



Safety Data Sheet

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

Product identifier:

Product name: Zalzmann reagent

SDS No. : E0287E-2

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

HEALTH HAZARDS

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 2(blood; respiratory system)

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

Label elements



Signal word: Danger

HAZARD STATEMENT

Causes severe skin burns and eye damage

Causes serious eye damage

May cause damage to organs after single exposure(blood; respiratory system)

PRECAUTIONARY STATEMENT

Prevention

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

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Do not eat, drink or smoke when using this product.

Response

IF exposed or concerned: Call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing 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.

Disposal

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



3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Sulfanilic acid

Content (%):0.50

Chemical formula:C₆H₇NO₃S

Chemicals No, Japan:3-1971

CAS No.:121-57-3

MW:173.19

ECNO:204-482-5

Ingredient name:Acetic acid

Content (%):5.3

Chemical formula:C₂H₄O₂

Chemicals No, Japan:2-688

CAS No.:64-19-7

MW:60.05

ECNO:200-580-7

Ingredient name:N-1-Naphthylethylenediamine Dihydrochloride

Content (%):0.0050

Chemical formula:C₁₀H₇NHCH₂CH₂NH₂•2HCl

CAS No.:1465-25-4

MW:259.18

ECNO:215-981-2

Ingredient name:Water

Content (%):94

Chemical formula:H₂O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

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

4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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.

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

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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 piece 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.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

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.



Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Block out light.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Acetic acid)

ACGIH(2003) TWA: 10ppm;

STEL: 15ppm (URT & eye irr; pulm func)

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: Light purple

Odor: Slightly irritating odour

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 1.00



Relative vapor density (Air=1) 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

(Sulfanilic acid)

Decomposes on heating at 288° C, on burning and on contact with strong acids. This produces toxic fumes including nitrogen oxides and sulfur oxides. Reacts violently with strong bases. (ICSC 0569)

(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, Sulfur oxides, Nitrogen oxides

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)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Acetic acid)

rabbit LD50=1060mg/kg (PATTY 5th, 2001)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Acetic acid)

rabbit/guinea pig severe burn (PATTY 5th, 2001 et al)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Sulfanilic acid)

rabbit moderate irritation (IUCLID, 2000)

(Acetic acid)

rabbit permanent corneal damage (IUCLID, 2000 et al)

Sensitization

Skin sensitization

[GHS Cat. Japan, base data]

(Sulfanilic acid)

cat. 1; IUCLID, 2000



Mutagenic effects data is not available.
Carcinogenic effects data is not available.
Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Acetic acid)

blood; respiratory system (ACGIH, 2004)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Sulfanilic acid)

Fish (fat head minnow) LC50=100.4mg/L/96hr (ECETOC TRI91, 2003)

(Acetic acid)

Crustacea (Daphnia magna) EC50=65mg/L/48hr (Aquire, 2010)

Water solubility

(Sulfanilic acid)

poor (ICSC, 2005)

(Acetic acid)

miscible (ICSC, 2010)

Persistence and degradability

(Sulfanilic acid)

Not degrade rapidly (BOD_Degradation : 3% (CSCL DB, 1998))

(Acetic acid)

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

Bioaccumulative potential

(Sulfanilic acid)

log Kow=-2.16 (PHYSPROP Database, 2018)

(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

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



14. Transport Information

UN No. or ID No.: 1760
UN Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division (Transport hazard class) : 8
Packing group : III
ERG GUIDE No.: 154
Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1760
Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division : 8
Packing group : III
Special provisions No.: 223; 274

IATA Dangerous Goods Regulations

UN No.: 1760
Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division : 8
Hazard labels : Corrosive
Packing group : III
Special provisions No.: A3; A803

Environmental hazards

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

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Z
Acetic acid
Non Noxious Liquid ; Cat. OS
Water

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Chemicals listed in TSCA Inventory
Acetic acid; Sulfanilic acid; N-1-Naphthylethylenediamine Dihydrochloride; Water

Other regulatory information

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

16. Other information**GHS classification and labelling**

Skin Corr. 1: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
STOT SE 2: H371 May cause damage to organs after single exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), 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)
2020 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 2019).