

# Safety Data Sheet

## Silver Carbonate

1st Version : Feb. 17. 2010

Revised : Feb. 28. 2024

### 1. Product and company information

Product Name : Silver Carbonate  
 Company Name : Toyo Chemical Industrial Co., Ltd.  
 Address : 2-26-13 Naka-Izumi, Komae-City, Tokyo  
 Tel : +81-3-3489-5152  
 Fax : +81-3-3488-1706  
 Emergency Contact : As above  
 Recommended use of the product and restrictions on use : Catalysts, reagents

### 2. Hazard identification

GHS classification of the substance All items are "Outside scope of classification" or "Cannot classify".

GHS Label elements

Pictograms : None  
 Signal word : None  
 Hazard statements : May be harmful if swallowed.  
 Causes skin irritation.  
 Causes eye irritation.

Precautionary statement

Safety measures : Avoid breathing dust/fume/mist.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Wear protective gloves/protective clothing/eye protection/face protection.

Emergency measures : If swallowed : Call a doctor if you feel unwell.  
 If on skin : Wash with plenty of water or sope.  
 If inhaled : Remove person to fresh air and keep comfortable for breathing.  
 If in eyes: Rinse cautiously with water for several minutes.  
 Remove contact lenses if present and easy to do - continue rinsing.  
 If skin irritation occurs : Get medical advice/attention.  
 If eye irritation persists : Get medical advice/attention.

Storage : Store locked up.  
 Disposal : Dispose of contents/container entrust to a specialized waste disposal company.

### 3. Composition/information on ingredients

| Substance or Mixture :  |   | Substance |  |  |   |
|-------------------------|---|-----------|--|--|---|
| Chemical name           | Molecular formula<br>(molecular weight)     | CAS No.   | Reference numbers in<br>gazetted list in Japan<br>(CSCL) | Reference numbers in<br>gazetted list in Japan<br>(ISHL) | Concentration or<br>concentration range |
| Silver (I)<br>Carbonate | Ag <sub>2</sub> CO <sub>3</sub><br>(275.75) | 534-16-7  | 1-1016   | —  | 100%                                    |

### 4. First-aid measures

If inhalation : Remove person to fresh air and keep comfortable for breathing.  
 Get medical advice/attention if you feel unwell.

Skin contact : Wash with plenty of water/soap.  
 Immediately call a doctor.

|  |   |
|--|---|
| Eye contact :  | Rinse cautiously with water for several minutes.<br>Remove contact lenses if present and easy to do - continue rinsing.<br>If eye irritation persists : Get medical advice/attention. |
| Ingestion :  | Rinse mouth.<br>Get medical advice/attention if you feel unwell.  |
| Protection of people implementing emergency measures : | Rescuers should wear suitable protective equipment according to the circumstances.<br>(See section 8. Exposure controls / personal protection)  |

**5. Fire-fighting measures**

|  |  |
|--|--|
| Suitable extinguishing media :             | Plenty of water, Dry sand  |
| Do not use extinguishing media :           | No information   |
| Specific hazards :                         | This substance is nonflammable and does not burn itself, but can decompose when heated to outbreak harmful gas, so wear protective equipment when firefighting.  |
| Specific fire extinguishing method :       | Move the container from the region on fire if there is no danger.<br>Continue to thoroughly cool the containers using copious amounts of water even after the fire has been extinguished.<br>If it cannot be moved, cool it by sprinkling water around the container and its surroundings. |
| Special protective actions fire-fighters : | Wear suitable air respirators and protective clothing (heat resistant).<br>(See section 8. Exposure controls / personal protection)  |

**6. Accidental release measures**

|   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures : | Workers must wear appropriate protective equipment (see section 8. Exposure controls / personal protection) and avoid contact with eyes and skin and inhalation.<br>Do not touch the leak thing and do not walk inside.<br>Prohibit the entrance except the person concerned. |
| Environmental precautions :   | Avoid discharging into the environment.   |
| Methods and materials for containment and cleaning up :               | Wet with water to reduce dust in the air and prevent dispersion.<br>Sweep up any leaks and collect in a sealable empty container for later disposal.  |
| Preventing secondary accidents :                                      | Do a cover of a plastic seat, prevent dispersion.   |

**7. Handling and storage**

|                                      |  |
|--------------------------------------|--|
| Handling<br>Technical measures :     | Take the equipment measures described in "8. Exposure controls/personal protection" and wear protective equipment.<br>Described in "8. Exposure controls/personal protection" perform local exhaust and general ventilation.   |
| Precautions for safe handling :      | Obtain instructions for use before using the product.<br>Do not handle until all safety precautions and readings are understood.<br>Do not eat, drink or smoke when using this product.<br>Do not contact, inhale or swallow.<br>Do not put on the eyes, on skin, or on clothing.<br>Do not inhale dust, fumes, or mist.<br>Wash hands thoroughly after handling.<br>Avoid discharging into the environment. |
| Contact evasion :                    | See "10. Stability and reactivity" section.  |
| Storage<br>Safe storage conditions : | Store locked up.<br>Store in a closed container, dry and cool place.<br>Store in a cool, dark place away from direct sunlight.   |
| Container and packing materials :    | Airtight containers (glass, polyethylene, polypropylene, stainless steel, etc.)  |

## 8. Exposure controls/personal protection

|  |   |
|--|---|
| Control concentration :                      |   |
| Tolerable concentration:                     |   |
| Japan Society for Occupational Health (2021) | 0.01mg/m <sup>3</sup> (as Ag)   |
| ACGIH (2014)                                 | TLV-TWA (0.01 mg/m <sup>3</sup> ) as Ag Soluble compounds   |
| Equipment measures :                         | Workplaces storing or handling this material should be equipped with an eyewash and safety shower.<br>Enclose the equipment or install a local exhaust ventilation to prevent exposure.   |
| Protective Equipment                         |   |
| Respiratory protection :                     | Wear suitable respiratory equipment (gas mask (in case of fire: air respirator), dust mask).<br>(Refer to JIS T8151 Particulate respirators, JIS T8152 Gas respirators, JIS T8155 Compressed air open-circuit self-contained breathing apparatus) |
| Hand protection :                            | Wear protective gloves. (rubber gloves, etc.)<br>(Refer to JIS T8116 Chemical protective gloves)  |
| Eye protection :                             | Wear appropriate eye protection (regular glasses, plain glasses with side plates, goggles).<br>(Refer to JIS T8147 Protective Glasses)  |
| Skin and body protection :                   | Wear protective clothing, and protective shoes, etc.<br>(Refer to JIS T8115 Chemical Protective Clothing, JIS T8117 Chemical Protective Boots)  |

## 9. Physical and chemical properties

|   |   |
|---|---|
| Physical state :  | Crystalline powder                                |
| Color :   | Light yellow to light green                       |
| Odor :  | Odorless  |
| Melting point/freezing point :                            | No information                                    |
| Boiling point, initial boiling point, and boiling range : | No information                                    |
| Dflammability :   | No information                                    |
| Lower and upper explosion limit / flammability limit :    | Solids are not applicable                         |
| Flash point :   | Solids are not applicable                         |
| Aut-ignition temperature :                                | Solids are not applicable                         |
| Decomposition temperature :                               | No information                                    |
| pH :  | No information                                    |
| Kinematic viscosity :                                     | Solids are not applicable                         |
| Solubility :  | Water: 20°C 3mg/100ml      Water: 60°C 50mg/100ml |
| Partition coefficient: n-octanol / water (log value) :    | No information                                    |
| Vapor pressure :  | No information                                    |
| Density and/or relative density                           | d <sup>20</sup> 6.08                              |
| Relative vapour density :                                 | Solids are not applicable                         |
| Particle characteristics                                  | No information                                    |

## 10. Stability and reactivity

|                                      |   |
|--------------------------------------|---|
| Reactivity :                         | No information  |
| Chemical stability :                 | A stable and non-flammable substance under normal conditions.<br>It becomes dark when exposed to light.<br>In the presence of organic residue, due to light separates silver and discolors. |
| Possibility of hazardous reactions : | Strong oxidants   |
| Conditions to avoided :              | Sunlight, heat  |
| Incompatible materisls :             | Strong oxidants   |
| Hazardous decomposition products :   | Silver, silver oxide, CO <sub>2</sub>   |

**11. Toxicological information**

|   |  |
|---|--|
| Acute toxicity  |  |
| Oral :  | Based on the report that the mouse LD50 value was 3,731 mg / kg, but classification is not possible due to lack of data. |
| Dermal :  | Classification is not possible due to lack of data.  |
| Inhalation : Gases                                    | The definition of GHS is a solid.  |
| Inhalation : Vapours                                  | The definition of GHS is a solid.  |
| Inhalation : Dusts and mists                          | Classification is not possible due to lack of data.  |
| Skin corrosios/irritation :                           |  |
| Serious eye damage/irritation :                       | Classification is not possible due to lack of data.  |
| Respiratory sensitization :                           | Classification is not possible due to lack of data.  |
| Skin sensitization :                                  | Classification is not possible due to lack of data.  |
| Germ-cell mutagenicity :                              | Classification is not possible due to lack of data.  |
| Carcinogenicity :                                     | Classification is not possible due to lack of data.  |
| Reproductive toxicity :                               | Classification is not possible due to lack of data.  |
| Specific target organ toxicity (single exposure) :    | Classification is not possible due to lack of data.  |
| Specific target organ toxicity (repeated exposure ) : | Classification is not possible due to lack of data.  |
| Aspiration hazard :                                   | Classification is not possible due to lack of data.  |

**12. Environmental Impact information**

|  |  |
|--|--|
| Toxicity   |  |
| Hazardous to the aquatic environment (acute) :   | Classification is not possible due to lack of data.                                |
| Hazardous to the aquatic environment (chronic) : | Classification is not possible due to lack of data.                                |
| Persistence and degradability :                  | No information   |
| Bioaccumulative potential :                      | No information   |
| Mobility in soil :                               | No information   |
| Hazard to the ozone layer :                      | The materials concerned are not listed by an affiliated book of Montreal Protocol. |

**13. Disposal Precautions:**

|                                  |  |
|----------------------------------|--|
| Residual waste :                 | <p>Prior to disposal, treatments such as detoxification, stabilization and neutralization are carried out to the extent possible to reduce the hazard level.</p> <p>Dispose in accordance with relevant laws and local government standards.</p> <p>Outsource to an industrial waste disposal ontractor licensed by the prefectural governor, or if a local public entity does the disposal, outsource it there.</p> <p>If outsourcing waste disposal, thoroughly notify the disposal companies of the dangers and harmfulness before outsourcing.</p> <p>Avoid discharging wastewater and washing wastewater containing this substance directly into rivers, or landfill, or dumping.</p> |
| Dirty containers and packaging : | <p>Suitably process containers according to the relevant regulations and local government standards.</p> <p>When disposing of empty containers, make sure to discard the contents completely.</p>  |

**14. Transport information**

|                           |                |
|---------------------------|----------------|
| International regulations |                |
| UN No. :                  | No information |
| Proper shipping name :    | No information |
| Class :                   | No information |
| Sub risk :                | No information |
| Packing group :           | No information |
| Marine pollutant (sea) :  | Not applicable |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code : Not applicable

Japanese regulations

Land regulations information : Obey poisonous and deleterious substances control act.  
 Maritime regulations information : Obey ship safety law regulations.  
 Aviation regulations information : Obey the civil aeronautics law.  
 Special safety measures : Yellow card must be held required during transport.  
 Do not transport together with food or livestock feed.  
 Do not stack heavy objects.  
 When transporting, avoid direct sunlight, load containers without damage, corrosion, or leakage, and securely prevent collapse of cargo.

**15. Regulatory information (Japanese law)**

Poisonous and deleterious substances control act : Deleterious substance not for medical use (Article 2-1-24 of cabinet order)  
 Air pollution control act Hazardous air pollutants (45 of Central environment council 9th report)

\*Laws and regulations are examples and do not cover domestic laws and regulations.

**16. Other information**

References, etc. : GHS classification results database: NITE website  
 GHS model SDS information: JISHA website  
 Ministry of health, labor and welfare website  
 RTECS: 1997  
 JIS Z7252: 2019  
 JIS Z7253 : 2019  
 Selection Manual for Protective Equipment for Prevention of Skin Damage, etc. (Ministry of Health, Labour and Welfare Feb.2024 )

\*Caution:

Although hazard and harmfulness evaluations are based on the data and information available at the current time, they may not be sufficient.  
 Please handle with care.  
 Furthermore, the data and evaluations described herein are not in any way guaranteed. The descriptions refer to normal handling.  
 Regarding special handling, please handle based on the safty measures which are suitable for the intended applications and methods of use.  
 This SDS is an English translation of a document prepared in Japanese in accordance with JIS Z7253:2019.