SAFETY DATA SHEET

According to JIS Z 7253:2019
Issue Date 10-Dec-2025
Revision Number 2.06

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	4-Acryloylmorpholine
Product Code	018-12072,012-12075

Supplier
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
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Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses For research use only

Restrictions on use Seek expert judgment when using for purposes other than those recommended.

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Category 3 Respiratory irritation	
Specific target organ toxicity (repeated exposure)	Category 2
Category 2 upper respiratory tract	

Pictograms

Signal word Danger

Hazard statements

H318 - Causes serious eye damage
H302 - Harmful if swallowed
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H335 - May cause respiratory irritation
H317 - May cause an allergic skin reaction
H373 - May cause damage to the following organs through prolonged or repeated exposure: upper respiratory tract

Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product

- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- Do not breathe dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area

Precautionary statements-(Response)

- IF exposed or concerned: 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
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth

Precautionary statements-(Storage)

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

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula C7H11NO2

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
4-Acryloylmorpholine	98.0	141.17	N/A	*	5117-12-4
p-Methoxyphenol	0.10	124.14	(3)-567	*	150-76-5

Note on ISHL No.: * in the table means announced chemical substances.

Impurities and/or Additives： p-Methoxyphenol 1000ppm, with stabilizer

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media
No information available
Specific hazards arising from the chemical product
Thermal decomposition can lead to release of irritating and toxic gases and vapors.
Special extinguishing method
No information available
Special protective actions for fire-fighters
Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.
Environmental precautions
To be careful not discharged to the environment without being properly handled waste water contaminated.
Methods and materials for contaminent and methods and materials for cleaning up
Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.
Recoverly, neutralization
No information available
Secondary disaster prevention measures
Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling
Technical measures
Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.
Precautions
Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.
Safety handling precautions
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Storage
Safe storage conditions
Storage conditions Keep container protect from light tightly closed. Store in a cool (2-10 °C) place.
Safe packaging material Glass
Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls
In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
p-Methoxyphenol 150-76-5	N/A	N/A	TWA: 5 mg/m³

Personal protective equipment

Respiratory protection	Dust mask (JIS T 8151)
Hand protection	chemical protective gloves (JIS T 8116)
Eye protection	protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection	Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.
If this product is classified as ”Chemical Substances Hazardous to Skin, etc.”, use appropriate protective equipment to them.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	Colorless - yellow
Turbidity	clear
Appearance	liquid
Odor	characteristic odor
Melting point/freezing point	no data available
Boiling point, initial boiling point and boiling range	no data available
Flammability	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper：	no data available
Lower：	no data available
Flash point	129 °C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water , Ethanol and acetone : Very soluble.
n-Octanol/water partition coefficient:(log Pow)	no data available
Vapour pressure	no data available
Specific Gravity / Relative density	1.115 - 1.123 g/mL
Vapour density	no data available
Particle characteristics	no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity	no data available
Chemical stability	May be altered by light.

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monooxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx)

Section 11: TOXICOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
4-Acryloylmorpholine	588 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.28 mg/L (Rat) 4 h

p-Methoxyphenol	1600 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
4-Acryloylmorpholine	*ErC50 : Raphidocelis > 120mg/L 72 h*	*LC50 : Oncorhynchus mykiss > 220 mg/L 96 h*	*EC50 : Daphnia magna 120 mg/L 48 h*
p-Methoxyphenol	*N/A*	*LC50 : Oncorhynchus Mykiss 28.5 mg/L 96 h*	*EC50 : Daphnia magna 2.2 mg/L 48 h*

Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
4-Acryloylmorpholine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
p-Methoxyphenol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated container and contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID Not regulated
UN number -
Proper shipping name:
UN classfication
Subsidiary hazard class
Packing group
Marine pollutant Not applicable

IMDG Not regulated
UN number -
Proper shipping name:
UN classfication
Subsidiary hazard class
Packing group
Marine pollutant (Sea) Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA Not regulated
UN number -
Proper shipping name:
UN classfication
Subsidiary hazard class
Packing group
Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

Japanese regulations

Fire Service Act	Category IV, Class III petroleums, dangerous grade 3 water-soluble
Poisonous and Deleterious Substances Control Law	Not applicable
Industrial Safety and Health Act	Notifiable Substances (Law Art.57-2) Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
Regulations for the carriage and storage of dangerous goods in ship	Not applicable
Civil Aeronautics Law	Not applicable
Pollutant Release and Transfer Register Law (2023.4.1-)	Not applicable
Water Pollution Control Act	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
p-Methoxyphenol 150-76-5 (0.10)	-	Applicable	-

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Record of SDS revisions

The following contents were revised. Hazards identification. Composition/information on ingredients. Toxicological information. Ecological information. Regulatory information.

Disclaimer

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
GHS Classification is according to JIS Z 7252:2019. *JIS: Japanese Industrial Standards

End of Safety Data Sheet