

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	4-Phenylpropylpyridine
CAS-No.	:	2057-49-0
Synonyms	:	4-PPP; 4P3; Pyridine, 4-(3-phenylpropyl)

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Intermediate
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1.3. Supplier

Vertellus LLC
 201 North Illinois Street
 Suite 1800
 Indianapolis, IN 46204 - USA
 T +1-317-247-8141
SDS@Vertellus.com

1.4. Emergency telephone number

Emergency number	:	Vertellus: +1-317-247-8141 CHEMTREC (USA): +1-800-424-9300 CHEMTREC (International): +1-703-527-3887 US National Poison Help: +1-800-222-1222
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400	Very toxic to aquatic life.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H302 - Harmful if swallowed.
 H400 - Very toxic to aquatic life.

Precautionary statements (GHS US)

: P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P273 - Avoid release to the environment.
 P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
 P391 - Collect spillage.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

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Name	Product identifier	%	GHS US classification
4-Phenylpropylpyridine (Main constituent)	(CAS-No.) 2057-49-0	≈ 100	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : First aider: Pay attention to self-protection!. Do not breathe dusts or mists. Wear gloves.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Get immediate medical advice/attention.
- First-aid measures after skin contact : Wash immediately with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Get immediate medical advice/attention.
- First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Harmful if swallowed.
- Chronic symptoms : No chronic health hazards are likely for this material.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Foam. Carbon dioxide (CO₂). Dry chemical.
- Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable.
- Explosion hazard : Product is not explosive.
- Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide. Cyanides. Nitrogen oxides.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Avoid contact with skin and eyes.
- Protection during firefighting : Wear recommended personal protective equipment. Complete protective clothing. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Ventilate spillage area. Mark out the contaminated area with signs and prevent access to unauthorized personnel.

6.1.1. For non-emergency personnel

- Emergency procedures : Do not get in eyes, on skin, or on clothing. Avoid breathing mist, spray. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Emergency procedures : Do not attempt to take action without suitable protective equipment.

6.2. Environmental precautions

Do not allow product to spread into the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Absorb spilled material with sand or earth. Shovel into suitable and closed container for disposal. Wash contaminated area with large amounts of water.

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Other information : Collect all waste in suitable and labelled containers and dispose according to local legislation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For waste disposal after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Avoid any direct contact with the product.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in a closed container. Store in a well-ventilated place.
Incompatible products : Strong acids. Strong bases. Strong oxidizers.
Incompatible materials : None known.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Chemical resistant gloves (according to European standard EN 374 or equivalent). Neoprene protective gloves. Nitrile rubber gloves. Protective gloves made of PVC

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Long sleeved protective clothing. Chemical resistant safety shoes

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : yellow to brown. Liquid.
Colour : yellow to brown
Odour : Sweet
Odour threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : 322 °C
Flash point : 140 °C (Open cup)
Relative evaporation rate (butylacetate=1) : No data available
Flammability (solid, gas) : No data available
Vapour pressure : < 0.0031 kPa (25°C)
Relative vapour density at 20 °C : No data available
Relative density : No data available

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Density	: 1.025 g/ml (20°C)
Solubility	: Water: 318.5 mg/l
Partition coefficient n-octanol/water (Log Pow)	: 4.04 (estimated value)
Auto-ignition temperature	: 514 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Overheating. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Cyanides. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Based on available data, the classification criteria are not met
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	400 mg/kg
LD50 dermal rat	4000 mg/kg

Skin corrosion/irritation	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Based on available data, the classification criteria are not met
Carcinogenicity	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	:
Viscosity, kinematic	: No data available
Symptoms/effects	: Harmful if swallowed.
Chronic symptoms	: No chronic health hazards are likely for this material.

SECTION 12: Ecological information

12.1. Toxicity

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LC50 fish 1	6 mg/l (96 hours)
EC50 Daphnia 1	0.81 mg/l (48 hours)

12.2. Persistence and degradability

4-Phenylpropylpyridine (2057-49-0)

Persistence and degradability	Not readily biodegradable.
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12.3. Bioaccumulative potential

4-Phenylpropylpyridine (2057-49-0)

BCF fish 1	< = 92 L/kg at 0.00005 mg/L, 28 L/kg at 0.0005 mg/L
Partition coefficient n-octanol/water (Log Kow)	4.04 (estimated value)
Bioaccumulative potential	Bioaccumulation is not expected to occur.

12.4. Mobility in soil

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Mobility in soil	low mobility
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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose in a safe manner in accordance with local/national regulations.
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN3082 Environmentally hazardous substances, liquid, n.o.s. (4-Phenylpropylpyridine), 9, III
UN-No.(DOT)	: UN3082
Proper Shipping Name (DOT)	: Environmentally hazardous substances, liquid, n.o.s. 4-Phenylpropylpyridine
Class (DOT)	: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Symbols	: G - Identifies PSN requiring a technical name

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- DOT Special Provisions (49 CFR 172.102) : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
173 - An appropriate generic entry may be used for this material.
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 155
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Emergency Response Guide (ERG) Number : 171
- Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

- Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4-Phenylpropylpyridine), 9, III, MARINE POLLUTANT
- UN-No. (IMDG) : 3082
- Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
- Packing group (IMDG) : III - substances presenting low danger
- Limited quantities (IMDG) : 5 L
- Marine pollutant : Yes



Air transport

- Transport document description (IATA) : UN 3082 Environmentally hazardous substance, liquid, n.o.s. (4-Phenylpropylpyridine), 9, III
- UN-No. (IATA) : 3082
- Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
- Class (IATA) : 9 - Miscellaneous Dangerous Goods

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Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

EU-Regulations

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 08/13/2020

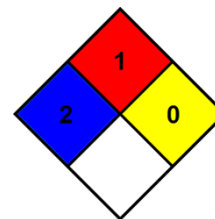
Full text of H-statements:

H302	Harmful if swallowed.
H400	Very toxic to aquatic life.

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Indication of changes:

All chapters have been modified since the previous version (new software).

SDS US (GHS HazCom 2012)

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