# ReduHeat

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 13/01/2023 Revision date: 23/12/2024 Supersedes version of: 13/01/2023 Version: 1.2

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

### 1.1. Product identifier

Product form : Mixture
Product name : ReduHeat

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

#### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Shading paint for greenhouses

#### 1.2.2. Uses advised against

No additional information available

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

**Manufacturer**
Lumiforte EMEA B.V.
Geerstraat 8
5111 PS Baarle-Nassau
Netherlands
T +31 (0)1 35 07 53 99
safety@lumiforte.com - www.lumiforte.com

### 1.4. Emergency telephone number

No additional information available

## 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**

No additional information available

### 2.2. Label elements

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

No labelling applicable

### 2.3. Other hazards

Contains no PBT/vPvB substances ≥ 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 %

| Component | |
|---|---|
| Mica covered with : titanium dioxide, tin oxide, silicon dioxide | 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 % |

| Component | |
|---|---|
| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [N. CE 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)(55965-84-9) | 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

### 3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| Mica covered with : titanium dioxide, tin oxide, silicon dioxide | - | 10 – 25 | Not classified |
| acrylic copolymer | - | 2.5 – 10 | Not classified |
| 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one | CAS-No.: 2634-33-5<br>EC-No.: 220-120-9<br>EC Index-No.: 613-088-00-6 | < 1 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 |
| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [N. CE 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) | CAS-No.: 55965-84-9<br>EC Index-No.: 613-167-00-5 | < 1 | Acute Tox. 2 (Inhalation), H330<br>Acute Tox. 2 (Dermal), H310<br>Acute Tox. 3 (Oral), H301<br>Skin Corr. 1C, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1A, H317<br>Aquatic Acute 1, H400 (M=100)<br>Aquatic Chronic 1, H410 (M=100) |

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : 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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Sand. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## 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. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8 "Exposure controls/personal protection".
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. For further information refer to section 8 :" Exposure-controls/personal protection".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures : 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 : Keep only in the original container in a cool, well-ventilated place. Keep out of frost. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.
Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## 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**

No additional information available

**8.1.3. Air contaminants formed**

No additional information available

**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**

**Personal protective equipment:**
Safety glasses. Avoid all unnecessary exposure.

**Personal protective equipment symbol(s):**



**8.2.2.1. Eye and face protection**

**Eye protection:**
Chemical goggles or safety glasses. Safety glasses

**8.2.2.2. Skin protection**

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
Wear protective gloves.

**8.2.2.3. Respiratory protection**

**Respiratory protection:**
In case of insufficient ventilation, wear suitable respiratory equipment

**8.2.2.4. Thermal hazards**

No additional information available

**8.2.3. Environmental exposure controls**

**Environmental exposure controls:**
Avoid release to the environment.

**Other information:**
Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | Beige. |
| Odour | : | characteristic. |
| Odour threshold | : | Not available |
| Melting point | : | Not applicable |
| Freezing point | : | Not available |
| Boiling point | : | Not available |
| Flammability | : | Non flammable. |
| Explosive properties | : | None. |
| Explosive limits | : | Not available |
| Lower explosion limit | : | Not available |
| Upper explosion limit | : | Not available |
| Flash point | : | Not available |
| Auto-ignition temperature | : | Not available |
| Decomposition temperature | : | Not available |
| pH | : | 9 |
| Viscosity, kinematic | : | 6909.091 $mm^2/s$ |
| Viscosity, dynamic | : | 7600 mPa.s Brookfield RV, spindle 5, 10 rpm, 20°C |
| Solubility | : | insoluble in water. In water, the material disperses. |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available |
| Vapour pressure | : | Not available |
| Vapour pressure at 50 °C | : | Not available |
| Density | : | 1.1 $g/cm^3$ |
| Relative density | : | Not available |
| Relative vapour density at 20 °C | : | Not available |
| 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

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5) | |
|---|---|
| LD50 oral rat | 1193 mg/kg |
| LD50 dermal rat | 4115 mg/kg/d |

| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [N. CE 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9) | |
|---|---|
| LD50 oral rat | 457 mg/kg |
| LD50 dermal rat | > 1000 mg/kg |
| LD50 dermal rabbit | 660 mg/kg |
| LC50 Inhalation - Rat | 1.29 mg/l/4h |

Skin corrosion/irritation : Not classified
pH: 9
Additional information : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Not classified
pH: 9
Additional information : Based on available data, the classification criteria are not met
Respiratory or skin sensitisation : Not classified
Additional information : Based on available data, the classification criteria are not met
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-single exposure : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-repeated exposure : Not classified
Additional information : Based on available data, the classification criteria are not met
Aspiration hazard : Not classified
Additional information : Based on available data, the classification criteria are not met

| ReduHeat | |
|---|---|
| Viscosity, kinematic | 6909.091 $mm^2/s$ |

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No additional information available

#### 11.2.2. Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

## 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
Hazardous to the aquatic environment, long–term (chronic) : Not classified

| 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5) | |
|---|---|
| LC50 - Fish [1] | 2.18 mg/l 96h, Oncorhynchus mykiss |
| EC50 - Crustacea [1] | 2.94 mg/l 48h |
| ErC50 algae | 0.11 mg/l 72 h, Pseudokirchneriella subcapitata |

| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [N. CE 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9) | |
|---|---|
| LC50 - Fish [1] | 1.57 mg/l 96 h |
| LC50 - Fish [2] | 0.19 mg/l 96 h Oncorhynchus mykiss |
| EC50 - Crustacea [1] | 0.16 mg/l 48 h |
| EC50 - Crustacea [2] | 0.34 mg/l 48 h |
| EC50 - Other aquatic organisms [2] | 0.027 mg/l 72 h Scenedesmus capricornutum |

### 12.2. Persistence and degradability

| ReduHeat | |
|---|---|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| ReduHeat | |
|---|---|
| Bioaccumulative potential | Not established. |

| 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one (2634-33-5) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 1.3 |

| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [N. CE 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (55965-84-9) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | -0.486 |

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

### 14.3. Transport hazard class(es)

**ADR**
Transport hazard class(es) (ADR) : Not applicable

**IMDG**
Transport hazard class(es) (IMDG) : Not applicable

**IATA**
Transport hazard class(es) (IATA) : Not applicable

**ADN**
Transport hazard class(es) (ADN) : Not applicable

**RID**
Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

### 14.6. Special precautions for user

**Overland transport**
Not applicable

**Transport by sea**
Not applicable

**Air transport**
Not applicable

**Inland waterway transport**
Not applicable

**Rail transport**
Not applicable

### 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**

**REACH Annex XVII (Restriction List)**

Contains no REACH substances with Annex XVII restrictions

**REACH Annex XIV (Authorisation List)**

Contains no REACH Annex XIV substances

**REACH Candidate List (SVHC)**

Contains no substance on the REACH candidate list

**PIC Regulation (Prior Informed Consent)**

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

**POP Regulation (Persistent Organic Pollutants)**

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

**Ozone Regulation (1005/2009)**

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

**Explosives Precursors Regulation (2019/1148)**

Contains substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.
Please see https://ec.europa.eu/home-affairs/system/files/2021-11/list_of_competent_authorities_and_national_contact_points_en.pdf

**Drug Precursors Regulation (273/2004)**

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

**15.1.2. National regulations**

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

| **Abbreviations and acronyms:** | |
|---|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |

| **Abbreviations and acronyms:** | |
|---|---|
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| 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 |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Purification plant |
| 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 |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

| **Full text of H- and EUH-statements:** | |
|---|---|
| Acute Tox. 2 (Dermal) | Acute toxicity (dermal), Category 2 |
| Acute Tox. 2 (Inhalation) | Acute toxicity (inhal.), Category 2 |

| **Full text of H- and EUH-statements:** | |
|---|---|
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment – Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment – Chronic Hazard, Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H310 | Fatal in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| Skin Corr. 1C | Skin corrosion/irritation, Category 1, Sub-Category 1C |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| Skin Sens. 1A | Skin sensitisation, category 1A |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.