

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 10-Apr-2023
 Revision Number 2.04

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Valeric Acid
Product Code	221-01292,225-01295

Manufacturer	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-5964
Supplier	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
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**

Flammable liquids	Category 4
Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 3

Pictograms

Signal word

Danger

Hazard statements

- H227 - Combustible liquid
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H302 - Harmful if swallowed
- H311 - Toxic in contact with skin
- H332 - Harmful if inhaled
- H402 - Harmful to aquatic life

Precautionary statements-(Prevention)

- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray

- Wash face, hands and any exposed skin thoroughly after handling
- Avoid release to the environment
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)

- 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
- Call a POISON CENTER or doctor/physician if you feel unwell
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- Call a POISON CENTER or doctor/physician if you feel unwell
- 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
- Do NOT induce vomiting
- In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary statements-(Storage)

- Store locked up
- Store in a well-ventilated place. Keep cool

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 CH₃(CH₂)₃COOH

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Valeric acid	95.0	102.13	(2)-608	*	109-52-4

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

Impurities and/or Additives: Not applicable

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 contaminant and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Recovery, 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

Highly flammable. Avoid contact with high temperature objects, spark, and 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

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Storage

Safe storage conditions

Storage conditions

Store away from sunlight in well-ventilated place at room temperature (preferably cool).
Keep container tightly closed. Store locked up.

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

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal protective equipment

Respiratory protection

Protective mask

Hand protection

chemical protective gloves (JIS T 8116)

Eye protection protective eyeglasses or chemical safety goggles

Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

Color Colorless - slightly yellow

Turbidity clear

Appearance liquid

Odor

characteristic odor

Melting point/freezing point

-20 - -18 °C

Boiling point, initial boiling point and boiling range

186 °C

Flammability

Combustible liquid

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

88 °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

Ethanol , acetone : Very soluble. water : free soluble .

n-Octanol/water partition coefficient:(log Pow)

1.5

Vapour pressure

20 Pa

Specific Gravity / Relative density

0.938

Vapour density

no data available

Particle characteristics

no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity no data available

Chemical stability Stable under recommended storage conditions.

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 monoxide (CO), Carbon dioxide (CO₂)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Valeric acid	1055 mg/kg (Rat)	290 mg/kg (Rabbit)	4.1 mg/L (Mouse) 2 h

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

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Valeric acid	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Valeric acid	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Valeric acid	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Valeric acid	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Valeric acid	Based on the NITE GHS classification results.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Valeric acid	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Valeric acid	N/A	LC50 : <i>Pimephales promelas</i> 77 mg/L 96 h	LC50 : <i>Daphnia magna</i> 48 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
Valeric acid	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

UN number UN2922
Proper shipping name: Corrosive liquid, toxic, n.o.s. (Valeric acid)
UN classification 8
Subsidiary hazard class 6.1
Packing group II
Marine pollutant Not applicable

IMDG

UN number UN2922
Proper shipping name: Corrosive liquid, toxic, n.o.s. (Valeric acid)
UN classification 8
Subsidiary hazard class 6.1
Packing group II
Marine pollutant (Sea) Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA

UN number UN2922
Proper shipping name: Corrosive liquid, toxic, n.o.s. (Valeric acid)
UN classification 8
Subsidiary hazard class 6.1
Packing group II
Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS Listed
TSCA Listed

Japanese regulations

Fire Service Act Category IV, Class III petroleums, dangerous grade 3
Poisonous and Deleterious Substances Control Law Deleterious Substances 3rd. Grade
Industrial Safety and Health Act Not applicable
Regulations for the carriage and storage of dangerous goods in ship Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
Marine Pollution Prevention Law Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
Pollutant Release and Transfer Register Law (2023.4.1-) Not applicable
Export Trade Control Order Not applicable
Offensive Odor Control Law Specified Offensive Odor Substances

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2) (~2024.3.31)	Pollutant Release and Transfer Register Law (2023.4.1-)
Valeric acid 109-52-4 (95.0)	Applicable	-	-

Section 16: OTHER INFORMATION**Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)
<http://www.safe.nite.go.jp/japan/db.html>
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Record of SDS revisions

The following contents were revised. Product and company Identification. Fire fighting measures. Exposure controls/personal protection. Physical and chemical properties. Toxicological information. Ecological information. Disposal considerations. 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 Z7252(2019). *JIS: Japanese Industrial Standards

End of Safety Data Sheet