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Revision date 30/08/2016  
Printed 30/08/2016

## GREENSTEARINE 4928

# Substance Information Sheet

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

#### 1.1. Product identifier.

Product name.	Greenstearine 4928
Chemical name and synonym.	Fatty acids, C16-18
EC number.	266-928-5
CAS number.	67701-03-5

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

Intended use.	Antifreeze and de-icing products, additives, fillers, plasters, modeling clay, fertilizers, fuels, inks and toners, products such as ph-regulators, flocculants, precipitants, neutralization agents, laboratory chemicals, tanning, dyeing, finishing, impregnation and care of leather products, products for dyeing, finishing and impregnation of paper and cardboard including bleaches and other processing aids, polishes and wax blends, textile dyes, for finishing products and the impregnation of textile materials; including bleaches and other processing aids, adhesives, sealants, coatings and paints, thinners, paint removers, intermediates, preparations and polymeric compounds, cosmetics, personal care products, other technical applications.
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#### 1.3. Details of the supplier of the safety data sheet.

Name.	Green Oleo S.r.l.
Full address.	Via Bergamo, 66
District and Country.	26100 Cremona (CR)
	Italy
	tel. +39 03724871
	fax +39 0372487258
e-mail address of the competent person.	msds@greenoleo.com

#### 1.4. Emergency telephone number.

For urgent inquiries refer to.	+39 03724871
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### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements).

Hazard classification and indication:

#### 2.2. Label elements.

This product is not subject to hazard labeling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

#### 2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.



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### SECTION 3. Composition/information on ingredients.

#### 3.1. Substances.

The product does not contain substances classified as being hazardous to human health or the environment pursuant to the provisions Regulation (EU) 1272/2008 (CLP) (and subsequent amendments and supplements) in such quantities as to require the statement.

### SECTION 4. First aid measures.

#### 4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

### SECTION 5. Firefighting measures.

#### 5.1. Extinguishing media.

##### SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

##### UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

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

##### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

#### 5.3. Advice for firefighters.

##### GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

##### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).



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### SECTION 6. Accidental release measures.

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

Use breathing equipment if fumes or powders are released into the air. These indications apply for both processing staff and those involved in emergency procedures.

#### 6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

#### 6.3. Methods and material for containment and cleaning up.

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

#### 6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

### SECTION 7. Handling and storage.

#### 7.1. Precautions for safe handling.

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

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

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.

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

Information not available.

### SECTION 8. Exposure controls/personal protection.

#### 8.1. Control parameters.

It doesn't contain substances with occupational exposure limit value.

DNEL: End Use: Workers.  
Exposure: skin contact.  
Potential health effects: Chronic effects.  
Value: 10 mg / kg bw / day.

DNEL: End Use: Workers.  
Exposure: inhalation.  
Potential health effects: Chronic effects.  
Value: 17,632 mg / m3.



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DNEL: End Use: general public.  
Exposure: skin contact.  
Potential health effects: Chronic effects.  
Value: 5 mg / kg bw / day.

DNEL: End Use: general public.  
Exposure: inhalation.  
Potential health effects: Chronic effects.  
Value: 4,348 mg / m3.

DNEL: End Use: general public.  
Exposure: ingestion.  
Potential health effects: Chronic effects.  
Value: 2,5 mg / kg bw / day.

PNEC: Fresh water.  
Not applicable.

PNEC: Sea water.  
Not applicable.

PNEC: Water.  
discontinuous / release use, not applicable.

PNEC: Freshwater sediment.  
No data available.

PNEC: Marine sediment.  
No data available.

PNEC: Soil.  
No data available.

PNEC: Treatment plant.  
Not applicable.

### 8.2. Exposure controls.

Comply with the safety measures usually applied when handling chemical substances.

#### HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).  
Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

#### SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

#### ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.



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### SECTION 9. Physical and chemical properties.

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

Appearance	solid
Colour	Not available.
Odour	Not available.
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	53 - 63 °C.
Initial boiling point.	200 – 240 °C.
Boiling range.	Not available.
Flash point.	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	0,00005 hPa @ 25°C
Vapour density	Not available.
Density.	0,84 – 0,9 g/cm <sup>3</sup> @ 20°C
Solubility	Not available.
Partition coefficient: n-octanol/water	log Pow: 7,05-8,23
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	12 mm <sup>2</sup> /s @ 70°C
	Method: ASTM D 445
Explosive properties	Not available.
Oxidising properties	Not available.

#### 9.2. Other information.

Information not available.

### SECTION 10. Stability and reactivity.

#### 10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

#### 10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

#### 10.3. Possibility of hazardous reactions.

The powders are potentially explosive when mixed with air.

#### 10.4. Conditions to avoid.

Avoid environmental dust build-up.

#### 10.5. Incompatible materials.

Information not available.



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### 10.6. Hazardous decomposition products.

Information not available.

## SECTION 11. Toxicological information.

### 11.1. Information on toxicological effects.

#### Acute toxicity

Acute oral toxicity: Oral LD50:> 5000 mg / kg.  
Species: Rat.  
Method: OECD Test Guideline 401.  
Comments: The information given is based on data obtained from similar substances.

Acute inhalation toxicity: LC50:> 0,1621 mg / l.  
Exposure time: 4 h.  
Species: Rat.  
Comment: No LC50 / inhalation / 4h / rat was determined because no mortality was observed at the maximum reachable concentration.  
Information given is based on data obtained from similar substances.

Acute dermal toxicity: Dermal LD50:> 2000 mg / kg.  
Species: rabbit.  
Comments: The information given is based on data obtained from similar substances.

#### Skin corrosion / irritation

Irritating to the skin: Species: rabbit.  
Result: No skin irritation.  
Method: OECD Test Guideline 404.  
Comments: The information given is based on data obtained from similar substances.

#### Serious eye damage / eye irritation

Irritation of eyes: Species: rabbit.  
Classification: No eye irritation.  
Method: OECD Test Guideline 405.  
Comments: The information given is based on data obtained from similar substances.

#### Respiratory or skin sensitization

Sensitization: Remarks: no data available.

#### Germ cell mutagenicity

Genotoxicity in vitro: In vitro assay.  
Lymphoma of a mouse.  
Result: negative.  
Method: EC B17 (OECD 476): gene mutation in mammalian cells.  
Comments: The information given is based on data obtained from similar substances.  
Ames test.  
Result: negative.  
Method: Mutagenicity (Salmonella typhimurium - wise reversion).  
Remarks: Information given is based on data obtained from similar substances.  
Chromosome aberration in vitro.  
Result: negative.  
Method: OECD Test Guideline 473.  
Comments: The information given is based on data obtained from similar substances.



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### Reproductive toxicity

Reproductive toxicity: Species: rat.  
Application Route: Oral.  
Method: OECD Test Guideline 422.

Teratogenicity: Species: rat.  
Application: Oral.  
Method: OECD Test Guideline 422.

### STOT - Single exposure

Observations: the substance is not classified as specific target organ toxicant, single exposure.

### STOT - Repeated Exposure

Species: rat, male and female.  
Application: Oral.  
No level of harmfulness observed: 1000 mg / kg.  
Method: OECD Test Guideline 422.  
Information given is based on data obtained from similar substances.  
Species: rat, male.  
Application: Oral.  
No level of harmfulness observed: ca.5000 mg / kg.  
Information given is based on data obtained from similar substances.  
Observations: the substance is not classified as specific target organ toxicant, repeated exposure.

### Aspiration Hazard

Aspiration toxicity: no data available.  
Further information: no data available.

## SECTION 12. Ecological information.

### 12.1. Toxicity.

Fish toxicity: LC50:> 1000 mg / l.  
Exposure time: 48 h.  
Species: Leuciscus idus (Golden orfe).  
Static test Method: OECD Test Guideline 203.  
LC50:> 1000 mg / l.  
Exposure time: 96 h.  
Species: Danio rerio (zebrafish).  
Semi-static test Method: OECD Test Guideline 203.  
Comments: The information given is based on data obtained from similar substances.  
LC50:> 1000 mg / l.  
Exposure time: 48 h.  
Species: Leuciscus idus (Golden orfe).  
Static test Method: OECD Test Guideline 203.  
Comments: The information given is based on data obtained from similar substances.

Toxicity to daphnia EC50:> 4,8 mg / l.  
Exposure time: 48 h.  
Species: Daphnia magna (Water flea).  
Method: OECD Test Guideline 202.  
Comments: The information given is based on data obtained from similar substances.  
EC50:> 32 mg / l.  
Exposure time: 47 h.  
Species: Daphnia magna (Water flea).  
Method: OECD Test Guideline 202.  
Comments: The information given is based on data obtained from similar substances.



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Toxicity to algae:

LC50:> 20 mg / l.  
Exposure time: 48 h.  
Species: Artemia Salina.  
Comments: The information given is based on data obtained from similar substances.  
ErC50:> 0,9 mg / l.  
Exposure time: 72 h.  
Species: Pseudokirchneriella subcapitata (green algae)  
Speed of growth,  
Static test  
Method: OECD Test Guideline 201.  
EbC50:> 0,9 mg / l.  
Exposure time: 72 h.  
Species: Pseudokirchneriella subcapitata (green algae)  
Biomass,  
Static test  
Method: OECD Test Guideline 201.  
NOEC:> 0,9 mg / l.  
Exposure time: 72 h.  
Species: Pseudokirchneriella subcapitata (green algae)  
Speed of growth,  
Static test.  
Method: OECD Test Guideline 201.  
NOEC:> 0,9 mg / l.  
Exposure time: 72 h.  
Biomass,  
Method: OECD Test Guideline 201.

Bacteria toxicity:

EC10: 883 mg / l.  
Exposure time: 18 h.  
Growth inhibitor.  
Species: Pseudomonas putida.  
Method: ISO 10712.  
Comments: The information given is based on data obtained from similar substances.

Toxicity to daphnia  
(Chronic toxicity)

NOEC: 0,22 mg / l.  
Exposure time: 21 d.  
Reproductive rate.  
Species: Daphnia magna (Water flea).  
Semi-static test.  
Method: OECD Test Guideline 211.  
Comments: The information given is based on data obtained from similar substances.

### Ecotoxicology evaluation

Acute toxicity to the aquatic environment: No toxicity was observed at the solubility limit.  
Chronic toxicity to the aquatic environment: No toxicity was observed at the solubility limit.

#### 12.2. Persistence and degradability.

Biodegradability

Result: Readily biodegradable.  
72%  
Testing period: 28 d.  
Method: Essay of carbon dioxide (CO<sub>2</sub>).  
Comments: The interval criterion time of 10 days is not satisfied.  
Result: Readily biodegradable.  
71%  
Testing period: 28 d.  
Method: Essay of carbon dioxide (CO<sub>2</sub>).  
Comments: The interval criterion time of 10 days is not satisfied.  
93%  
Testing period: 28 d.  
Method: Essay of carbon dioxide (CO<sub>2</sub>).  
75%  
Testing period: 28 d.  
Method: Essay of carbon dioxide (CO<sub>2</sub>).





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65%  
Testing period: 28 d.  
Result: Readily biodegradable.  
Method: QSAR.

### 12.3. Bioaccumulative potential.

Bioaccumulation: Species: Danio rerio (zebrafish).  
Bioconcentration factor (BCF): 234-288.  
Observations: the accumulation in terrestrial organisms is unlikely.

### 12.4. Mobility in soil.

Surface tension: 0.03 mN / m at 20 ° C  
Distribution among environmental compartments: Remarks: no data available.

Additional advice; behavior of the substance in the environment: observations: none.

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

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

### 12.6. Other adverse effects.

Information not available.

## SECTION 13. Disposal considerations.

### 13.1. Waste treatment methods.

Waste transportation may be subject to dangerous goods transport regulations.  
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.  
Solid residues may be suitable for disposal in an authorised landfill site.  
CONTAMINATED PACKAGING  
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

### 14.1. UN number.

Not applicable.

### 14.2. UN proper shipping name.

Not applicable.

### 14.3. Transport hazard class(es).

Not applicable.



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### 14.4. Packing group.

Not applicable.

### 14.5. Environmental hazards.

Not applicable.

### 14.6. Special precautions for user.

Not applicable.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code.

Information not relevant.

## SECTION 15. Regulatory information.

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

Seveso Category - Directive 2012/18/EC:

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Information not available.

German regulation on the classification of substances hazardous to water (VwVwS 2005).

WGK 1: Low hazard to waters



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### 15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

## SECTION 16. Other information.

### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

### GENERAL BIBLIOGRAPHY

1. Regulation (EU) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EU) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - ECHA website

### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.