Date of issue: 2017/05/10
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Safety Data Sheet

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

Product identifier:

Product name: Acrylamide,monomer

SDS No. : 0122E-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

HEALTH HAZARDS

Acute toxicity (Oral): Category 3
Acute toxicity (Dermal): Category 3
Serious eye damage/eye irritation: Category 2
Skin sensitization: Category 1
Germ cell mutagenicity: Category 1B
Carcinogenicity: Category 1B
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 1 (nervous system)
Specific target organ toxicity - repeated exposure: Category 1 (blood system, male genitalia, nervous system, eyes)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

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

Label elements

Signal word: Danger

HAZARD STATEMENT

H301 Toxic if swallowed
H311 Toxic in contact with skin
H319 Causes serious eye irritation
H317 May cause an allergic skin reaction
H340 May cause genetic defects
H350 May cause cancer
H360 May damage fertility or the unborn child
H370 Causes damage to organs (nervous system)

H372 Causes damage to organs through prolonged or repeated exposure (blood system, male genitalia, nervous system, eyes)
H402 Harmful to aquatic life

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash contaminated parts thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.

Response

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.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P330 IF SWALLOWED: Rinse mouth.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

Storage

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:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Acrylamide	≧98	79-06-1	2-1014	C3H5NO

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

Stabilizing additives

4-Methoxyphenol(p-) <0.10% (CAS No.150-76-5)

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 ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or 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.

Immediately call a POISON CENTER/doctor/physician.

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.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

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.

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".

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 immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

Chilled storage.

Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Control value and Concentration standard value

(Acrylamide)

Japan control value 0.1mg/m3

Adopted value

(Acrylamide)

JSOH(2004) 0.1mg/m3 (skin)

(Acrylamide)

ACGIH(2020) TWA: 0.03mg/m3 (IFV) (CNS & PNS impair; cancer)

(4-Methoxyphenol(p-))

ACGIH(1992) TWA: 5mg/m3 (Eye irr; skin dam)

[ACGIH] Notation

(Acrylamide)

Skin; DSEN

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: Crystals or powder

Color: White

Odor: Odourless

Melting point/Freezing point: 84.5℃

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: (Acrylamide)138℃

Auto-ignition temperature: (Acrylamide)424℃

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 204 g/100 ml (25 ℃)

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow=0.78

Vapor pressure: 0.9 Pa (25℃)

Density and/or relative density: 1.13g/cm3

Relative vapor density (Air=1): 2.45

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
The substance polymerizes violently due to heating above 85° C or under the influence of light and oxidants. It reacts with strong bases and strong oxidants. Decomposes on burning. This produces toxic and corrosive fumes including nitrogen oxides. (ICSC 0091)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong bases, Oxidizing agents
Hazardous decomposition products
Carbon oxides, Nitrogen oxides

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Product]
Category 3, Toxic if swallowed
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
rat LD50: 124 mg/kg (source: NITE)
(4-Methoxyphenol(p-))
rat LD50: 1600 mg/kg (source: NITE)
Acute toxicity (Dermal)
[Product]
Category 3, Toxic in contact with skin
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
rat LD50: 252 mg/kg (source: NITE)
(4-Methoxyphenol(p-))
rabbit LD50: > 2000 mg/kg (source: NITE)
Irritant properties
Skin corrosion/irritation data is not available.
Serious eye damage/irritation
[Product]
Category 2, Causes serious eye irritation
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 2A (source: NITE)
(4-Methoxyphenol(p-))
Category 2B (source: NITE)
Sensitization
Skin sensitization
[Product]

Category 1, May cause an allergic skin reaction
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 1 (source: NITE)
Germ cell mutagenicity
[Product]
Category 1B, May cause genetic defects
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 1B (source: NITE)
Carcinogenicity
[Product]
Category 1B, May cause cancer
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 1B (source: NITE)
[IARC]
(Acrylamide)
Group 2A : Probably carcinogenic to humans
[ACGIH]
(Acrylamide)
A2(2020) : Suspected Human Carcinogen
[NTP]
(Acrylamide)
RAHC : Reasonably Anticipated to be Human Carcinogens
[EU]
(Acrylamide)
Category 1B; Substances presumed to have carcinogenic potential for humans
Reproductive toxicity
[Product]
Category 1B, May damage fertility or the unborn child
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 1B (source: NITE)
Specific target organ toxicity (STOT)
STOT-single exposure
[Product]
Category 1, Causes damage to organs
[Data for components of the product]
[NITE-CHRIP]
(Acrylamide)
Category 1 (nervous system) (source: NITE)
STOT-repeated exposure
[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure
[Data for components of the product]

[NITE-CHRIP]
(Acrylamide)
Category 1 (blood system, male genitalia, nervous system, eyes) (source: NITE)

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]
Category 3, Harmful to aquatic life

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]
(Acrylamide)
Algae (Pseudokirchneriella subcapitata) 72-hour EC50 (growth inhibition): 33.8 mg/L (source: NITE)
(4-Methoxyphenol(p-))
Crustacea (Daphnia magna) 48-hour EC50 (immobile): 2.2 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]
(Acrylamide)
Crustacea (Mysidopsis bahia) 28-day NOEC (survival rate): 2.04 mg/L (source: NITE)
Algae (Pseudokirchneriella subcapitata) 72-hour NOEC (growth inhibition): 16 mg/L (source: NITE)

Water solubility

(Acrylamide)
204 g/100 mL (25℃) (source: ICSC, 2013)
(4-Methoxyphenol(p-))
4 g/100 mL (25℃) (source: ICSC, 2004)

Persistence and degradability

[Data for components of the product]
(Acrylamide)
Rapidly degradable (Degradation rate: 70% (by BOD)) (source: NITE)
(4-Methoxyphenol(p-))
Rapidly degradable (Degradation rate: 86% (by BOD)) (source: NITE)

Bioaccumulative potential

[Data for components of the product]
(Acrylamide)
log Pow: -0.67 (source: NITE)
(4-Methoxyphenol(p-))
log Kow: 1.58 (source: NITE)

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

Avoid release to the environment.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : 2074

UN Proper Shipping Name :

ACRYLAMIDE

Class or division (Transport hazard class) : 6.1

Packing group : III

ERG GUIDE No.: 153P

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 2074

UN Proper Shipping Name :

ACRYLAMIDE

Class or division (Transport hazard class) : 6.1

Packing group : III

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 2074

UN Proper Shipping Name :

ACRYLAMIDE

Class or division (Transport hazard class) : 6.1

Hazard labels : Toxic

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

Acrylamide; 4-Methoxyphenol(p-)

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 22nd edit., 2021 UN IMDG Code, 2022 Edition (Incorporating Amendment 41-22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

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).