Forchlorfenuron (CPPU) SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

* Product Name: Forchlorfenuron (CPPU)
* Catalog Number: S5306
* CAS Number: 68157-60-8
* IUPAC Name: Urea, N-(2-chloro-4-pyridinyl)-N'-phenyl-

Relevant identified uses and uses advised against

* Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
* Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

* Company: Selleck Chemicals
* TollFree: +1 877 796-6397
* Tel: +1 832 582-8158
* Fax: +1 832 582-8590

Emergency telephone number

* Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Eye irritation: Category 2. H320
Specific target organ toxicity (single exposure): Category 3. H335
Carcinogenicity: Category 2. H351
Reproductive toxicity: Category 2. H361
Specific target organ toxicity (single exposure): Category 2. H371
Acute aquatic toxicity: Category 2. H401
Chronic aquatic toxicity: Category 2. H411

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word Warning

Hazard statement(s)	H320: Causes eye irritation H335: May cause respiratory irritation H351: Suspected of causing cancer H361: Suspected of damaging fertility or the unborn child H371: May cause damage to organs H401: Toxic to aquatic life H411: Toxic to aquatic life with long lasting effects
Precautionary statement(s)	None.
Prevention	P203: Obtain, read and follow all safety instructions before use. P260: Do not breathe dust/fume/gas/mist/vapors/spray. P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P264: Wash hands thoroughly after handling. P264+P265: Wash hands thoroughly after handling. Do not touch eyes. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Response	P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351: IF IN EYES: Rinse cautiously with water for several minutes. P308+P316: IF exposed or concerned: Get emergency medical help immediately. P318: if exposed or concerned, get medical advice. P319: Get medical help if you feel unwell. P337+P317: If eye irritation persists: Get medical help. P338: Remove contact lenses, if present and easy to do. Continue rinsing. P391: Collect spillage.
Storage	P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up.
Disposal	P501: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Forchlorfenuron (CPPU)

CAS Number: 68157-60-8

PubChem CID: 93379

Molecular formula: C12H10ClN3O

Molecular weight: 247.68 g/mol

IUPAC name: 1-(2-chloro-4-pyridinyl)-3-phenylurea

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Move to fresh air. Keep at rest in a position comfortable for breathing. Seek medical attention if symptoms persist.

Skin contact: Wash with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation develops.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Water spray, dry chemical, carbon dioxide (CO2), alcohol-resistant foam.

Unsuitable: None known.

5.2 Specific hazards arising from the substance or mixture

EXTINGUISHING MEDIA: Dry chemical or waterspray or waterfog or CO2 or Foam or Sand/Earth /Kim Blue Plant Growth Regulator/

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

Flash point: FLASH POINT, °F: >200 Pensky Martin Closed Cup /Kim Blue Plant Growth Regulator/

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

Absorb with an inert material such as sand, soil or vermiculite, and sweep up and dispose in accordance with federal, state and local regulations. /Kim Blue Plant Growth Regulator/

Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate. /Kim Blue Plant Growth Regulator/

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. /Kim Blue Plant Growth Regulator/

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. /Kim Blue Plant Growth Regulator/

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. /Kim Blue Plant Growth Regulator/

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. /Kim Blue Plant Growth Regulator/

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, viton, butyl rubber, nitrile rubber, neoprene rubber, or polyvinyl chloride (PVC); shoes plus socks; protective eyewear such as goggles, safety shield, or safety glasses. /Kim Blue Plant Growth Regulator/

Users should: Wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. /Kim Blue Plant Growth Regulator/

For more Preventive Measures (Complete) data for Forchlorfenuron (6 total), please visit the HSDB record page.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Store between 40 °F and 120 °F. /Kim Blue Plant Growth Regulator/

Do not contaminate water, food, or feed by storage or disposal. Keep pesticide in original container. /Kim Blue Plant Growth Regulator/

7.2 Conditions for safe storage, including any incompatibilities

Store between 40 °F and 120 °F. /Kim Blue Plant Growth Regulator/

Do not contaminate water, food, or feed by storage or disposal. Keep pesticide in original container. /Kim Blue Plant Growth Regulator/

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

8.1.2 Appropriate engineering controls

Use only in a chemical fume hood or with local exhaust ventilation.

Ensure adequate ventilation to keep airborne concentrations below exposure limits.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear chemical safety goggles.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Use NIOSH-approved dust/mist respirator (N95 or higher) if ventilation is inadequate.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: White to off-white crystalline powder

b) Odor: No data available

c) Odor threshold: No data available

d) pH: No data available

e) Melting point/freezing point: 165-170 °C

f) Initial boiling point and boiling range: No data available

g) Flash point: FLASH POINT, °F: >200 Pensky Martin Closed Cup /Kim Blue Plant Growth Regulator/

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: 3.45X10-10 mm Hg at 25 °C (gas saturation method)

l) Vapor density: No data available

m) Relative density: 1.3839 at 25 °C

n) Water solubility: In methanol 119 g/L, ethanol 149 g/L, acetone 127 g/L, chlorofrom 2.7 g/LApplied at 1-1000 ppm, depending on crop.

o) Partition coefficient: n-octanol/water: Log P (n-octanol/water): 2.4

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 54 Å²

Complexity: 256

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.

Avoid strong oxidizing agents, strong acids, and strong bases.

10.5 Incompatible materials

Keep away from strong oxidizers such as hydrogen peroxide, bromine, and chromic acid. /Kim Blue Plant Growth Regulator/

10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO□), Nitrogen oxides (NOx), Hydrogen chloride (HCl).

See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

No acute toxicity data available.

Skin corrosion/irritation:

No data available.

Serious eye damage/eye irritation:

No data available.

Respiratory or skin sensitization:

No data available.

Germ cell mutagenicity:

No data available.

Carcinogenicity:

Suspected of causing cancer (H351).

Reproductive toxicity:

Suspected of damaging fertility or the unborn child (H361).

Specific target organ toxicity (single exposure):

H371

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

No indication of carcinogenicity to humans (not listed by IARC).

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

LD50; Species: Colinus virginianus (Bobwhite quail) oral > or =2250 ppm

LC50; Species: Colinus virginianus (Bobwhite quail) subacute dietary >5620 ppm

LC50; Species: Anas platyrhynchos (Mallard duck) subacute dietary >5620 ppm

LC50; Species: Oncorhynchus mykiss (Rainbow trout); Concentration: >9.2 ppm (acute) /Conditions of bioassay not specified in source examined/

For more Ecotoxicity Values (Complete) data for Forchlorfenuron (6 total), please visit the HSDB record page.

Forchlorfenuron's production may result in its release to the environment through various waste streams; its use as a plant growth regulator will result in its direct release to the environment. If released to air, a vapor pressure of 3.45X10-10 mm Hg at 25 °C indicates forchlorfenuron will exist solely in the particulate phase in the atmosphere. Particulate-phase forchlorfenuron will be removed from the atmosphere by wet or dry deposition. If released to soil, forchlorfenuron is expected to have low to slight mobility based upon a Koc range of 852-3320. Volatilization from moist soil surfaces is not expected to be an important fate process based upon a Henry's Law constant of 2.86X10-12 atm-cu m/mole. Forchlorfenuron is not expected to volatilize from dry soil surfaces based upon its vapor pressure. Microbial degradation might be the major pathway of residue dissipation in soil based on sterilized versus natural soil incubation studies. Dissipation in soil may be slow based on observed half-lives of 578 d

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Log P (n-octanol/water): 2.4

Low potential for bioaccumulation (Log P < 3).

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

This substance is classified as hazardous to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name

Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)

Not classified as dangerous goods for transport (research quantities).

14.4 Packing group

Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards

Marine pollutant: Yes (classified as environmentally hazardous per GHS).

14.6 Special precautions for user

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

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

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Not available in public databases.

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

Acute (short-term) health hazard

Chronic (long-term) health hazard

Environmental hazard

Massachusetts Right To Know Components:

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

Pennsylvania Right To Know Components:

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

New Jersey Right To Know Components:

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulatory listings:

- EFSA Legal Basis: Commission Regulation No 844/2012

- Safe Drinking Water Act: Forchlorfenuron is listed in the dataset of EPA Human Health Benchmarks for Pesticides under the Safe Drinking Water Act (40 eCFR 141)

- Status Regulation (EC): 06/10/EC, Reg. (EU) 2017/1511, Reg. (EU) No 533/2013, Reg. (EU) No 540/2011, Reg.(EU) No 2018/679

- FIFRA Requirements: Tolerances are established for residues of the plant growth regulator forchlorfenuron; N-(2-chloro-4-pyridinyl)-N'-phenylurea in or on the following commodities: [Table#7911]

Time-limited tolerances are established for residues of the plant growth regulator forchlorfenuron; N-(2-chloro-4-pyridinyl)-

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.