

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

2-Vinylpyridine

Version number: 1.0

Issued: 2024-04-12



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

2-Vinylpyridine

CAS number

100-69-6

EC number

202-879-8

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

Relevant identified uses

Research and development. Laboratory Chemicals. Manufacture of substances.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,

DL1 4XX Darlington

United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Flammable liquids, hazard category 3

Acute toxicity, oral, hazard category 4

Acute toxicity, dermal, hazard category 3

Skin corrosion, hazard category 1B

Skin sensitisation, hazard category 1

Hazardous to the aquatic environment — Chronic hazard category 2

Hazard statements

H226, H302, H311, H314, H317, H411

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

Supplemental hazard statements

EUH071 Corrosive to the respiratory tract.

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Precautionary statements

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

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe vapour.

P273 Avoid release to the environment.

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

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P391 Collect spillage.

P405 Store locked up.

P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
2-Vinylpyridine	100-69-6 202-879-8 - -	100%	Flam. Liq. 3, Acute Tox. 4 - oral, Acute Tox. 3 - dermal, Skin Corr. 1B, Skin Sens. 1B, Aquatic Chronic 2	H226, H302, H311, H314, H317, H411, EUH071 - -	-

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

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Inhalation

Toxic if inhaled. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

Skin contact

In case of skin contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor. The casualty should be transferred to hospital for further treatment.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Do not attempt to neutralise.

Information for doctors

No data available.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. See section 11 for more detailed information on health effects and symptoms.

Inhalation

Single exposure may cause the following adverse effects: Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Causes severe burns.

Eye contact

Single exposure may cause the following adverse effects: May cause blurred vision and serious eye damage.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

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Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Highly Corrosive. Toxic. Flammable liquid and vapour.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrous gases (NO_x).

Vapours are heavier than air and may travel along the floor and in the bottom of containers. Forms explosive mixtures with air on intense heating.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid dust formation. For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Risk of explosion.

6.3. Methods and material for containment and cleaning up

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. This product is toxic. Keep containers tightly closed. Immediate first aid is necessary. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid ingestion and inhalation. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Do not reuse empty containers.

General hygiene

Observe good chemical hygiene practices. Remove contaminated clothing immediately and wash skin with soap and water. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

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7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Recommended storage temperature: -20 to -15°C
(-4 to 5°F)

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
2-Vinylpyridine (100-69-6/202-879-8)	DNEL	Acute (short term) Dermal	1.5 mg/kg bw/day	Workers	Systemic
2-Vinylpyridine (100-69-6/202-879-8)	DNEL	Acute (short term) Inhalation	5.28 mg/m ³	Workers	Systemic
2-Vinylpyridine (100-69-6/202-879-8)	DNEL	Chronic (long term) Dermal	0.5 mg/kg bw/day	Workers	Systemic
2-Vinylpyridine (100-69-6/202-879-8)	DNEL	Chronic (long term) Inhalation	1.76 mg/m ³	Workers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Freshwater	0.0065 mg/l
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Marine water	0.00065 mg/l
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Sediment (freshwater)	0.064 mg/kg sediment dw
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Intermittent releases (marine water)	0.0064 mg/kg sediment dw
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Intermittent releases	0.064 mg/l
2-Vinylpyridine (100-69-6/202-879-8)	PNEC	Sewage Treatment Plant	3.2 mg/l
2-Vinylpyridine	PNEC	Soil	0.0095

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Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
(100-69-6/202-879-8)			mg/kg soil dry weight

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Recommended gloves: Butyl rubber.

Glove Thickness: 0.7mm

Breakthrough time: 8 hours

Splash Contact (Nitrile.)

Glove Thickness: 0.4mm

Breakthrough time: 0.5 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Colourless to pale yellow.

Odour

Pungent.

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Melting point / freezing point

-50 °C

Boiling point or initial boiling point and boiling range

159 °C

Flammability

No data available

Lower and upper explosion limit

No data available

Flash point

50 °C

Method

CC (Closed cup).

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

8

Method

100g/l aq. (25°C)

Kinematic viscosity

No data available

Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

0.975 g/cm³

Method

(25°C)

Relative vapour density

No data available

Particle characteristics

No data available

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9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapor/air-mixtures are explosive at intense warming.

10.2. Chemical stability

Stable under the prescribed storage conditions. Contains the following stabiliser: 4-tert-butylpyrocatechol (0.1%)

10.3. Possibility of hazardous reactions

Violent reactions possible with:

Peroxides

polymerisation initiators

Strong acids.

Strong bases

Strong oxidising agents.

10.4. Conditions to avoid

Heating.

10.5. Incompatible materials

Strong oxidising substances, strong acids and strong bases.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Sub-stance name CAS / EC no.	Dose descriptor	Value / Dose	Duration of exposure	Test animals	Remarks
2-Vinylpyridine 100-69-6 / 202-879-8	Acute Toxicity (Oral LD50):	336mg/kg	-	Rat	(External MSDS)
2-Vinylpyridine 100-69-6 / 202-879-8	Acute Toxicity (Dermal LD50):	650mg/kg	-	Rabbit	(External MSDS)
2-Vinylpyridine 100-69-6 / 202-879-8	LC50	9mg/l	4 hours	Mouse	(External MSDS)

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Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
2-Vinylpyridine 100-69-6 / 202-879-8	Causes skin burns.	1 hours	Rabbit

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
2-Vinylpyridine 100-69-6 / 202-879-8	Risk of serious eye damage.	Rabbit

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species
2-Vinylpyridine 100-69-6 / 202-879-8	May cause sensitization by skin contact.	Guinea Pig

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result
2-Vinylpyridine 100-69-6 / 202-879-8	Negative.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

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Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of expos- ure	Species	Remark
2-Vinylpyridine 100-69-6 / 202-879-8	LC50	6.48mg/l	96 hours	Oryzias latipes (Red killifish)	(External MSDS)

Acute algae toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of expos- ure	Species	Remark
2-Vinylpyridine 100-69-6 / 202-879-8	EC50	50.8mg/l	72 hours	Selenastrum capri- cornutum	(External MSDS)

Acute crustacean toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of expos- ure	Species	Remark
2-Vinylpyridine 100-69-6 / 202-879-8	EC50	9.48mg/l	48 hours	Daphnia magna	(External MSDS)

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
2-Vinylpyridine 100-69-6 / 202-879-8	aerobic	28 days	The product is not read- ily biodegradable.	22.6%

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

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12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

3073

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

NINYLPYRIDINES, STABILIZED

IMDG proper shipping name

VINYLPYRIDINES, STABILIZED

IATA proper shipping name

Vinylpyridines, stabilized

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14.3. Transport hazard class(es)

Label

ADR/RID/ADN



6.1



3



8

Environmental hazard



IMDG



6.1



Environmental hazard



3



8

IATA



6.1



3



8

Environmental hazard



ADR / RID Class

6.1

ADR / RID Classification code

TFC

ADR / RID hazard identification number

638

IMDG Class

6.1 (44628)

IATA Class

6.1 (3, 8)

ADN Class

6. 1

ADN Class Code

TFC

14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

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14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Special precautions for user

Tunnel restriction code: D/E

Transport category: 2

IMDG EmS

F-E, S-C

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC01

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Flam. Liq. 3 - Flammable liquids, hazard category 3

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

Acute Tox. 3 - dermal - Acute toxicity, dermal, hazard category 3

Skin Corr. 1B - Skin corrosion, hazard category 1B

Skin Sens. 1 - Skin sensitisation, hazard category 1

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

Skin Sens. 1B - Skin sensitisation, hazard category 1, sub-category 1B

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

EUH071 Corrosive to the respiratory tract.