



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 09-Nov-2022

Revision Number 1

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

### 1.1. Product identifier

Product Code(s) DRE-CA10307000

Product Name Astaxanthin

*NOTE [8] - No registration number is given for this substance because it is under the threshold in REACH Article 6(1) and not subject to the registration requirements according to REACH Title II*

EC No 207-451-4

CAS No 472-61-7

Pure substance/mixture Substance

Formula  $C_{40}H_{52}O_4$

Molecular weight 596.84

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

Recommended use Laboratory use

Uses advised against No information available

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

#### Supplier

LGC Limited  
Queens Road  
Teddington  
Middlesex TW11 0LY  
UNITED KINGDOM  
:+44 (0) 20 8943 7000  
Fax :+44 (0) 20 8943 2767  
eMail : gb@lgcstandards.com

Web : [www.lgcstandards.com](http://www.lgcstandards.com)

For further information, please contact

E-mail address [sds-request@lgcgroup.com](mailto:sds-request@lgcgroup.com)

### 1.4. Emergency telephone number



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Emergency Telephone For Hazardous Materials or Dangerous Goods Incident  
Spill, Leak, Fire Exposure, or Accident  
Call CHEMTREC:  
USA & Canada 1-800-424-9300  
Rest of the world +1 703-741-5970

| Emergency Telephone - §45 - (EC)1272/2008 |                                                                                         |
|-------------------------------------------|-----------------------------------------------------------------------------------------|
| Europe                                    | 112                                                                                     |
| Austria                                   | No information available                                                                |
| Bulgaria                                  |                                                                                         |
| Croatia                                   |                                                                                         |
| Cyprus                                    |                                                                                         |
| Czech Republic                            |                                                                                         |
| Denmark                                   |                                                                                         |
| France                                    |                                                                                         |
| Hungary                                   |                                                                                         |
| Ireland                                   |                                                                                         |
| Italy                                     |                                                                                         |
| Lithuania                                 |                                                                                         |
| Luxembourg                                | (+352) 8002 5500 Free telephone number with a 24/7 access in French, Dutch and English. |
| Netherlands                               |                                                                                         |
| Norway                                    |                                                                                         |
| Portugal                                  |                                                                                         |
| Romania                                   |                                                                                         |
| Slovakia                                  |                                                                                         |
| Slovenia                                  |                                                                                         |
| Spain                                     |                                                                                         |
| Sweden                                    |                                                                                         |
| Switzerland                               |                                                                                         |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### 2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### 2.3. Other hazards



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This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

## Endocrine Disruptor Information

| Chemical name | EU - REACH (1907/2006) - Article 59(1)<br>- Candidate List of Substances of Very<br>High Concern (SVHC) for Authorisation | EU - REACH (1907/2006) - Endocrine<br>Disruptor Assessment List of<br>Substances |
|---------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Astaxanthin   | -                                                                                                                         | -                                                                                |

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name           | Weight-% | REACH registration<br>number | EC No     | Classification according<br>to Regulation (EC) No.<br>1272/2008 [CLP] | Specific<br>concentration<br>limit (SCL) | M-Factor | M-Factor<br>(long-term) |
|-------------------------|----------|------------------------------|-----------|-----------------------------------------------------------------------|------------------------------------------|----------|-------------------------|
| Astaxanthin<br>472-61-7 | 100      | No data available            | 207-451-4 | -                                                                     |                                          |          |                         |

**Full text of H- and EUH-phrases: see section 16**

### Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|              |                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------|
| Inhalation   | Remove to fresh air.                                                                                                 |
| Eye contact  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.<br>Consult a doctor. |
| Skin contact | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.                    |
| Ingestion    | Rinse mouth.                                                                                                         |



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

Symptoms No information available.

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

Note to doctors Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

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

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

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

Specific hazards arising from the chemical No information available.

### 5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

### 6.3. 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 Take up mechanically, placing in appropriate containers for disposal.



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**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

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

### 7.1. Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

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

### 8.1. Control parameters

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

#### **Biological occupational exposure limits**

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

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.



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## 8.2. Exposure controls

### Personal protective equipment

|                                 |                                                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye/face protection             | Avoid contact with eyes. Wear safety glasses with side shields (or goggles).                                                                                                          |
| Hand protection                 | The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective nitrile rubber gloves.                |
| Skin and body protection        | Wear suitable protective clothing.                                                                                                                                                    |
| Respiratory protection          | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.              |
| General hygiene considerations  | Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. |
| Environmental exposure controls | Do not allow into any sewer, on the ground or into any body of water.                                                                                                                 |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                 |                           |
|-----------------|---------------------------|
| Physical state  | Solid                     |
| Appearance      | Solid                     |
| Colour          | dark red to purple        |
| Odour           | No information available. |
| Odour threshold | No information available  |

| Property                                | Values            | Remarks • Method         |
|-----------------------------------------|-------------------|--------------------------|
| Melting point / freezing point          | No data available | None known               |
| Initial boiling point and boiling range | No data available | None known               |
| Flammability                            | No data available | None known               |
| Flammability Limit in Air               |                   | None known               |
| Upper flammability or explosive limits  | No data available |                          |
| Lower flammability or explosive limits  | No data available |                          |
| Flash point                             | No data available | None known               |
| Autoignition temperature                | No data available | None known               |
| Decomposition temperature               |                   | None known               |
| pH                                      | No data available | None known               |
| pH (as aqueous solution)                | No data available | No information available |
| Kinematic viscosity                     | No data available | None known               |



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|                            |                          |            |
|----------------------------|--------------------------|------------|
| Dynamic viscosity          | No data available        | None known |
| Water solubility           | No data available        | None known |
| Solubility(ies)            | No data available        | None known |
| Partition coefficient      | No data available        | None known |
| Vapour pressure            | No data available        | None known |
| Relative density           | No data available        | None known |
| Bulk density               | No data available        |            |
| Liquid Density             | No data available        |            |
| Relative vapour density    | No data available        | None known |
| Particle characteristics   |                          |            |
| Particle Size              | No information available |            |
| Particle Size Distribution | No information available |            |

### 9.2. Other information

|                   |                                                |
|-------------------|------------------------------------------------|
| Molecular weight  | 596.84                                         |
| Molecular formula | C <sub>40</sub> H <sub>52</sub> O <sub>4</sub> |

9.2.1. Information with regards to physical hazard classes  
Not applicable

9.2.2. Other safety characteristics  
No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity No information available.

### 10.2. Chemical stability

Stability Stable under normal conditions.

#### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### 10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

### 10.5. Incompatible materials

Incompatible materials None known based on information supplied.



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Hazardous decomposition products None known based on information supplied.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Information on likely routes of exposure

##### Product Information

|              |                                                                   |
|--------------|-------------------------------------------------------------------|
| Inhalation   | Specific test data for the substance or mixture is not available. |
| Eye contact  | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion    | Specific test data for the substance or mixture is not available. |

#### Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

#### Numerical measures of toxicity

No information available

#### Acute toxicity

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

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| Skin corrosion/irritation         | Based on available data, the classification criteria are not met. |
| Serious eye damage/eye irritation | No information available.                                         |
| Respiratory or skin sensitisation | No information available.                                         |
| Germ cell mutagenicity            | No information available.                                         |



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Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

### 11.2.2. Other information

Other adverse effects No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

Bioaccumulation No information available.

### 12.4. Mobility in soil

Mobility in soil No information available.

### 12.5. Results of PBT and vPvB assessment



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## PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

| Chemical name | PBT and vPvB assessment         |
|---------------|---------------------------------|
| Astaxanthin   | The substance is not PBT / vPvB |

## 12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

## 12.7. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

## SECTION 14: Transport information

### IATA

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2 UN proper shipping name      | Not regulated  |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazards        | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

### IMDG

|                                   |                               |
|-----------------------------------|-------------------------------|
| 14.1 UN number or ID number       | Not regulated                 |
| 14.2 UN proper shipping name      | Not regulated                 |
| 14.3 Transport hazard class(es)   | Not regulated                 |
| 14.4 Packing group                | Not regulated                 |
| 14.5 Marine pollutant             | Not applicable                |
| 14.6 Special precautions for user |                               |
| Special Provisions                | None No information available |
| 14.7 Maritime transport in bulk   | No information available      |



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## according to IMO instruments

### RID

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2 UN proper shipping name      | Not regulated  |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazards        | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

### ADR

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2 UN proper shipping name      | Not regulated  |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazards        | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

## SECTION 15: Regulatory information

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

Water hazard class (WGK) non-hazardous to water (nwg)

Poland

SDS created according to the following Polish regulation: Act of February 25, 2011 on chemical substances and their mixtures (Journal of Laws of 2018, item 143, as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency (EC) as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, as amended. Regulation of the Minister of Health of 10 August 2012 on the criteria and method of classifying chemical substances and their mixtures (Journal of Laws of 2012, item 1018). Regulation of the Minister of Health of 20 April 2012 on labeling packaging of hazardous substances and mixtures and some mixtures (Journal of Laws of 2012, item 445). Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the maximum allowable concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286). Announcement of the Minister of Economy, Labor and Social Policy of August 28, 2003 on the publication of the unified text of the Ordinance of the Minister of Labor and Social Policy on general health and safety at work regulations (Journal of Laws of 2003, No. 169, item 1650) . Regulation of the Minister of Health of 30 December



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2004 on occupational safety and health related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86). Act of December 14, 2012 on waste (Journal of Laws of 2013, item 21) Regulation of the Minister of Health of December 30, 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal U. of 2005, No. 11, item 86). Waste Act of December 14, 2012 (Journal of Laws of 2013, item 21). Act of 13 June 2013 on the management of packaging and packaging waste, Journal of Laws 2013, item 888). Government statement of September 24, 2002 - European Agreement on the International Carriage of Dangerous Goods by Road (ADR) (Journal of Laws No. 194, item 1629 and Journal of Laws of 2003, No. 207, item 2013 and 2014).

## European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

## Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

## DIRECTIVE (EU) 2021/1187 on the marketing and use of explosives precursors

Not applicable

## Persistent Organic Pollutants

Not applicable

## Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

## International Inventories

### TSCA

Complies under research and development exemption or is regulated by a different government agency.

### DSL/NDL

Contact supplier for inventory compliance status

### EINECS/ELINCS

Contact supplier for inventory compliance status

### ENCS

Contact supplier for inventory compliance status

### IECSC

Contact supplier for inventory compliance status

### KECL

Contact supplier for inventory compliance status

### PICCS

Contact supplier for inventory compliance status

### AIIC

Contact supplier for inventory compliance status

## Legend:

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



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**DSL/NDL** - 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  
**AICS** - Australian Inventory of Chemical Substances

## 15.2. Chemical safety assessment

### Chemical Safety Report

A Chemical Safety Assessment is not required for this substance

## SECTION 16: Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend

SVHC: Substances of Very High Concern for Authorisation:

#### Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)  
Ceiling Maximum limit value

STEL  
\*

STEL (Short Term Exposure Limit)  
Skin designation

| Classification procedure                                        |                    |
|-----------------------------------------------------------------|--------------------|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used        |
| Acute oral toxicity                                             | Calculation method |
| Acute dermal toxicity                                           | Calculation method |
| Acute inhalation toxicity - gas                                 | Calculation method |
| Acute inhalation toxicity - Vapour                              | Calculation method |
| Acute inhalation toxicity - dust/mist                           | Calculation method |
| Skin corrosion/irritation                                       | Calculation method |
| Serious eye damage/eye irritation                               | Calculation method |
| Respiratory sensitisation                                       | Calculation method |
| Skin sensitisation                                              | Calculation method |
| Mutagenicity                                                    | Calculation method |
| Carcinogenicity                                                 | Calculation method |
| Reproductive toxicity                                           | Calculation method |
| STOT - single exposure                                          | Calculation method |
| STOT - repeated exposure                                        | Calculation method |
| Acute aquatic toxicity                                          | Calculation method |
| Chronic aquatic toxicity                                        | Calculation method |
| Aspiration hazard                                               | Calculation method |
| Ozone                                                           | Calculation method |



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## Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

Revision date 09-Nov-2022

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## Disclaimer

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

**End of Safety Data Sheet**