



# MATERIAL SAFETY DATA SHEET

Version \*\*\*

Revision date \*\*\*\*\*

Print date \*\*\*

According to Regulation (EC) No. 1272/2008

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1 PRODUCT IDENTIFIERS

**Product name:** Lutein

**Product Number:** NC-L-005

**Brand:** NATCOM

**CAS Number:** 127-40-2

**EC Number:** 204-840-0

**REACH Number:** A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

### 1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

**Identified uses:** Laboratory chemicals, Manufacture of substances

### 1.3 DETAILS OF SUPPLIER OF THE SAFETY DATA SHEET

Company: Natural Compound Solutions

Bourne Laboratory

Royal Holloway University of London

Egham Hill

Egham

Surrey

TW20 0EX

UK

Telephone: (+44) (0)1784 443894

Email: [Harriet.berry@rhul.ac.uk](mailto:Harriet.berry@rhul.ac.uk)

### 1.4 EMERGENCY TELEPHONE NUMBER

Emergency phone: (+44) (0)1784 443894



## SECTION 2: HAZARDS IDENTIFIED

### 2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.2 LABEL ELEMENTS

**Hazard statement:** Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**Precautionary statement:** P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P262 Do not get in eyes, on skin, or on clothing.

### OTHER HAZARDS

This substance/ mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 SUBSTANCES

Product name: Lutein

Empirical formula:  $C_{40}H_{56}O_2$

Molecular weight: 568.89 g/mol

CAS Number: 127-40-2

EC Number: 204-840-0

No components need to be disclosed according to the applicable regulations.

## SECTION 4: FIRST AID MEASURES

### 4.1 DESCRIPTION OF FIRST AID MEASURES

**Inhalation:** In case of inhalation, move person to fresh air. If not breathing, give artificial respiration. If breathing stops, carry out artificial respiration.

**In case of skin contact:** wash off thoroughly with soap and plenty of water.

**In case of eye contact:** Flush eyes with water for at least 15 minutes.

**Ingestion:** Do not make an unconscious person vomit or swallow anything. Rinse mouth thoroughly with water.

### 4.2 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED



No data available

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Harmful/ toxic vapours. Carbon oxides. Combustible.

### 5.3 ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus for firefighting if necessary and suitable protective clothing against chemical agents.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid dust formation. Avoid breathing vapours, mist, or gas. Use personal protective equipment. Evacuate the personnel from contaminated zone. Ensure adequate ventilation.

For personal protect see section 8.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Keeping away from drains, surface, and ground waters.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Clean up without creating dust. Keep in suitable, closed containers for disposal. Wash the contaminated area with soap and water. Confine washing water and dispose of it keeping within the local regulations.

### 6.4 REFERENCE TO OTHER SECTIONS

For disposal see section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING

Provide appropriate exhaust ventilation at places where the dust is formed. For precautions see section 2.2.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep container tightly closed in a dry and well-ventilated place away from the light. Store at -20 °C.

### 7.3 SPECIFIC HANDLING

Use in a dark place.

## SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION



## 8.1 CONTROL PARAMETERS

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values.

## 8.2 EXPOSURE CONTROLS

**Appropriate engineering controls:** general industrial hygiene practice.

### Personal protective equipment

**Eye/ face protection:** Wear safety glasses. Use of equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of Regulation (EU) 2016/ 425 and the standard EN 374 derived from it.

**Body protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and the amount of the dangerous substance at the specific workplace.

**Respiratory protection:** respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure:** No special environmental precautions required.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	Form: solid
b) Colour	Yellow
c) Solubility in	Ethyl acetate, chloroform
d) pH	No data available
e) Melting point	174-181°C
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/ lower flammability or explosive limits	No data available



k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/ water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidising properties	No data available

## 9.2 OTHER SAFETY INFORMATION

No data available

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 REACTIVITY

No data available

### 10.2 CHEMICAL STABILITY

Stable under recommended storage conditions

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available

### 10.4 CONDITIONS TO AVOID

High light and high temperatures

### 10.5 INCOMPATIBLE MATERIALS

Strong oxidising agents

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Other decomposition products - No data available. Hazardous decomposition products formed under fire conditions – Carbon oxides. In the event of a fire: see section 5.

## SECTION 11: TOXICOLOGY INFORMATION

### 11.1 INFORMATION ON TOXICOLOGY EFFECTS



**Acute toxicology:** No data available

**Skin corrosion/ irritation:** No data available

**Serious eye damage/ eye irritation:** No data available

**Respiratory or skin sensitisation:** No data available

**Germ cell mutagenicity:** No data available

**Carcinogenicity:** IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity:** No data available

**Specific target organ toxicity – single exposure:** No data available

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available

**Additional information:** RTECS: Not available

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 TOXICITY

No data available

### 12.2 PERSISTENCE AND DEGRADABILITY

No data available

### 12.3 BIOACCUMULATIVE POTENTIAL

No data available

### 12.4 MOBILITY IN SOIL

No data available

### 12.5 RESULTS OF PBT AND VPVB ASSESSMENT

This substance/ mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

### OTHER ADVERSE EFFECTS

No data available

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13. 1 WASTE TREATMENT METHODS

**Product:** surplus and non-recyclable solutions must be sent to a licenced disposal company, while also respecting the local statutory instructions.



**Contaminated packaging:** Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

### 14.1 UN NUMBER

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN PROPER SHIPPING NAME

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

### 14.3 TRANSPORT HAZARD CLASS(ES)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 PACKAGING GROUP

ADR/RID: -

IMDG: -

IATA: -

### 14.5 ENVIRONMENTAL HAZARDS

ADR/RID: no

IMDG marine pollutant: no

IATA: no

### 14.6 SPECIAL PRECAUTIONS FOR USER

No data available

## SECTION 15: REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

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

**Directive 96/82/CE (SEVESO category/ named substances):** Not applicable

**Regulation CE 2037/2000 (substances that deplete the ozone layer):** Not applicable

**Regulation 850/2004 (persistent organic pollutants):** Not applicable

**Regulation REACH- Title VII (authorisations) and Title VIII:** Not applicable

### 15.2 CHEMICAL SAFETY ASSESSMENT

For this product a chemical safety assessment was not carried out.

## SECTION 16: OTHER INFORMATION

The above information is believed to be correct based on our current knowledge and experience, this may not be all inclusive and shall only be used as a guide. This document is provided for information purposes only.