Safety Data Sheet

1. Product and company identification

Product name : AQUALYTE Water Standard 10

Part No. : D312140-1

Company information

Name of supplier : HIRANUMA Co., Ltd.

Address : 1739 Motoyoshida, Mito, Ibaraki, 310-0836, JAPAN

Name of section : Quality assurance department

Telephone number : +81-29-247-7343

Facsimile number : +81-29-240-0381

Mail address : info-f2@hiranuma.com

Name of Manufacturer : KANTO CHEMICAL CO., INC.

Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JAPAN

Recommended use : For research use only

Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards

Flammable liquids : Category 3

Health hazards

Serious eye damage/eye irritation : Category 2B

Reproductive toxicity : Category 1B

Hazard pictograms

Signal word : Danger

Hazard statements : Flammable liquid and vapor
Causes eye irritation
May damage 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. No smoking.
Keep containers tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take action to prevent static discharges.
Wash hands, forearms and face thoroughly after handling.
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 exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

Storage : Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/Information on ingredients

Substance/Mixture

: Mixture

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Diethylene glycol dimethyl ether	99.0	C6H14O3	Listed	203-924-4	111-96-6
Water	1.0	H2O	Listed	231-791-2	7732-18-5

4. First aid measures

First aid measures

After inhalation : Remove the victim to fresh air, and make him blow his nose

and gargle.

Ater skin contact : Wash the affected areas under running water.

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

After ingestion : Give the victim water or salt water and induce vomiting. If necessary, get medical attention.

Personal Protection in First Aid and Measures

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

5. Fire fighting measures

Suitable extinguishing media

: Water, dry chemical powder, carbon dioxide, dry sand, foam

Unsuitable extinguishing media

: None

Firefighting instructions

: 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.

Personal protection (Emergency response)

: Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

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

Environmental precautions

Environmental precautions

: 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 spillage area with copious amounts of water.

Prevention Measures for Secondary Accidents
: Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures
: Wear proper protective equipment to avoid contact with skin or inhalation of vapor.
Fire is prohibited.
Ventilate well at working places.

Precautions for safety handling
: Avoid formation of vapor and aerosols.
Do not allow contact with oxidizing substances.

Storage

Storage condition : Store the bottle tightly closed in a cool, dark place because the substance is hygroscopic.

Materials used in packing/ containers
: Glass, fluorine resin, stainless steel
Do not use vinyl chloride resin, polystyrene.

8. Exposure control / Personal protection equipment

ACGIH TWA	Not established

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

Protective equipment

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

Hands protection : Impervious protective gloves

Eyes protection : Safety goggles

Skin and body protection
: Protective clothing, protective boots

9. Physical and chemical properties

(As Diethylene glycol dimethyl ether)

Physical state	: Liquid
Color	: Colorless
Odor	: Slight ethereal
pH	: No data available
Melting point	: -68 °C
Freezing point	: No data available
Boiling point	: 162 °C
Flash point	: 51 °C (C.C.)
Auto-ignition temperature	: 190 °C
Decomposition temperature	: No data available
Flammability	: Flammable
Vapor pressure	: 0.33 kPa (20 °C)
Relative density	: 1.01 (20℃)
Density	: 0.940 – 0.945 g/cm³ (20℃)
Relative gas density	: 4.6
Solubility	: Water ; Miscible. Organic solvents; Soluble in ethanol, propylene glycol, esters.
Partition coefficient n-octanol/water (log Pow)	: -0.36
Explosive limits (vol %)	: 1.5 - 17.4 vol %
Viscosity, kinematic	: 1.16 mm²/s (20℃)
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: May react with oxidizing substances.
Chemical stability	: Stable under normal conditions. Hygroscopic.
Possibility of hazardous reactions	: Stable under normal conditions of use.
Conditions to avoid	: Light, heat. moisture.
Incompatible materials	: Oxidizing substances
Hazardous decomposition products	: Carbon monoxide

11. Toxicological information

Acute toxicity (oral) : No classification
rat LD50=4760 mg/kg
Acute toxicity (dermal) : Classification not possible
Acute toxicity (inhalation)
: No classification (gas)
Classification not possible (vapor)
No classification (dust, mist)
rat LC50=24mg/L/4h
Skin corrosion/irritation
: No classification
Based on the data of mild irritation at 24 hours after application of 0.5 mL in a test using rabbits and no irritation in a test using other rabbits, the product was judged to be slightly irritating and classified as "No classification".
Serious eye damage/eye irritation
: Causes eye irritation (category2B)
Based on the data that mild irritation had been observed for 24 hours when applied 0.1 mL 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 results of no sensitization in the Buehler test and the Alternative footpad method using guinea pigs, it was classified as "No classification".
Germ cell mutagenicity
: No classification
Negative in a chromosomal aberration test (somatic in vivo mutagenicity test) in bone-marrow cells following inhalational exposure in rats. Therefore, it was classified as "No classification".
Carcinogenicity : Classification not possible
Reproductive toxicity : May damage fertility or the unborn child (category1B)
In a combined repeated-dose toxicity and reproductive development screening study in rats by forced oral administration (OECD TG422, GLP), liver effects (lobular central hepatocyte

hypertrophy, increased relative weight (females only)), low MCV (males), and increased extramedullary hematopoiesis in the spleen (females) were observed in parent animals at high doses Effects on sexual function and fertility (prolonged sexual cycle length, prolonged gestation period, increased post-implantation embryo loss rate, decreased delivery rate, and abnormal nursing status) and developmental effects on live births (decreased birth rate, decreased 4-day survival rate, and decreased number of live births at 4 days after birth) were observed at high doses. In addition, developmental toxicity studies by inhalation and oral route showed distinct fetal toxicity (increased absorption and fetal mortality) and increased incidence of malformations at doses that had no maternal toxicity or only suppressed weight gain. Therefore, it was classified as category 1B.

Specific target organ systemic toxicity - single exposure
: Classification not possible

Specific target organ systemic toxicity - repeated exposure
: Classification not possible

Aspiration hazard : Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute : No classification
Daphnia magna EC50=943 mg/L/48h

Aquatic chronic : No classification
Daphnia magna NOEC=320 mg/L/21-day

Persistence and degradability

Not readily biodegradable
BOD : 0%

Bioaccumulative potential

Low bioconcentration
BCF : 3

Mobility in soil

High mobility
Koc : 15

Hazardous to the ozone layer

Ozone : No classification

13. Disposal consideration

Ecological waste information

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

Contaminated container and packaging

: 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) : 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

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 (SDS provided by manufacturer)

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 concentrations or ranges of concentrations shown in ″3. Composition/Information on ingredients″ are examples calculated based on the amounts used at the time of manufacture and do not guarantee the concentrations in the product. The total value may not be 100% due to fractional processing. The Safety Data Sheet(SDS) is prepared based on JIS Z7253.