

## Chemical Safety Data Sheet MSDS / SDS

## Tiotropium EP Impurity C

Revision Date:2026-03-21 Revision Number:1

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

**Product identifier**

Product name : Tiotropium EP Impurity C  
CBnumber : CB43118960  
CAS : 136310-95-7  
Synonyms : Tiotropium Impurity 25;Tiotropium Related Compound C

**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

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## SECTION 2: Hazards identification

**GHS Label elements, including precautionary statements**

Symbol(GHS) : No data available  
Signal word : No data available

**Precautionary statements**

No data available

**Hazard statements**

No data available

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## SECTION 3: Composition/information on ingredients

**Substance**

Product name : Tiotropium EP Impurity C  
Synonyms : Tiotropium Impurity 25;Tiotropium Related Compound C  
CAS : 136310-95-7  
MF : C<sub>19</sub>H<sub>22</sub>BrNO<sub>3</sub>S<sub>2</sub>

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## SECTION 4: First aid measures

### First Aid Measures

#### General advice

Consult a physician if necessary. Remove to fresh air.

#### Eye contact

Wash with plenty of water.

#### Skin Contact

Wash skin with soap and water.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

#### Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water.

### Most important symptoms and effects, both acute and delayed

#### Symptoms

No information available.

### Indication of any immediate medical attention and special treatment needed

#### Note to physicians

Treat symptomatically.

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## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

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Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable Extinguishing Media

No information available.

### Specific hazards arising from the chemical

#### Specific hazards arising from the chemical

No information available.

#### Hazardous combustion products

Carbon oxides. Nitrogen oxides (NO<sub>x</sub>). Hydrogen sulfide.

### Explosion data

#### Sensitivity to Mechanical Impact

No information available.

#### Sensitivity to Static Discharge

No information available.

## **Protective equipment and precautions for firefighters**

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As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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## **SECTION 6: Accidental release measures**

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

#### **Personal precautions**

Ensure adequate ventilation, especially in confined areas.

#### **Environmental precautions**

#### **Environmental precautions**

See Section 12 for additional Ecological Information.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

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## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

#### **Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at 4 °C.

#### **Incompatible materials**

None known based on information supplied.

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## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

#### **Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### **Appropriate engineering controls**

## Engineering Controls

Showers

Eyewash stations

Ventilation systems

## Individual protection measures, such as personal protective equipment

### Eye/face protection

Wear safety glasses with side shields (or goggles).

### Skin and Body Protection

Wear protective gloves and protective clothing.

### Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

### General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|                              |                          |
|------------------------------|--------------------------|
| Physical State               | Solid                    |
| Appearance                   | No information available |
| Odor                         | No information available |
| pH                           | No information available |
| Melting point/freezing point | No information available |
| Boiling point                | No information available |
| Flash point                  | No information available |
| Liquid Density               | No information available |
| Evaporation rate             | No information available |
| Upper flammability limits    | No information available |
| Lower flammability limit     | No information available |
| Vapor pressure               | No information available |
| Vapor density                | No information available |
| Specific gravity             | No information available |
| Water solubility             | No information available |
| Solubility in other solvents | No information available |
| Partition coefficient        | No information available |
| Autoignition temperature     | No information available |
| Decomposition temperature    | No information available |
| Kinematic viscosity          | No information available |
| Explosive properties         | No information available |

## SECTION 10: Stability and reactivity

### Reactivity

Not applicable

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous polymerization

No information available.

### Conditions to avoid

Extremes of temperature and direct sunlight.

### Incompatible materials

Strong oxidizing agents.

### Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NO<sub>x</sub>). Hydrogen sulfide.

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## SECTION 11: Toxicological information

### Information on likely routes of exposure

#### Inhalation

No data available.

#### Eye contact

No data available.

#### Skin Contact

No data available.

#### Ingestion

No data available.

### Information on toxicological effects

#### Symptoms

No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Chronic Toxicity

No information available.

## **Numerical measures of toxicity - Product Information**

### **Unknown acute toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

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## SECTION 12: Ecological information

### **Ecotoxicity**

May cause long lasting harmful effects to aquatic life

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

### **Persistence and degradability**

No information available.

### **Bioaccumulation**

No information available.

### **Mobility**

No information available.

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## SECTION 13: Disposal considerations

### **Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### **Contaminated packaging**

Do not reuse container.

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## SECTION 14: Transport information

### **DOT**

Not regulated

### **IMDG**

Not regulated

### **IATA**

Not regulated

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## SECTION 15: Regulatory information

## International Inventories

All of the components in the product are on the following Inventory lists

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

## US Federal Regulations

### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### SARA 311/312 Hazard Categories

#### Acute health hazard

Yes

#### Chronic Health Hazard

No

#### Fire hazard

No

#### Sudden release of pressure hazard

No

#### Reactive hazard

No

### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

## US State Regulations

### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

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## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

**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.