SAFETY DATA SHEET

Issue Date 20-Nov-2025
Revision Number 2.06

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name 3-Hydroxypropionitrile
Other means of identification
Product Code(s) 054-00922

Recommended use of the chemical and restrictions on use
Recommended Use For research use only.
Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet

Manufacturer Address
FUJIFILM Wako Pure Chemical Corporation
1-2, Doshomachi 3-Chome,
Chuo-ku Osaka 540-8605, Japan
Tel : +81-6-6203-3741
Fax: +81-6-6201-5964

Distributor
FUJIFILM Irvine Scientific
E. Warner Avenue, Santa Ana, CA 92705-5505, U.S.A.: +1 949 261 7800
Fax: +1 949 261 6522

2. HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Pictograms
Signal word None

Hazard statements
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Precautionary statements-(Prevention)
Not applicable
Precautionary statements-(Response)
Not applicable
Precautionary statements-(Storage)
Not applicable
Precautionary statements-(Disposal)
Not applicable

Others
Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula HOCH2CH2CN

Chemical Name	Molecular weight	CAS RN	Weight-%
3-Hydroxypropionitrile	71.08	109-78-4	95.0

Impurities and/or Additives: Not applicable

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

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.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media
Carbon dioxide (CO2). Foam. Extinguishing powder. Sand.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data
Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Methods for cleaning up Use personal protective equipment as required. Dam up. Cover liquid spill with sand, earth or other non-combustible absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures — Keep away from heat/sparks/open flames/hot surfaces. - No smoking.Use with local exhaust ventilation.

Protective measures — Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage conditions — Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Store locked up.

Packaging materials — Glass.

Incompatible materials — Strong oxidizing agents.

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 Not applicable

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
3-Hydroxypropionitrile 109-78-4	N/A	TWA: 5 mg/m³ CN (vacated) TWA: 5 mg/m³ S* as CN	IDLH: 25 mg/m³ CN

Personal protective equipment

Respiratory protection — Protective mask

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	Colorless - yellow brown
Turbidity	clear
Appearance	liquid
Odor	no data available
pH	no data available
Melting point/freezing point	-46 °C
Boiling point, initial boiling point and boiling range	228 °C
Flash point	137 °C
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper：	no data available
Lower：	2.3 %
Vapour pressure	no data available
Vapour density	2.45 (air = 1)
Specific Gravity / Relative density	1.047

Solubilities	water , Ethanol , acetone : Very soluble.
n-Octanol/water partition coefficient:(log Pow)	-0.94
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

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

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
3-Hydroxypropionitrile	3200 mg/kg(Rat)	> 3800 mg/kg (Rabbit)	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
3-Hydroxypropionitrile	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
3-Hydroxypropionitrile	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
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information

3-Hydroxypropionitrile	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
3-Hydroxypropionitrile	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a marine pollutant according to DOT.

Ecotoxicity

no data available

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
3-Hydroxypropionitrile 109-78-4	N/A	LC50: >10000mg/L (96h, Danio rerio)	N/A	N/A

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Chemical Name	Partition coefficient
3-Hydroxypropionitrile 109-78-4	-0.94

Mobility in soil No information available

Other Data No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Precautionary including method of disposing contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

UN/ID No Not applicable

Proper shipping name:

UN classfication

Subsidiary hazard class

Packing group

Marine pollutant Not applicable

IATA Not regulated
- **UN/ID No** -
- **Proper shipping name:**
- **UN classfication**
- **Subsidiary hazard class**
- **Packing group**
- **Environmentally Hazardous Substance** Not applicable

IMDG Not regulated
- **UN/ID No** -
- **Proper shipping name:**
- **UN classfication**
- **Subsidiary hazard class**
- **Packing group**
- **Marine pollutant (Sea)** Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
3-Hydroxypropionitrile - 109-78-4	109-78-4	95.0	1.0

SARA 311/312 Hazard Categories
- **Acute health hazard** No
- **Chronic Health Hazard** No
- **Fire hazard** No
- **Sudden release of pressure hazard** No
- **Reactive Hazard** No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
3-Hydroxypropionitrile 109-78-4	N/A	X	X	N/A

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
3-Hydroxypropionitrile 109-78-4	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

Issue Date 20-Nov-2025
Revision Note
No information available
Disclaimer
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, use, processing, storage, transportation, disposal and release 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.

End of Safety Data Sheet