

A safety data sheet is not required for this product under Article 31 of REACH.
This Product Safety Information Sheet has been created on a voluntary basis.

SECTION 1 — IDENTIFICATION

1.1. Product identifier

Product form: Substance
Substance name: BLOOD SUBSTITUTE
IUPAC name: 1,1,2,2,3,3,4,4,4a,4b,5,5,6,6,7,7,8,8,8a,9,9,10,10,10a-Tetracosaf fluorophenanthrene
EC-No.: 400-470-0
CAS-No.: 306-91-2
Formula: C₁₄F₂₄
Synonyms: Perfluoroperhydrophenanthrene

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

1.2.1. Relevant identified uses

Main use category: Industrial use, Professional use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Lena Biosciences, Inc.
311 Ferst Drive
Atlanta, GA 30332
Telephone: +1 (404) 206-2676
E-mail: info@lenabio.com

1.4. Emergency telephone number

Emergency number: +1 (404) 206-2676

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]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3 — COMPOSITION/ INFORMATION ON INGREDIENTS**3.1. Substances**

Substance type:	Mono-constituent
Name:	BLOOD SUBSTITUTE
Product identifier:	(CAS-No.) 306-91-2 (EC-No.) 400-470-0
Percent:	100%
Classification according to Regulation (EC) No. 1272/2008 [CLP]:	Not classified

3.2. Mixtures

Not applicable

SECTION 4 — FIRST AID MEASURES**4.1. Description of first aid measures**

No additional information available

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

No additional information available

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: Water spray. Dry powder. Foam. Carbon dioxide.

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

Protection during firefighting: 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.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:

Take up liquid spill into absorbent material.

Other information:

Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7 — HANDLING AND STORAGE

7.1. Precautions for safe handling

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 container tightly closed.

7.3. Specific end use(s)

No additional information available

SECTION 8 — EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. Control parameters

No additional information available

8.2. Exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9 — EXPOSURE CONTROLS/ PERSONAL PROTECTION

9.1. Information on basic physical and chemical properties

Physical state:

Liquid

Appearance:

Clear, colorless liquid

Molecular mass:

≈ 624 g/mol

Color:

Colorless

Odor:

Odorless

Odor threshold:

Not applicable

pH:

Not applicable

Relative evaporation rate (butylacetate=1):

No data available

Melting point:

≈ -31 °C

Boiling point:

≈ 215 °C

Flash point:

No data available

Auto-ignition temperature:	Not applicable
Decomposition temperature:	≈ 400 °C
Flammability (solid, gas):	Not applicable
Vapor pressure:	≈ 0 kPa
Relative vapor density at 20 °C:	No data available
Relative density:	≈ 2.0
Solubility:	Soluble in aliphatic hydrocarbons. Soluble in chlorinated hydrocarbons. Insoluble in water.
Viscosity, kinematic:	≈ 13.99 mm ² /s
Viscosity, dynamic:	≈ 28.4 mPa.s
Explosive properties:	None
Oxidizing properties:	None
Explosive limits:	No data available

9.2. Other information

Specific conductivity:	≈ 0.001 pS/m
Refractive index:	≈ 1.3348
Other properties:	Not flammable

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

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Stable 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

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 — TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity (oral):	Not classified
Acute toxicity (dermal):	Not classified
Acute toxicity (inhalation):	Not classified
Skin corrosion/irritation:	Not classified

pH:	Not applicable
Serious eye damage/irritation:	Not classified
pH:	Not applicable
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
Specific target organ toxicity-single exposure:	Not classified
Specific target organ toxicity-repeated exposure:	Not classified
Aspiration hazard:	Not classified

SECTION 12 — ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - genera:	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity:	Not classified
Chronic aquatic toxicity:	Not classified

12.2. Persistence and degradability

No additional information available

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

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13 — DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment methods:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
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SECTION 14 — TRANSPORT INFORMATION

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

14.1. UN number

Not regulated

14.2. UN proper shipping name

Not regulated

14.3. Transport hazard classes

Not regulated

14.4. Packing group

Not regulated

14.5. Environmental hazards

Not regulated

No supplementary information available

14.6. Special precautions for user

Overland transport: Not regulated

Transport by sea: Not regulated

Air transport: Not regulated

Inland waterway transport: Not regulated

Rail transport: Not regulated

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

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

No REACH Annex XVII restrictions

BLOOD SUBSTITUTE is not on the REACH Candidate List

BLOOD SUBSTITUTE is not on the REACH Annex XIV List

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

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis

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.