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Safety Data Sheet

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

Product identifier:

Product name: Wettability standard solution No.59.0

SDS No. : J0036E-4

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Corrosive to metals: Category 1

HEALTH HAZARDS

Carcinogenicity: Category 2

Reproductive toxicity: Category 1B

Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)

Specific target organ toxicity - repeated exposure: Category 2 (male genitalia)

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H290 May be corrosive to metals

H351 Suspected of causing cancer

H360 May damage fertility or the unborn child

H336 May cause drowsiness or dizziness

H373 May cause damage to organs through prolonged or repeated exposure (male genitalia)

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P234 Keep only in original packaging.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P390 Absorb spillage to prevent material-damage.

P314 Get medical advice/attention if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Formamide	96	75-12-7	2-681	HCONH2
Water	4.4	7732-18-5	-	H2O

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

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF INHALED: Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or 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.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.

*Fire Service Act Group 4 Hazardous Materials

Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System
Sprinkler System
Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Fire Extinguisher Discharging Jet Water/Spraying Water
Fire Extinguisher Discharging Jet Loaded Liquid
Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Water Bucket or Water Tank
*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

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

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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

Absorb spillage to prevent material-damage.
Collect spillage.

Section 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, hot surfaces, sparks, open flames and other ignition sources. No

smoking.
(Exhaust/ventilator)
Exhaust/ventilator should be available.
(Safety treatments)
Avoid contact with skin.
Avoid contact with eyes.
Safety Measures
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands et al thoroughly after handling.
When using do not eat, drink or smoke.
Any incompatibilities
See "10.Stability and Reactivity".
Storage
Conditions for safe storage
Keep container tightly closed.
Store locked up. (P405)
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.
Container and packaging materials for safe handling
Keep only in original packaging.
Store in a corrosion resistant/specified container with a resistant inner liner.
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters
Control value and Concentration standard value
Not established
Adopted value
ACGIH
(Formamide)
TWA: 1ppm (Hematological eff; liver cancer; developmental toxicity)
Notation
(Formamide)
Skin
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
Recommend to use protective equipment in conformity with the standards.
Use appropriate protective equipment in accordance with local/national regulation.
Respiratory protection
Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.
Hand protection
Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Colorless, Clear
Odor: Characteristic odor
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: (Formamide)120℃
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
Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 1.13
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Formamide)
The vapour is heavier than air.
Decomposes at 180℃. This produces toxic and corrosive gases including ammonia and hydrogen cyanide. Reacts with oxidants, acids and bases. This generates fire and toxic hazard.
Attacks aluminium, brass, copper, iron, lead and some forms of plastic. (ICSC 0891)

Conditions to avoid

Contact with incompatible materials.
Contact with fire source.

Incompatible materials

Acids, Bases, Oxidizing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides, Ammonia, Hydrogen cyanide

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIP]

(Formamide)

rat LD50: 3200 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]

(Formamide)

rabbit LD50: > 6000 mg/kg (source: NITE)

Acute toxicity (Inhalation)

[Data for components of the product]

[NITE-CHRIP]

(Formamide)

mist: rat LC50: > 3900 ppm (6-hour) (converted 4-hour equivalent value: > 10.8 mg/L) (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Product]

Category 2, Suspected of causing cancer

[Data for components of the product]

[NITE-CHRIP]

(Formamide)

Category 2 (source: NITE)

[ACGIH]

(Formamide)

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[Product]

Category 1B, May damage fertility or the unborn child

[Data for components of the product]

[NITE-CHRIP]

(Formamide)

Category 1B (source: NITE)

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[NITE-CHRIP]

(Formamide)
Category 3 (Narcotic effects) (source: NITE)
STOT-repeated exposure
[Product]
Category 2, May cause damage to organs through prolonged or repeated exposure
[Data for components of the product]
[NITE-CHRIP]
(Formamide)
Category 2 (male genitalia) (source: NITE)
Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[NITE-CHRIP]
(Formamide)
Algae (Pseudokirchneriella subcapitata) 72-hour ErC50: > 1000 mg/L (source: NITE)
Crustacea (Daphnia magna) 48-hour EC50: > 500 mg/L (source: NITE)
Fish (Oryzias latipes) 96-hour LC50: > 100 mg/L (source: NITE)
Hazardous to the aquatic environment, long-term (chronic)
[NITE-CHRIP]
(Formamide)
Algae (Pseudokirchneriella subcapitata) 72-hour NOEC: > 10 mg/L (source: NITE)
Water solubility
(Formamide)
not poorly water-soluble (100000 mg/L) (source: NITE)
Persistence and degradability
[Data for components of the product]
(Formamide)
Rapidly degradable (Degradation rate: 99% (by BOD)) (OECD TG 301A, GLP) (source: NITE)
Bioaccumulative potential
[Data for components of the product]
(Formamide)
log Pow: -1.51 (source: ICSC, 2013)
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

Section 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 as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

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

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1760
UN Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division (Transport hazard class) : 8
Packing group : III

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1760
UN Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division (Transport hazard class) : 8
Hazard labels : Corrosive
Packing group : III

Environmental hazards

Marine pollutants (yes/no) : no

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Formamide; Water

Other regulatory information

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

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)
IATA Dangerous Goods Regulations (66th Edition) 2025
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2025 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2024 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

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Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).