

## Chemical Safety Data Sheet MSDS / SDS

## 9-KETO FLUPROSTENOL

Revision Date:2026-05-31 Revision Number:1

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

## Product identifier

Product name : 9-KETO FLUPROSTENOL  
CBnumber : CB0437130  
CAS : 156406-33-6  
Synonyms : 9-ketofluprostonl;Travoprost Impurity 34

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P501 Dispose of contents/container to.....

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P370+P378 In case of fire: Use ... for extinction.

P337+P313 IF eye irritation persists: Get medical advice/attention.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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

Continuerinsing.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

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

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

P271 Use only outdoors or in a well-ventilated area.

P264 Wash skin thoroughly after handling.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P243 Take precautionary measures against static discharge.

P242 Use only non-sparking tools.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P240 Ground/bond container and receiving equipment.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

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

P201 Obtain special instructions before use.

#### **Hazard statements**

H336 May cause drowsiness or dizziness

H360 May damage fertility or the unborn child

H319 Causes serious eye irritation

H225 Highly Flammable liquid and vapour

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: 9-KETO FLUPROSTENOL
Synonyms	: 9-ketofluprostonl;Travoprost Impurity 34
CAS	: 156406-33-6
MF	: C23H27F3O6
MW	: 456.45

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General information**

Immediately remove any clothing soiled by the product.

#### **After inhalation**

Supply fresh air; consult doctor in case of complaints.

#### **After skin contact**

Immediately rinse with water.

#### **After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

## After swallowing

If symptoms persist consult 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.

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

#### For safety reasons unsuitable extinguishing agents

Water with full jet

#### Special hazards arising from the substance or mixture

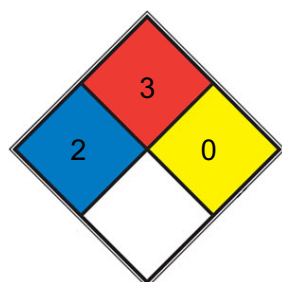
No further relevant information available.

#### Advice for firefighters

#### Protective equipment

No special measures required.

#### NFPA 704



■ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

■ FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

SPEC.

□ HAZ.

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## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

### **Environmental precautions**

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).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### **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**

79-20-9 Methyl acetate 250 ppm

#### **PAC-2**

79-20-9 Methyl acetate 1,700 ppm

#### **PAC-3**

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## SECTION 7: Handling and storage

### **Handling**

#### **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

#### **Information about protection against explosions and fires**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

## 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

Store in a cool location.

### Information about storage in one common storage facility

Not required.

### Further information about storage conditions

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

### Specific end use(s)

No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

### Additional information about design of technical systems

No further data; see item 7.

### Control parameters

Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

79-20-9 Methyl acetate	
PEL	Long-term value: 610 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 760 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 610 mg/m <sup>3</sup> , 200 ppm
TLV	Short-term value: 250 ppm
	Long-term value: 200 ppm

### 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.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

### **Breathing equipment**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

### **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

### **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.

### **Eye protection**

Tightly sealed goggles

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## SECTION 9: Physical and chemical properties

### **Information on basic physicochemical properties**

#### **Appearance**

#### **Physical State**

Liquid

#### **Color**

According to product specification

#### **Odor**

Pleasant

#### **Structural Formula**

C<sub>23</sub>H<sub>27</sub>F<sub>3</sub>O<sub>6</sub>

**Molecular Weight**

456.5 g/mol

**Odor Threshold**

Not determined.

**Formulation**

A solution in methyl acetate

**pH**

Not determined.

**Change in condition****Melting point/Melting range**

-98.05 °C (-144.5 °F)

**Boiling point/Boiling range**

57 °C (134.6 °F)

**Flash point**

-13 °C (8.6 °F)

**Flammability (solid,gas)**

Highly flammable.

**Ignition temperature**

455 °C (851 °F)

**Decomposition temperature**

Not determined.

**Auto igniting**

Product is not selfigniting.

**Danger of explosion**

Product is not explosive. However, formation of explosive air/ vapor mixtures are possible.

**Explosion limits**

Lower: 3.1 Vol %

Upper: 16 Vol %

**Vapor Pressure at 20 °C (68 °F)**

220 hPa (165 mm Hg)

**Density at 20 °C (68 °F)**

0.93 g/cm<sup>3</sup> (7.76085 lbs/gal)

**Relative Density**

1.331±0.06 g/cm<sup>3</sup>(Predicted)

**Vapor Density**

Not determined.

**Evaporation Rate**

Not determined.

**Solubility in / Miscibility with**

Ethanol: Miscible; PBS (7.2): 10 mg/ml

**Water at 20 °C (68 °F)**

330 g/l

**Partition coefficient (n-octanol/water)**

Not determined.

**Viscosity**

**Dynamic**

Not determined.

**Kinematic**

Not determined.

**SOLUBILITY**

Ethanol: Miscible; PBS (7.2): 10 mg/ml

**Organic solvents**

99.0 %

**VOC content**

0.00 % 0.0 g/l / 0.00 lb/gal

**Solids content**

0.0 %

**Other information**

No information available

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**SECTION 10: Stability and reactivity**

**Reactivity**

No further relevant information available.

### 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 dioxide, carbon monoxide, nitrogen oxides

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD/LC50 values that are relevant for classification:

Substance / Estimate	Route	Endpoint	Value
ATE (Acute Toxicity Estimate)	Oral	LD50	50,000 mg/kg
79-20-9 Methyl acetate	Oral	LD50	>5,000 mg/kg (rat) 3,705 mg/kg (rabbit)
79-20-9 Methyl acetate	Dermal	LD50	>5,000 mg/kg (rabbit) Inhalative TCLO 15,000 mg/m <sup>3</sup> (hmn) Irritation of skin Irritation 500 mg/24h (rabbit) Irritation 40 mg/kg/24h (rabbit) Irritation of eyes Irritation 100 mg/24h (rabbit)
79-20-9 Methyl acetate	Intraperitoneal	LD50	70 mg/kg (mouse)

#### Primary irritant effect

##### on the skin

No irritant effect.

##### on the eye

Irritating effect.

#### Sensitization

No sensitizing effects known.

### **Additional toxicological information**

The product shows the following dangers according to internally approved calculation methods for preparations  
Irritant

### **Carcinogenic categories**

#### **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

#### **NTP (National Toxicology Program)**

None of the ingredients is listed.

#### **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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## SECTION 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.

### **Additional ecological information**

#### **General notes**

Water hazard class 1 (Self-assessment) slightly hazardous for water

### **Results of PBT and vPvB assessment**

#### **PBT:**

Not applicable.

#### **vPvB:**

Not applicable.

#### **Other adverse effects**

No further relevant information available.

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## SECTION 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.

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## SECTION 14: Transport information

#### **UN-Number**

DOT, IMDG, IATA UN1231

#### **UN proper shipping name**

DOT, IATA Methyl acetate

IMDG METHYL ACETATE

#### **Transport hazard class(es)**

##### **DOT**

Class: 3 Flammable liquids

Label: 3

##### **IMDG, IATA**

Class: 3 Flammable liquids

Label: 3

#### **Packing group**

DOT, IMDG, IATA II

#### **Environmental hazards**

Not applicable.

#### **Special precautions for user**

Warning: Flammable liquids

#### **Hazard identification number (Kemler code)**

**EMS Number**

F-E,S-D

**Stowage Category**

B

**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: 5 L

On cargo aircraft only: 60 L

**IMDG:****Limited quantities (LQ)**

1L

**Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 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 1231 METHYL ACETATE, 3, II

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**SECTION 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):	None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):	None of the ingredients is listed.
TSCA (Toxic Substances Control Act):	79-20-9 Methyl acetate ACTIVE
Hazardous Air Pollutants:	None of the ingredients is listed.

## Proposition 65

Chemicals known to cause cancer:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males:	None of the ingredients is listed.
Chemicals known to cause developmental toxicity:	None of the ingredients is listed.

## Carcinogenic categories

EPA (Environmental Protection Agency):	None of the ingredients is listed.
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## TLV (Threshold Limit Value)

None of the ingredients is listed.

## NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

## Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### 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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Flammable Liquids 2: Flammable liquids – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.