

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

1.1. Product identifier

Product name : Herfosec L

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Plant extracts from the processing of aromatic plants, spices and algae. Stimulates plant growth and improves their vitality.

1.2.2. Uses advised against

Any other unidentified use is not recommended.

1.3. Details of the supplier of the safety data sheet

PIRECO Productie BV
Chroomstraat 8B, 8211 AS, Lelystad
+31 (0) 320 233 572
info@pireco.nl

1.4. Emergency telephone number

Nationaal Vergiftigingen Informatie Centrum	+31 88 755 80 00	Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH208 - Contains Garlic, ext. (8008-99-9). May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

This mixture does not meet the PBT criteria of REACH regulation, annex XIII
This mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

3.2. Mixtures

Name	Product identifier	Conc. % w/w	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Garlic, ext.	CAS-No.: 8008-99-9 EC-No.: 232-371-1	<1	Flam. Liq. 3, H226 Skin Sens. 1B, H317 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove the injured person from the area of exposure and transfer to a well-ventilated area. Call a doctor.
- First-aid measures after skin contact : Remove contaminated clothing and wash with plenty of soap and water. Call a doctor.
- First-aid measures after eye contact : Wash off immediately with plenty of water and/or isotonic solution for at least 15 minutes. Call a doctor.
- First-aid measures after ingestion : Do not administer anything by mouth and do not induce vomiting if the injured person is unconscious. Call a doctor.

For people providing first aid: Use self-contained breathing equipment for airway protection, suitable clothing and gloves for skin protection.

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

- Symptoms/effects after skin contact : Not expected to present a significant hazard under anticipated conditions of normal use.

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

Symptomatic treatment. Consult a poison center.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use fractionated water, chemical powder, foam or carbon dioxide.
- Unsuitable extinguishing media : No unsuitable extinguishing media were identified.

5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : Thermal decomposition or combustion may cause the release of toxic and hazardous fumes containing COx and other substances in the event of incomplete decomposition.

5.3. Advice for firefighters

- Precautionary measures fire : Cool the containers with jet water, even after the fire is extinguished. Remove the containers from the fire area if this can be done safely.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Leave the area if you are not in possession of the protective equipment listed in Section 8.
Alert the personnel responsible for the management of such emergencies. Avoid contact with skin and eyes.

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6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. In case of accidental release or spillage, do not allow the mixture to reach drains and surface or ground water. If the product has escaped into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Stop leak without risks if possible.
Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer also to sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Handle in a well-ventilated space.
Wear suitable Personal Protective Equipment (see section 8).
Use protective glasses during the mixing / loading phase of the product. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures : Remove contaminated clothing and personal protective equipments (PPE) before entering eating areas. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original containers, well-sealed and labelled with the product name, in a cool, dry place, away from sources of ignition. Avoid exposure to light and protect against moisture. Keep away from incompatible materials. Empty containers may also be hazardous due to product residues. Ventilation of the room/area: well-ventilated room. Keep away from food and drink.

7.3. Specific end use(s)

Consult the product label.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	The measurement of substances in the workplace must be carried out with standardized methods (e.g. UNI EN 689:2019: Workplace atmospheres - Guide for assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy; UNI EN 482:2015: Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents) or, failing that, with appropriate methods.

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Wear protective tightly fitting glasses or protective visor (EN 166).

8.2.2.2. Skin protection

Skin and body protection:

Wear category II professional long-sleeved overalls and safety footwear (EN 344). Wash with soap and water after removing protective clothing.

Hand protection:

Wear impervious gloves, resistant to chemical agents (eg rubber, neoprene, PVC), complying with EN 374 standard. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

8.2.2.3. Respiratory protection

Respiratory protection:

Use suitable respiratory protection systems, such as FFP2 class filters (EN 149).

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Ocher with brown corpuscles
Appearance	: Cloudy
Odour	: No data available, experimental evaluation not conducted
Odour threshold	: No data available, experimental evaluation not conducted
Melting point	: No data available, experimental evaluation not conducted
Freezing point	: No data available, experimental evaluation not conducted
Boiling point	: No data available, experimental evaluation not conducted
Flammability	: No data available, experimental evaluation not conducted
Explosive limits	: No data available, experimental evaluation not conducted
Lower explosion limit	: No data available, experimental evaluation not conducted
Upper explosion limit	: No data available, experimental evaluation not conducted
Flash point	: No data available, experimental evaluation not conducted
Auto-ignition temperature	: No data available, experimental evaluation not conducted
Decomposition temperature	: No data available, experimental evaluation not conducted
pH	: 5 ± 0.5
Viscosity	: <50 cP
Solubility	: In water: complete
Partition coefficient n-octanol/water (Log Kow)	: No data available, experimental evaluation not conducted
Vapour pressure	: No data available, experimental evaluation not conducted
Vapour pressure at 50°C	: No data available, experimental evaluation not conducted

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Density	: 1000 ± 10 g/L
Relative density	: No data available, experimental evaluation not conducted
Relative vapour density at 20°C	: No data available, experimental evaluation not conducted
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

The mixture is stable under normal temperature and pressure conditions and if stored in closed containers in a cool and well-ventilated place.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition or combustion may cause the release of toxic and hazardous fumes containing CO_x and other substances in the event of incomplete decomposition.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 4,5 – 6

Garlic, ext. (8008-99-9)

Additional information	Not irritating to skin
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 4,5 – 6

Garlic, ext. (8008-99-9)

Additional information	Not irritating to eyes
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)

Garlic, ext. (8008-99-9)

Additional information	Skin sensitizer (based on human evidence)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)

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Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: No aspiration toxicity hazards reported for humans.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.
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11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	: Not classified (Based on available data, the classification criteria are not met)

Garlic, ext. (8008-99-9)

EC50 - Crustacea	9.3 mg/l Daphnia magna (Water flea)
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12.2. Persistence and degradability

Garlic, ext. (8008-99-9)

Persistence and degradability	The substance is considered to be readily biodegradable.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

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This mixture does not meet the PBT criteria of REACH regulation, annex XIII

This mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties	: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %
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12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services. Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Rail transport

Not applicable

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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

15.1.1. EU-Regulations

Other information, restriction and prohibition regulations : Regulation REACH (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

Seveso Directive (Disaster Risk Reduction)

Seveso Additional information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, transposed in Italy with D. Lgs. 105/2015. Section: - Category: -

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Indication of changes:

Edition 1 Revision 0 dated 12/4/2023

Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CAS	Chemical Abstract Service (division of the American Chemical Society)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level

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Abbreviations and acronyms:	
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLV/TWA	Threshold Limit Value/Threshold Weighted Average
vPvB	Very Persistent and Very Bioaccumulative
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ATE	Acute Toxicity Estimate
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
EC-No.	European Community number
EN	European Standard
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
ED	Endocrine disrupting properties

Data sources : SDS suppliers. Internal data. EFSA Journal 2012;10(2):2520; Conclusion on the peer review of the pesticide risk assessment of the active substance garlic extract.

Training advice : Training instructions: Comply with the provisions of Directive 98/24/EC and subsequent amendments and national implementations.

Full text of H-statements:	
H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

This document aims to provide guidance for appropriate handling and precaution of this product by qualified personnel or operating under the supervision of personnel trained in handling chemicals. The product should not be used for purposes other than those mentioned in section 1, unless they are given adequate written information received on how to handle the material.

The provider of this document cannot provide any warnings related to the dangers of using, interaction with other materials or chemicals or user's safe use of the product, the suitability of the product for which is applied or its proper disposal. The information above should not be considered a declaration or guarantee, either expressed or implied, of merchantability, fitness for a particular purpose, quality, or any other. The information contained in this SDS are in accordance with Regulation (EU) No 2020/878