available.

MFAG-No : 127

15. Regulatory information

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

16. Other information

References

- 1) Company data on file

2) NITE Chemical Risk Information Platform (NITE CHRIP), 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.