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

1.1 Product identifier
Identification of the substance: g-Strophanthin
Article number: 8048
Registration number (REACH): It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a)
Index No: 614-025-00-5
EC number: 211-139-3
CAS number: 11018-89-6

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: laboratory chemical, laboratory and analytical use

1.3 Details of the supplier of the safety data sheet
Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany
Telephone: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

1.4 Emergency telephone number
Emergency information service: Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>3.1O</td>
</tr>
<tr>
<td>3.1I</td>
</tr>
<tr>
<td>3.9</td>
</tr>
</tbody>
</table>

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word

Danger

Pictograms

GHS06, GHS08

Hazard statements

H301+H331 Toxic if swallowed or if inhaled  
H373 May cause damage to organs through prolonged or repeated exposure

Precautionary statements

Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. 
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. 
P311 Call a POISON CENTER/doctor. 
P330 Rinse mouth.

Precautionary statements - storage

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

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Symbol(s)

H301+H331 Toxic if swallowed or if inhaled.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P311 Call a POISON CENTER/doctor.

P330 Rinse mouth.

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

P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

There is no additional information.
SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>g-Strophanthin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>614-025-00-5</td>
</tr>
<tr>
<td>EC number</td>
<td>211-139-3</td>
</tr>
<tr>
<td>CAS number</td>
<td>11018-89-6</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C29 H44 O12 * 8H2O</td>
</tr>
<tr>
<td>Molar mass</td>
<td>728,8 g/mol</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
Self-protection of the first aider.

Following inhalation
Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

Following skin contact
Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact
Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion
Rinse mouth immediately and drink plenty of water. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

After eye contact: Causes slight to moderate irritation,
Following skin contact: Localised redness, oedema, pruritis and/or pain,
After ingestion: Nausea,
Following inhalation: Cough, pain, choking, and breathing difficulties

4.3 Indication of any immediate medical attention and special treatment needed

none
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Combustible.

Hazardous combustion products
In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters
Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes.

6.2 Environmental precautions
Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill
Covering of drains.

Advices on how to clean up a spill
Take up mechanically. Control of dust.

Other information relating to spills and releases
Place in appropriate containers for disposal.

6.4 Reference to other sections
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Use extractor hood (laboratory). Clear contaminated areas thoroughly.

Advice on general occupational hygiene
When using do not eat or drink. Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry place.

Incompatible substances or mixtures
Observe hints for combined storage.

Consideration of other advice
Store locked up.

• Ventilation requirements
Use local and general ventilation.

• Specific designs for storage rooms or vessels
Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
National limit values
Occupational exposure limit values (Workplace Exposure Limits)
Data are not available.

8.2 Exposure controls
Individual protection measures (personal protective equipment)

Eye/face protection
Use safety goggle with side protection.

Skin protection

• hand protection
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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.

• type of material
NBR (Nitrile rubber)
• material thickness
  >0,11 mm

• breakthrough times of the glove material
  >480 minutes (permeation: level 6)

• other protection measures
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99,95 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>solid (powder, crystalline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>white - cream</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Other physical and chemical parameters**

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>This information is not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>200 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>These information are not available</td>
</tr>
</tbody>
</table>

**Explosive limits**

| • lower explosion limit (LEL) | this information is not available |
| • upper explosion limit (UEL) | this information is not available |
| Explosion limits of dust clouds | these information are not available |
| Vapour pressure           | This information is not available. |
| Density                  | This information is not available. |
| Vapour density           | This information is not available. |
| Relative density         | Information on this property is not available. |
g-Strophanthin  ≥98 %

article number: 8048

<table>
<thead>
<tr>
<th>Solubility(ies)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water solubility</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>n-octanol/water (log KOW)</td>
<td>-2</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Information on this property is not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not relevant (solid matter)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Shall not be classified as explosive</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>none</td>
</tr>
</tbody>
</table>

9.2 Other information
There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.2 Chemical stability
Sensitivity to light (photosentive).

10.3 Possibility of hazardous reactions
Violent reaction with: Strong oxidiser, Strong alkali, Strong acid

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

10.5 Incompatible materials
There is no additional information.

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties
Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).
**SECTION 12: Ecological information**

**12.1 Toxicity**
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**12.2 Process of degradability**
Theoretical Oxygen Demand: 1,493 mg/mg
Theoretical Carbon Dioxide: 1,751 mg/mg

**12.3 Bioaccumulative potential**
Does not significantly accumulate in organisms.

n-octanol/water (log KOW) -2

**12.4 Mobility in soil**
Data are not available.

**12.5 Results of PBT and vPvB assessment**
Data are not available.

**12.6 Other adverse effects**
Data are not available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1</th>
<th>UN number</th>
<th>1544</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2</td>
<td>UN proper shipping name</td>
<td>ALKALOIDS, SOLID, N.O.S.</td>
</tr>
<tr>
<td></td>
<td>Hazardous ingredients</td>
<td>g-Strophanthin</td>
</tr>
<tr>
<td>14.3</td>
<td>Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class</td>
<td>6.1 (toxic substances)</td>
</tr>
<tr>
<td>14.4</td>
<td>Packing group</td>
<td>III (substance presenting low danger)</td>
</tr>
<tr>
<td>14.5</td>
<td>Environmental hazards</td>
<td>none (non-environmentally hazardous acc. to the dangerous goods regulations)</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

| UN number | 1544 |
| Proper shipping name | ALKALOIDS, SOLID, N.O.S. |
| Particulars in the transport document | UN1544, ALKALOIDS, SOLID, N.O.S., (g-Strophanthin), 6.1, III, (E) |
| Class | 6.1 |
| Classification code | T2 |
| Packing group | III |
| Danger label(s) | 6.1 |
**Safety data sheet**

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU

**g-Strophanthin ≥98 %**

article number: **8048**

---

**Special provisions (SP)**

43, 274, 802(ADN)

**Excepted quantities (EQ)**

E1

**Limited quantities (LQ)**

5 kg

**Transport category (TC)**

2

**Tunnel restriction code (TRC)**

E

**Hazard identification No**

60

• **International Maritime Dangerous Goods Code (IMDG)**

<table>
<thead>
<tr>
<th>UN number</th>
<th>1544</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>ALKALOIDS, SOLID, N.O.S.</td>
</tr>
<tr>
<td>Particulars in the shipper's declaration</td>
<td>UN1544, ALKALOIDS, SOLID, N.O.S., (g-Strophanthin), 6.1, III</td>
</tr>
<tr>
<td>Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Danger label(s)</td>
<td>6.1</td>
</tr>
</tbody>
</table>

---

**Special provisions (SP)**

43, 223, 274

**Excepted quantities (EQ)**

E1

**Limited quantities (LQ)**

5 kg

**EmS**

F-A, S-A

**Stowage category**

A

• **International Civil Aviation Organization (ICAO-IATA/DGR)**

<table>
<thead>
<tr>
<th>UN number</th>
<th>1544</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Alkaloid salts, solid, n.o.s.</td>
</tr>
<tr>
<td>Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Danger label(s)</td>
<td>6.1</td>
</tr>
</tbody>
</table>

---

**Special provisions (SP)**

A3, A5, A6
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

- Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)
  Not listed.
- Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)
  Not listed.
- Regulation 850/2004/EC on persistent organic pollutants (POP)
  Not listed.
- Restrictions according to REACH, Annex XVII
  not listed
- Restrictions according to REACH, Title VIII
  None.
- List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list
  not listed
- Seveso Directive

2012/18/EU (Seveso III)

<table>
<thead>
<tr>
<th>No</th>
<th>Dangerous substance/hazard categories</th>
<th>Qualifying quantity (tonnes) for the application of lower and upper-tier requirements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>acute toxic (cat. 2 + cat. 3, inhal.)</td>
<td>50</td>
<td>200</td>
</tr>
</tbody>
</table>

Notation

41) - Category 2, all exposure routes
    - category 3, inhalation exposure route

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

not listed
National inventories

Substance is listed in the following national inventories:

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>ECSI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>NZ</td>
<td>NZIoC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TW</td>
<td>TCSI</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

Legend

- **ECSI**: EC Substance Inventory (EINECS, ELINCS, NLP)
- **NZIoC**: New Zealand Inventory of Chemicals
- **TCSI**: Taiwan Chemical Substance Inventory

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

**SECTION 16: Other information**

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>Index No</td>
<td>the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>SVHC</td>
<td>Substance of Very High Concern</td>
</tr>
</tbody>
</table>
**Abbr.** | **Descriptions of used abbreviations**  
--- | ---  
vPvB | very Persistent and very Bioaccumulative

**Key literature references and sources for data**
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H301</td>
<td>toxic if swallowed</td>
</tr>
<tr>
<td>H331</td>
<td>toxic if inhaled</td>
</tr>
<tr>
<td>H373</td>
<td>may cause damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

**Disclaimer**

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.