



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 24-Oct-2022

Revision Number 1

## 100-1045 - All-Trans Retinoic Acid

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

#### 1.1. Product identifier

Document Number 10000014800

Product Name All-Trans Retinoic Acid

Synonyms ATRA; NSC 122758; Retinoic acid; Trans retinoic acid; Tretinoin; Vitamin A acid;

Pure substance/mixture Substance

Contains (2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid

Molecular weight 300.4

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

Recommended Use Laboratory chemicals

Uses advised against No information available

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

##### Manufacturer

STEMCELL Technologies SARL  
40 Rue des Berges, Miniparc Polytec, Bâtiment Sirocco, 38000 Grenoble, France  
+33 (0) 4 76 04 75 30  
STEMCELL Technologies Germany GmbH  
Stolberger Str. 200, 50933, Köln, Germany  
+33 (0) 4 76 04 75 30  
STEMCELL Technologies UK Ltd.  
Building 7100, Cambridge Research Park, Beach Drive, Waterbeach, Cambridge, UK, CB25 9TL  
+33 (0) 4 76 04 75 30

For further information, please contact

#### 1.4. Emergency telephone number

Emergency Telephone No information available

Emergency Telephone - \$45 - (EC)1272/2008

Europe 112

### Section 2: HAZARDS IDENTIFICATION

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



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Regulation (EC) No 1272/2008

<b>Skin corrosion/irritation</b>	Category 2 - (H315)
<b>Reproductive toxicity</b>	Category 1B - (H360)
<b>Acute aquatic toxicity</b>	Category 1 - (H400)
<b>Chronic aquatic toxicity</b>	Category 1 - (H410)

### 2.2. Label elements

Contains (2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid



### Signal word

Danger

### Hazard statements

#### Hazard statements

H315 - Causes skin irritation

H360 - May damage fertility or the unborn child

H410 - Very toxic to aquatic life with long lasting effects

### Precautionary Statements - EU (§28, 1272/2008)

P321 - Specific treatment (see .? on this label)

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

### 2.3. Other hazards

No information available

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical name	EC No.	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
(2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid	206-129-0	302-79-4	100	Skin Irritation – Skin Irrit. 2 (H315) Reproductive Toxicity – Repr. 1B (H360)	No data available



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				Aquatic Toxicity – Acute – Aquatic Acute 1 (H400) Aquatic Toxicity – Chronic – Aquatic Chronic 1 (H410)	
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Full text of H- and EUH-phrases: see section 16

## Section 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms	No information available.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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## Section 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available.

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



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**Specific hazards arising from the chemical** No information available.

#### 5.3. Advice for firefighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### Section 6: ACCIDENTAL RELEASE MEASURES

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

#### 6.2. Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

#### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

### Section 7: HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.



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

**Storage Conditions** Store locked up. Store in accordance with information listed on the Product Information Sheet (PIS).

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

**Identified Uses**

**Risk Management Methods (RMM)** The information required is contained in this Material Safety Data Sheet.

### Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

#### 8.2. Exposure controls

##### **Personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.



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Environmental exposure controls No information available.

### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Physical state	Solid
Appearance	Crystalline
Color	No information available
Odor	No data available.
Odor threshold	No data available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	178 °C / (352.4 °F)	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	Product is not flammable.	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	

Oxidizing properties No information available

#### 9.2. Other information

Softening point	No information available
Molecular weight	300.4
Molecular formula	C <sub>20</sub> H <sub>28</sub> O <sub>2</sub>
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

### Section 10: STABILITY AND REACTIVITY

#### 10.1. Reactivity



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**Reactivity** No information available.

#### 10.2. Chemical stability

**Stability** Stable under recommended transport or storage conditions.

#### **Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

#### 10.4. Conditions to avoid

**Conditions to avoid** None known based on information supplied.

#### 10.5. Incompatible materials

**Incompatible materials** Strong oxidizing agents.

#### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Carbon dioxide (CO<sub>2</sub>). Carbon monoxide.

## Section 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information on toxicological effects

#### Information on likely routes of exposure

#### **Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components).
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.



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### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Redness. May cause redness and tearing of the eyes.

### Numerical measures of toxicity

#### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity.  
 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.  
 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

#### Product Information

**Oral LD50** 1100 mg/kg (mouse)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
(2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid	= 2 g/kg ( Rat )		

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.

#### Product Information

**Serious eye damage/eye irritation** No information available.

#### Product Information

**Respiratory or skin sensitization** No information available.

#### Product Information

**Germ cell mutagenicity** No information available.

#### Product Information

**Carcinogenicity** No information available.

#### Product Information

**Reproductive toxicity** Classification based on data available for ingredients.





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#### Product Information

STOT - single exposure No information available.

Product Information

STOT - repeated exposure No information available.

Product Information

Aspiration hazard No information available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Product Information

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

Bioaccumulation No information available.

### 12.4. Mobility in soil

Mobility in soil No information available.

### 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

### 12.6. Other adverse effects

Other adverse effects No information available.

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods



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**Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging**

Do not reuse empty containers.

### Section 14: TRANSPORT INFORMATION

**Note:**

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

**IMDG**

14.1 UN Number	3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,SOLID, N.O.S. (all-trans Retinoic Acid)
14.3 Transport hazard class(es)	9
14.4 Packing Group	III
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

**RID**

14.1 UN Number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**ADR**

14.1 UN Number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**IATA**

14.1 UN Number	3077
14.2 UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (all-trans Retinoic Acid)
14.3 Transport hazard class(es)	9
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None



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### Section 15: REGULATORY INFORMATION

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

##### European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

##### Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

##### Persistent Organic Pollutants

Not applicable

##### Dangerous substance category per Seveso Directive (2012/18/EU)

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

##### International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

##### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances



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#### 15.2. Chemical safety assessment

Chemical Safety Report No information available

### Section 16: OTHER INFORMATION

#### Key or legend to abbreviations and acronyms used in the safety data sheet

##### Full text of H-Statements referred to under section 3

H315 - Causes skin irritation

H360 - May damage fertility or the unborn child

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

##### Legend

SVHC: Substances of Very High Concern for Authorization:

##### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

\*

Skin designation

Revision Date 24-Oct-2022

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

##### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product.