

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

* **1 Identification**

· **Product identifier**

· **Trade name:** τ-Fluvalinate

· **Synonym**

N-[2-chloro-4-(trifluoromethyl)phenyl]-D-valine, cyano(3-phenoxyphenyl)methyl ester
tau-Fluvalinate

· **Article number:** 34520

· **CAS Number:**

102851-06-9

· **EC number:**

600-363-0

· **Index number:**

607-238-00-X

· **Application of the substance / the mixture**

This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Cayman Chemical Co.
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
USA

· **Information department:** Product safety department

· **Emergency telephone number:**

During normal opening times: +1 (734) 971-3335
US/CANADA: 800-424-9300
Outside US/CANADA: 703-741-5970

* **2 Hazard(s) identification**

· **Classification of the substance or mixture**



GHS09 Environment

Aquatic Acute 1

H400 Very toxic to aquatic life.

Aquatic Chronic 1

H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Skin Irritation 2

H315 Causes skin irritation.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ-Fluvalinate

(Contd. from page 1)

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS09

- **Signal word** Warning

- **Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H410 Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P264 Wash 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/doctor if you feel unwell.

P330 Rinse mouth.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2

FIRE 0 Fire = 0

REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

102851-06-9 τ-Fluvalinate

- **Identification number(s)**

- **EC number:** 600-363-0

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ-Fluvalinate

· Index number: 607-238-00-X

(Contd. from page 2)

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Use fire fighting measures that suit the environment.
A solid water stream may be inefficient.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ -Fluvalinate

(Contd. from page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
No special precautions are necessary if used correctly.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid prolonged or repeated exposure.
Keep away from sources of ignition.
Take precautionary measures against static discharge.re.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ-Fluvalinate

(Contd. from page 4)

· **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	oil
Color:	Not determined.
· Odor:	Characteristic
· Structural Formula	C ₂₆ H ₂₂ ClF ₃ N ₂ O ₃
· Molecular Weight	502.9 g/mol
· Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not determined.

· Ignition temperature: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Not determined.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

SOLUBILITY DMF: 10 mg/ml; DMSO: 10 mg/ml; Ethanol: 10 mg/ml

· Other information: No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ-Fluvalinate

(Contd. from page 5)

- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** strong oxidizing agents
- **Hazardous decomposition products:**
carbon oxides, hydrogen chloride, hydrogen fluoride, nitrogen oxides

11 Toxicological information

- **RTECS Number** YV9397070
- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

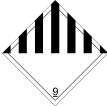

Trade name: τ-Fluvalinate

(Contd. from page 6)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA 	UN3077
<ul style="list-style-type: none"> · UN proper shipping name · DOT, IATA · IMDG 	Environmentally hazardous substance, solid, n.o.s. (τ-Fluvalinate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (τ-Fluvalinate)
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	
	
<ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles 9
<ul style="list-style-type: none"> · IMDG, IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles 9
<ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA 	III
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (IATA): 	Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code 	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ -Fluvalinate

(Contd. from page 7)

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 400 kg On cargo aircraft only: 400 kg
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IATA	
· Remarks:	When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.
· UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (τ -FLUVALINATE), 9, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** Substance is not listed.
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2023

Revision date 12/01/2023

Trade name: τ-Fluvalinate

(Contd. from page 8)

be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- **Department issuing SDS:** Environment protection department.
- **Contact:** -
- **Date of preparation / last revision** 12/01/2023
- **Abbreviations and acronyms:**
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - NFPA: National Fire Protection Association (USA)
 - HMIS: Hazardous Materials Identification System (USA)
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - NIOSH: National Institute for Occupational Safety
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit
 - Acute Toxicity - Oral 4: Acute toxicity – Category 4
 - Skin Irritation 2: Skin corrosion/irritation – Category 2
 - Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 - Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- *** Data compared to the previous version altered.**

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