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SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name	(E)-Fenpyroximate

1.2 Other means of identification

Product number	LCPD100003-AC
Other names	-

1.3 Recommended use of the chemical and restrictions on use

Identified uses	For laboratory and Industrial use only.
Uses advised against	no data available

1.4 Supplier's details

Company	CATO Research Chemicals Inc.
Address	3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou
Telephone	+86-20-81960175

1.5 Emergency phone number

Emergency phone number	+86-20-81960175
Service hours	'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 2
Skin irritation, Category 2
Skin sensitization, Category 1
Eye irritation, Category 2
Specific target organ toxicity – single exposure, Category 3
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word	Danger
Hazard statement(s)	H225 Highly flammable liquid and vapour H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H336 May cause drowsiness or dizziness H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	

Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P272 Contaminated work clothing should not be allowed out of the workplace. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P302+P352 IF ON SKIN: Wash with plenty of water/... P321 Specific treatment (see ... on this label). P332+P317 If skin irritation occurs: Get medical help. P362+P364 Take off contaminated clothing and wash it before reuse. P333+P317 If skin irritation or rash occurs: Get medical help. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P319 Get medical help if you feel unwell. P391 Collect spillage.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Acetone	Acetone	67-64-1	200-662-2	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer for medical attention.

Following ingestion

Rinse mouth. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

INHALATION: vapor irritating to eyes and mucous membranes; acts as an anesthetic in very high concentrations. INGESTION: low order of toxicity but very irritating to mucous membranes. SKIN: prolonged excessive contact causes defatting of the skin, possibly leading to dermatitis. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body

temperature. Obtain medical attention. Ketones and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

If material is on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, carbon dioxide, or dry chemical.

5.2 Specific hazards arising from the chemical

Excerpt from ERG Guide 127 [Flammable Liquids (Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016)

5.3 Special protective actions for fire-fighters

Use powder, alcohol-resistant foam, water, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all ignition sources. Personal protection: filter respirator for organic gases and vapours of low boiling point adapted to the airborne concentration of the substance. Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

6.2 Environmental precautions

Remove all ignition sources. Personal protection: filter respirator for organic gases and vapours of low boiling point adapted to the airborne concentration of the substance. Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

6.3 Methods and materials for containment and cleaning up

Accidental release measures. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.; Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.; Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Separated from : see Chemical Dangers. Store in an area without drain or sewer access.Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable liquids

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 250 ppm as TWA; 500 ppm as STEL; BEI issued; A4 (not classifiable as a human carcinogen).MAK: 1200 mg/m3, 500 ppm; peak limitation category: I(2); pregnancy risk group: B.EU-OEL: 1210 mg/m3, 500 ppm as TWA

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colourless.
Odour	Fruity odor
Melting point/freezing point	-94.8 °C. Remarks:Corresponding to -94.85°C.
Boiling point or initial boiling point and boiling range	56.05 °C. Remarks:Corresponding to 56.05°C.
Flammability	Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Lower and upper explosion limit/flammability limit	Lower flammable limit: 2.5% by volume; Upper flammable limit: 12.8% by volume
Flash point	-17 °C.
Auto-ignition temperature	465 °C. Remarks:Atm. press. not mentioned.
Decomposition temperature	no data available
pH	5 - 6.
Kinematic viscosity	dynamic viscosity (in mPa s) = 1.53. Temperature:-80.0°C.;dynamic viscosity (in mPa s) = 0.71. Temperature:-40.0°C.;dynamic viscosity (in mPa s) = 0.4. Temperature:0.0°C.
Solubility	greater than or equal to 100 mg/mL at 72° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = -0.23. Remarks:Temp. and pH not reported in QSAR.
Vapour pressure	240 hPa. Temperature:20 °C.;372 hPa. Temperature:30 °C.;560 hPa. Temperature:40 °C.
Density and/or relative density	0.81. Temperature:0 °C.;0.8. Temperature:4 °C.;0.79. Temperature:20 °C.
Relative vapour density	2 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

2500 ppm (IDLH based on a 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment of escape existed only at higher concentrations.)
Contact with strong oxidants such as acetic acid, nitric acid and hydrogen peroxide generates explosive peroxides. Reacts with chloroform and bromoform under basic conditions. This generates fire and explosion hazard. Attacks plastics.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Highly flammable liquid. Dangerous disaster hazard due to fire and explosion hazard ...The vapour is heavier than air and may travel along the ground; distant ignition possible.It was reported that a mixture of ACETONE and chloroform, in a residue bottle, exploded. Since addition of acetone to chloroform in the presence of base will result in a highly exothermic reaction, it is thought that a base was in the bottle [MCA Case History 1661. 1970]. Also, Nitrosyl chloride, sealed in a tube with a residue of acetone in the presence of platinum catalyst, gave an explosive reaction [Chem. Eng. News 35(43):60. 1967]. The reaction of nitrosyl perchlorate and acetone ignites and explodes. Explosions occur with mixtures of nitrosyl perchlorate and primary amine [Ann. Chem. 42:2031. 1909]. Reacts violently with nitric acid. Also causes exothermic reaction when in contact with aldehydes.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible materials: Bases, Oxidizing agents, Reducing agents, Acetone reacts violently with phosphorous oxychloride.

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (female) - 5 800 mg/kg bw.
- Inhalation: LC50 - rat (male) - 55 700 ppm.
- Dermal: LD50 - rabbit (male/female) - > 7 426 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes and respiratory tract. Exposure at high levels could cause lowering of consciousness.

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking. Repeated or prolonged contact with skin may cause dryness and cracking.

Aspiration hazard

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C , on spraying or dispersing much faster.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Pimephales promelas - 8 120 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia pulex - 8 800 mg/L - 48 h.
- Toxicity to algae: TT: Toxic Threshold Concentration (corresponds to EC3 and can be regarded as NOEC) - Microcystis aeruginosa - 530 mg/L - 8 d.
- Toxicity to microorganisms: EC12 - activated sludge of a predominantly domestic sewage - 1 000 mg/L - 30 min. Remarks:Respiration rate.

12.2 Persistence and degradability

AEROBIC: The percent theoretical BOD of acetone in water seeded with settled domestic sewage was 56%, 76%, 83% and 84%, over 5, 10, 15 and 20 day incubation periods(1). Percent theoretical BOD's of acetone in a raw sewage inocula were reported as 37% and 81% over 5 and 20 day incubation periods, respectively(2), 54% over a 5 day incubation period(3), 71% over a 7 day incubation period(4), 55% and 72% over 5 day and 10 day incubation periods respectively(5) and 38% over a 5 day incubation period(6). The percent theoretical BOD of acetone in freshwater was reported as 56%, 76%, 83% and 84% over 5, 10, 15 and 20 day incubation periods, respectively(7). The percent theoretical BOD of acetone in seawater was reported as 38%, 67%, 69% and 76% over 5, 10, 15 and 20 day incubation periods, respectively(7). Acetone, present at 100 mg/L, reached 96% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test which classified the compound as readily biodegradable(8). Using OECD Guideline 301B (Ready Biodegradability: CO2 Evolution Test), acetone was found to be readily biodegradable with 60% degradation after 5 days and 90.9% CO2 evolution after 28 days(9).

12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for acetone(SRC), using a log Kow of -0.24(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF value suggests that the potential for bioconcentration in aquatic organisms is low(SRC). In a 1931 test report, a BCF value of 0.69 was determined for adult haddock fish over an 11 hour exposure period(4); however, the test protocol does not meet important criteria of current standard BCF methods(4).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of acetone can be estimated to be 2.4(SRC). According to a classification scheme(2), this estimated Koc value suggests that acetone is expected to have very high mobility in soil. In sorption studies, acetone showed no adsorption to montorillonite, kaolinite clay, or stream sediment(3,4).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is

possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN1090 (For reference only, please check.) IMDG: UN1090 (For reference only, please check.) IATA: UN1090 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ACETONE (For reference only, please check.) IMDG: ACETONE (For reference only, please check.) IATA: ACETONE (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.) IMDG: 3 (For reference only, please check.) IATA: 3 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.) IMDG: II (For reference only, please check.) IATA: II (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Acetone	Acetone	67-64-1	200-662-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date July 15, 2019
Revision Date August 08, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Use of alcoholic beverages enhances the harmful effect.

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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