

## SAFETY DATA SHEET

According to JIS Z 7253:2012  
**Revision Date** 11-Jun-2018  
 Version 5

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	all-trans-Retinoic Acid
<b>Product code</b>	188-01113,182-01111,186-01114,182-01116
<b>CAS No</b>	302-79-4
<b>Formula</b>	C <sub>20</sub> H <sub>28</sub> O <sub>2</sub>
<b>Manufacturer</b>	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-5964
<b>Supplier</b>	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses and restrictions on use</b>	For research purposes
<b>Announcement of company name change</b>	Company name has changed since April 1, 2018. Former name was "Wako Pure Chemical Industries, Ltd."

## Section 2: HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture**

Acute toxicity - Oral

Reproductive Toxicity

Aquatic environment (acute hazard)

Category 4  
 Category 1B  
 Category 2

**Pictograms****Signal word**

Danger

**Hazard statements**

H302 - Harmful if swallowed

H360 - May damage fertility or the unborn child

H401 - Toxic to aquatic life

**Precautionary statements-(Prevention)**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required.

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Avoid release to the environment

**Precautionary statements-(Response)**

- IF exposed or concerned: Get medical advice/attention
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.

**Precautionary statements-(Storage)**

- Store locked up.

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** C<sub>20</sub>H<sub>28</sub>O<sub>2</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No.
all-trans-Retinoic acid	97.0	300.44	N/A	3-(4)-404	302-79-4

**Impurities and/or Additives :** Not applicable

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Water spray (fog), Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Special extinguishing method**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Protection of fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

### Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

### Methods and materials for contaminant and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

### Recovery, neutralization

No information available

### Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

### Handling

#### Technical measures

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

#### Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

#### Safety handling precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

### Storage

#### Safe storage conditions

##### Storage conditions

Container protected from light, and store tightly closed in freezer (-20°C). Packed with an inert gas.

##### Safe packaging material

Glass

#### Incompatible substances

Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

### Exposure limits

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

### Personal protective equipment

#### Respiratory protection

Dust mask

#### Hand protection

Protection gloves

#### Eye protection

protective eyeglasses or chemical safety goggles

#### Skin and body protection

Long-sleeved work clothes

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Form</b>	
<b>Color</b>	yellow
<b>Appearance</b>	crystalline powder - powder
<b>Odor</b>	No data available
<b>pH</b>	No data available
<b>Melting point/freezing point</b>	180-182
<b>Boiling point, initial boiling point and boiling range</b>	No data available
<b>Flash point</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper :</b>	No data available
<b>Lower :</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Vapour density</b>	No data available
<b>Specific Gravity / Relative density</b>	No data available
<b>Solubilities</b>	methanol , acetone : soluble . water : practically insoluble,or insoluble .
<b>n-Octanol/water partition coefficient:(log Pow)</b>	6.3
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity (coefficient of viscosity)</b>	No data available
<b>Dynamic viscosity</b>	No data available

## Section 10: STABILITY AND REACTIVITY

### Stability

**Stability** May be altered by light. altered in the air.  
**Reactivity** No data available

### Hazardous reactions

None under normal processing

### Conditions to avoid

Extremes of temperature and direct sunlight, Air

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
all-trans-Retinoic acid	2 gm/kg ( Rat )	>2500mg/kg(Rabbit)	N/A

<b>Skin irritation/corrosion</b>	No data available
<b>Serious eye damage/ irritation</b>	No data available
<b>Respiratory or skin sensitization</b>	No data available
<b>Reproductive cell mutagenicity</b>	No data available
<b>Carcinogenicity</b>	No data available
<b>Reproductive toxicity</b>	No data available
<b>STOT-single exposure</b>	No data available
<b>STOT-repeated exposure</b>	No data available

Aspiration hazard

No data available

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
all-trans-Retinoic acid	N/A	LC50=4.64mg/L 96h	N/A

### Other data

No data available

### Persistence and degradability

No information available

### Bioaccumulative potential

No information available

### Mobility in soil

No information available

### Hazard to the ozone layer

No information available

## Section 13: DISPOSAL CONSIDERATIONS

### Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

### ADR/RID

Not regulated

#### UN number

-

#### Proper shipping name:

#### UN classification

#### Subsidiary hazard class

#### Packing group

#### Marine pollutant

Not applicable

### IMDG

Not regulated

#### UN number

-

#### Proper shipping name:

#### UN classification

#### Subsidiary hazard class

#### Packing group

#### Marine pollutant (Sea)

Not applicable

#### Transport in bulk according to

#### Annex II of MARPOL 73/78 and

#### the IBC Code

No information available

### IATA

Not regulated

#### UN number

-

#### Proper shipping name:

#### UN classification

#### Subsidiary hazard class

#### Packing group

#### Environmentally Hazardous

Not applicable

#### Substance

## Section 15: REGULATORY INFORMATION

**International Inventories**

EINECS/ELINCS	Listed
TSCA	Listed

**Japanese regulations**

Fire Service Act	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Industrial Safety and Health Act	Not applicable
Regulations for the carriage and storage of dangerous goods in ship	Not applicable
Civil Aeronautics Law	Not applicable
Pollutant Release and Transfer Register Law	Not applicable
Export Trade Control Order	Not applicable

<b>Section 16: OTHER INFORMATION</b>
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**Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

**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, 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.

GHS Classification is according to JIS Z7252(2014). \*JIS: Japanese Industrial Standards

**Product information**

You might get a product which indicates a former company name, during the period of transition.

**End of Safety Data Sheet**