Date of issue: 03/06/2020

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Wijs reagent

SDS No. : E0131E-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 3

HEALTH HAZARDS

Acute toxicity (Dermal): Category 4

Acute toxicity (Inhalation): Category 3

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Respiratory sensitization: Category 1

Skin sensitization: Category 1

Specific target organ toxicity - single exposure: Category 1(blood; respiratory apparatus/system)

Specific target organ toxicity - single exposure: Category 2(respiratory system)

Specific target organ toxicity - repeated exposure: Category 2(thyroid gland, teeth, respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Flammable liquid and vapor

Harmful in contact with skin

Toxic if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

Causes damage to organs after single exposure(blood; respiratory apparatus/system)

May cause damage to organs after single exposure(respiratory system)
May cause damage to organs through prolonged or repeated exposure(thyroid gland, teeth, respiratory system)
Harmful to aquatic life
Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves or protective clothing.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, protective clothing or face protection.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.
Get medical advice/attention if you feel unwell.
Call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal

Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Iodine monochloride
Content (%):1.5
Chemical formula:ICl
Chemicals No, Japan:1-642
CAS No.:7790-99-0
MW:162.36
ECNO:232-236-7

Ingredient name:Acetic acid
Content (%):98
Chemical formula:C2H4O2
Chemicals No, Japan:2-688
CAS No.:64-19-7
MW:60.05
ECNO:200-580-7

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

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.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment
Sprinkler equipment
Dry-powder firefighting equipment - except for phosphate etc.,hydrogen carbonate etc.
Straight stream water extinguisher
Water mist extinguisher
Reinforcing liquid jet extinguisher

Dry-powder extinguisher - except for phosphate etc.,hydrogen carbonate etc.
Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.
Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing or face protection.
Wear eye protection/face protection.
When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

8. Exposure controls/personal protection

Control parameters

Adopted value

(Acetic acid)
ACGIH(2003) TWA: 10ppm;
STEL: 15ppm (URT & eye irr; pulm func)
(Iodine monochloride)
ACGIH(2007) TWA: 0.01ppm(IFV) (Hypothyroidism; URT irr)

OSHA-PEL

(Acetic acid)
TWA: 10ppm, 25mg/m3

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Brown
Odor: Irritant odor
pH data is not available.
Boiling point or initial boiling point data is not available.
Boiling range data is not available.
Melting point/Freezing point data is not available.
Decomposition temperature data is not available.
Flammability (gases, liquids and solids) data is not available.
Flash point: 40.3℃
Auto-ignition temperature data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Vapor pressure data is not available.
Relative vapor density (Air=1) data is not available.
Density and/or relative density: 1.07g/cm3
Kinematic viscosity data is not available.
Solubility:

Solubility in water: Soluble
n-Octanol/water partition coefficient data is not available.
No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
(Acetic acid)
The substance is a weak acid. Reacts violently with strong oxidants. This generates fire and explosion hazard. Reacts violently with strong bases, strong acids and many other compounds. Attacks some forms of plastic, rubber and coatings. (ICSC 0363)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong acids, Strong bases, Strong oxidizing agents
Hazardous decomposition products
Carbon oxides, Iodine compounds, Chlorine compounds

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[GHS Cat. Japan, base data]
(Acetic acid)
rat LD50=3310mg/kg (PATTY 5th, 2001)
[Company proprietary data]
(Iodine monochloride)
Category 4
Acute toxicity (Dermal)
[GHS Cat. Japan, base data]
(Acetic acid)
rabbit LD50=1060mg/kg (PATTY 5th, 2001)
Acute toxicity (Inhalation)
[Company proprietary data]
(Iodine monochloride)
(vapor) Category 1
Irritant properties
Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Acetic acid)
rabbit/guinea pig severe burn (PATTY 5th, 2001 et al)
[Company proprietary data]
(Iodine monochloride)
Category 1
Serious eye damage/irritation
[GHS Cat. Japan, base data]
(Acetic acid)
rabbit permanent corneal damage (IUCLID, 2000 et al)

[Company proprietary data]
(Iodine monochloride)
Category 1

Sensitization

Respiratory sensitization

[Company proprietary data]
(Iodine monochloride)
Category 1

Skin sensitization

[Company proprietary data]
(Iodine monochloride)
Category 1

Mutagenic effects data is not available.

Carcinogenicity

(Iodine monochloride)
ACGIH-A4 (2007) : Not Classifiable as a Human Carcinogen

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]
(Acetic acid)
blood; respiratory apparatus/system (ACGIH, 2004)
[Company proprietary data]
(Iodine monochloride)
respiratory system

STOT-repeated exposure

[cat.1]

[Company proprietary data]
(Iodine monochloride)
thyroid gland, teeth, respiratory system

Aspiration hazard data is not available.

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12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]
(Acetic acid)
Crustacea (Daphnia magna) EC50=65mg/L/48hr (Aquire, 2010)
[Company proprietary data]
(Iodine monochloride)
Category 1

Hazardous to the aquatic environment (Long-term)

[Company proprietary data]
(Iodine monochloride)
Category 1

Water solubility

(Acetic acid)
miscible (ICSC, 2010)

Persistence and degradability

(Acetic acid)
BOD_Degradation : 74% (Registered chemicals data check & review)

Bioaccumulative potential
(Acetic acid)
log Pow=-0.17 (PHYSPROP DB, 2005)

Mobility in soil
Mobility in soil data is not available.

Other adverse effects
Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods
Avoid release to the environment (- if this is not the intended use).
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No.: 2789
Proper Shipping Name :
ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass
Class or division : 8
Subsidiary hazard(s) : 3
Packing group : II
ERG GUIDE No.: 132

IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 2789
Proper Shipping Name :
ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass
Class or division : 8
Subsidiary hazard(s) : 3
Packing group : II

IATA Dangerous Goods Regulations
UN No.: 2789
Proper Shipping Name :
ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, more than 80% acid, by mass
Class or division : 8
Subsidiary hazard(s) : 3
Hazard labels : Corrosive & Flamm.liquid
Packing group : II

Environmental hazards
MARPOL Annex III - Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
Noxious Liquid ; Cat. Z
Acetic acid

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

Chemicals listed in TSCA Inventory

Acetic acid; Iodine monochloride

Other regulatory information

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

16. Other information

GHS classification and labelling

Flam. Liq. 3: H226 Flammable liquid and vapor
Acute Tox. 4: H312 Harmful in contact with skin
Acute Tox. 3: H331 Toxic if inhaled
Skin Corr. 1: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1: H317 May cause an allergic skin reaction
STOT SE 1: H370 Causes damage to organs after single exposure
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure
Aquatic Acute 3: H402 Harmful to aquatic life
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (61th Edition) 2020
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2019 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2018).