

**Safety Data Sheet**

according to UK REACH Regulation

**N,N-Disuccinimidyl carbonate**

Revision date: 18.02.2021

Product code: RL-1059

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

N,N-Disuccinimidyl carbonate

**Further trade names**

N,N'-Disuccinimidyl carbonate  
Bis(2,5-dioxopyrrolidin-1-yl) carbonate  
Disuccinimidyl carbonate  
1,1'-[Carbonylbis(oxy)]dipyrrolidine-2,5-dione  
Di(N-succinimidyl) Carbonate  
Di(succinimido) carbonate  
Di(succinimido)carbonat  
Su2O

Substance name: N,N-Disuccinimidyl carbonate  
Abbreviation: DSC  
REACH Registration Number: 01-2119947404-37-XXXX  
CAS No: 74124-79-1  
EC No: 277-730-3

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemical. Manufacture of the substance.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet**

Company name: Iris Biotech GmbH  
Street: Adalbert-Zoellner-Straße 1  
Place: D-95615 Marktredwitz, Germany  
Post-office box: 568  
D-95605 Marktredwitz, Germany  
Telephone: +49 9231 97121 0  
Telefax: +49 9231 97121 99  
e-mail: info@iris-biotech.de  
Contact person: Compliance Department  
Telephone: +49 9231 97121 0  
e-mail: sds@iris-biotech.de  
Internet: www.iris-biotech.de  
Responsible Department: Only available during office hours.

**1.4. Emergency telephone number:** +49 (0)89 19240 (POISON CENTER Munich: 24 h)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:  
Acute toxicity: Acute Tox. 4  
Serious eye damage/eye irritation: Eye Irrit. 2  
Respiratory or skin sensitisation: Skin Sens. 1  
Specific target organ toxicity - repeated exposure: STOT RE 2  
Hazard Statements:  
Harmful if swallowed.  
Causes serious eye irritation.  
May cause an allergic skin reaction.

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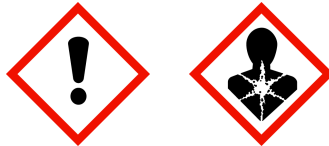
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May cause damage to organs through prolonged or repeated exposure.

**2.2. Label elements****GB CLP Regulation****Signal word:**

Warning

**Pictograms:****Hazard statements**

|      |  |
|------|--|
| H302 | Harmful if swallowed.  |
| H317 | May cause an allergic skin reaction.                               |
| H319 | Causes serious eye irritation.                                     |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

**Precautionary statements**

|                |  |
|----------------|--|
| P260           | Do not breathe dust/fume/gas/mist/vapours/spray.   |
| P264           | Wash hands thoroughly after handling.  |
| P272           | Contaminated work clothing should not be allowed out of the workplace.   |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.                                    |
| P301+P312      | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P333+P313      | If skin irritation or rash occurs: 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. Continue rinsing. |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P501           | Dispose of contents/container to an approved disposal site.  |

**Additional advice on labelling**

Warning - substance not yet tested completely.

**2.3. Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Product is not dust explosive in its original delivery form. The addition of particulate matter, however, results in a dust explosion risk.

No information available.

**SECTION 3: Composition/information on ingredients****3.1. Substances****Chemical characterization**

Bis(2,5-dioxopyrrolidin-1-yl) carbonate

Sum formula: C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>O<sub>7</sub>

Molecular weight: 256,17 g/mol

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**Hazardous components**

| CAS No     | Chemical name  |          |                       | Quantity |
|------------|--|----------|-----------------------|----------|
|            | EC No  | Index No | REACH No              |          |
|            | GHS Classification   |          |                       |          |
| 74124-79-1 | N,N-Disuccinimidyl carbonate   |          |                       | 100 %    |
|            | 277-730-3  |          | 01-2119947404-37-XXXX |          |
|            | Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1, STOT RE 2; H302 H319 H317 H373 |          |                       |          |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No     | EC No                                    | Chemical name                | Quantity |
|------------|--|------------------------------|----------|
|            | Specific Conc. Limits, M-factors and ATE |                              |          |
| 74124-79-1 | 277-730-3                                | N,N-Disuccinimidyl carbonate | 100 %    |
|            | oral: LD50 = 2000 mg/kg                  |                              |          |

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

In all cases of doubt, or when symptoms persist, seek medical advice.

**After inhalation**

Provide fresh air. When in doubt or if symptoms are observed, get medical advice. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary. After contact with skin, wash immediately with plenty of water and soap.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion**

Induce vomiting when the affected person is not unconscious. Medical treatment necessary. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

In all cases of doubt, or when symptoms persist, seek medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Sand.

**Unsuitable extinguishing media**

High power water jet.

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**5.2. Special hazards arising from the substance or mixture**

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours.  
In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.  
Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.  
Do not allow entering drains or surface water.

**Additional information**

Usual measures for fire prevention.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General measures**

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wear personal protection equipment.  
In case of fire: Evacuate area.

**6.2. Environmental precautions**

Do not allow to enter into soil/subsoil.  
Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.  
Clear contaminated areas thoroughly.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Provide adequate ventilation.  
Avoid dust formation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. Provide adequate ventilation.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local

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exhaustion at critical locations. Keep container tightly closed in a cool, well-ventilated place.  
Handle and store contents under inert gas. Protect from moisture. Protect from light!  
storage temperature: +2°C - +8°C

**Hints on joint storage**

No special measures are necessary.

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Skin protection**

Use of protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Environmental exposure controls**

Discharge into the environment must be avoided.

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**SECTION 9: Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state: solid  
 Colour: white/ whitish  
 Odour: No data available

**Test method**
**Changes in the physical state**

Melting point/freezing point: 200 - 220 °C decomposition  
 Boiling point or initial boiling point and boiling range: not determined  
 Sublimation point: not determined  
 : No data available  
 Flash point: No data available

**Flammability**

Solid/liquid: No data available  
 Gas: not applicable

**Explosive properties**

No data available

Lower explosion limits: No data available  
 Upper explosion limits: No data available  
 Auto-ignition temperature: No data available

**Self-ignition temperature**

Solid: No data available  
 Gas: not applicable

Decomposition temperature: 200 - 220 °C

**Oxidizing properties**

No data available

pH-Value: not determined  
 Viscosity / dynamic: not applicable  
 Viscosity / kinematic: not applicable  
 Flow time: not applicable  
 Water solubility: No data available

**Solubility in other solvents**

No data available

Partition coefficient n-octanol/water: log Pow = -0.878  
 Vapour pressure: not determined  
 Vapour pressure: not determined  
 Density (at 25 °C): 1.632 g/cm<sup>3</sup>  
 Bulk density: not determined  
 Relative vapour density: No data available

**9.2. Other information**
**Information with regard to physical hazard classes**

Sustaining combustion: No data available

**Other safety characteristics**

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|                          |                   |
|--------------------------|-------------------|
| Solvent separation test: | No data available |
| Solvent content:         | No data available |
| Solid content:           | No data available |
| Evaporation rate:        | not determined    |

**Further Information**
**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

Danger of dust explosion

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No data available

**10.4. Conditions to avoid**

 Protect from moisture.  
 Keep away from heat.  
 Protect from light!

**10.5. Incompatible materials**

 Oxidizing agents, strong.  
 Strong acid.

**10.6. Hazardous decomposition products**

 Thermal decomposition can lead to the escape of irritating gases and vapours.  
 In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).

**Further information**

In case of fire: See chapter 5.

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in GB CLP Regulation**
**Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Harmful if swallowed.

| CAS No     | Chemical name                |               |         |        |          |
|------------|------------------------------|---------------|---------|--------|----------|
|            | Exposure route               | Dose          | Species | Source | Method   |
| 74124-79-1 | N,N-Disuccinimidyl carbonate |               |         |        |          |
|            | oral                         | LD50<br>mg/kg | 2000    |        | OECD 423 |

**Irritation and corrosivity**

 Causes serious eye irritation.  
 Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

May cause an allergic skin reaction. (N,N-Disuccinimidyl carbonate)

**Carcinogenic/mutagenic/toxic effects for reproduction**

 Based on available data, the classification criteria are not met.  
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (N,N-Disuccinimidyl carbonate)

Rat - OECD 407

Organs affected:

Increase of aspartate aminotransferase and total cholesterol, hepatocellular atrophy of the liver, inflammatory cell foci of the liver, microvesicular vacuolation of tubular epithelium in kidney.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

No data available

**Practical experience**

No data available

**Further information**

RTECS: No data available

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated.

Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12: Ecological information****12.1. Toxicity**

No data available

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.7. Other adverse effects**

Warning - substance not yet tested completely.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation.

Consult the appropriate local waste disposal expert about waste disposal.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**



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**14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.

**Inland waterways transport (ADN)**

**14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.

**Marine transport (IMDG)**

**14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.

**Air transport (ICAO-TI/IATA-DGR)**

**14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No data available

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of

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product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Warning - substance not yet tested completely.

The product is intended for research, analysis and scientific education.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.