

Safety Data Sheet
acc. to OSHA HCS

Page 1/9



Printing date 02/09/2018
Reviewed on 02/09/2018
Version number: 2

1 Identification

- **Product identifier**
- **Trade name:** Retinoic Acid
- **Article number:** A6947
- **CAS Number:**
302-79-4
- **EC number:**
206-129-0
- **Application of the substance / the mixture**
Pharmaceutical analysis
Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570
Fax.: +49 (0)6151 935711
msds@applichem.com

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Repr. 1A H360 May damage fertility or the unborn child.
- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS07 GHS08
- **Signal word** Danger
- **Hazard statements**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H360 May damage fertility or the unborn child.
- **Precautionary statements**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 If on skin: Wash with plenty of water.
P308+P313 IF exposed or concerned: Get medical advice/attention.

(Contd. on page 2)

Trade name: Retinoic Acid

(Contd. of page 1)

P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *1
Fire = 0
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
302-79-4 Retinoic Acid
- **Identification number(s)**
- **EC number:** 206-129-0

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Involve doctor immediately.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:**
Rinse out mouth.
Call a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Foam

(Contd. on page 3)

Trade name: Retinoic Acid

(Contd. of page 2)

Fire-extinguishing powder

Water spray

Use fire fighting measures that suit the environment.

In adaption to materials stored in the immediate neighbourhood.

- **Special hazards arising from the substance or mixture**

CO, CO₂

Combustible.

- **Advice for firefighters**

- **Protective equipment:** Wear self-contained respiratory protective device.

- **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust.

Do not inhale dust.

Avoid substance contact.

Ensure adequate ventilation

- **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Pick up mechanically.

Avoid generation of dusts.

Dispose contaminated material as waste according to item 13.

Clean up affected area.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:** Substance is not listed.

- **PAC-2:** Substance is not listed.

- **PAC-3:** Substance is not listed.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Open and handle receptacle with care.

Any deposit of dust which cannot be avoided must be regularly removed.

- **Information about protection against explosions and fires:**

Keep respiratory protective device available.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.

- **Information about storage in one common storage facility:** Store away from oxidizing agents.

- **Further information about storage conditions:**

Store under lock and key and with access restricted to technical experts or their assistants only.

Store in cool, dry conditions in well sealed receptacles.

Store under inert gas.

Protect from exposure to the light.

- **Recommended storage temperature:** 2-8°C

- **Storage class:** 6.1 C

(Contd. on page 4)

Trade name: Retinoic Acid

(Contd. of page 3)

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Pregnant women should strictly avoid inhalation or skin contact.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Vacuum clean contaminated clothing. Do not blow or brush off contamination.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

Suitable respiratory protective device recommended.

Filter P3

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **For the permanent contact gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.11 mm

Rubber gloves

Value for the permeation: Level ≥ 480 min

- **As protection from splashes gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.11 mm

Rubber gloves

Value for the permeation: Level ≥ 480 min

- **Eye protection:** Safety glasses

- **Body protection:**

Use protective suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

US

(Contd. on page 5)

Trade name: Retinoic Acid

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Crystalline powder

Color: Light orange color

· Odor: Odorless

· Odor threshold: Not determined.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range: 178 °C (352.4 °F)

Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Product is not flammable.

· Ignition temperature: 265 °C (509 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not determined.

Upper: Not determined.

· Vapor pressure: Not applicable.

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not applicable.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with

Water: Slightly soluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

· Other information: No further relevant information available.

10 Stability and reactivity

· **Reactivity** No dangerous reactions known.

· Chemical stability

· Thermal decomposition / conditions to be avoided:

light.

heating

· **Possibility of hazardous reactions** Risk of dust explosion.

· **Conditions to avoid** To avoid thermal decomposition do not overheat.

· **Incompatible materials:** oxidizing agent

· **Hazardous decomposition products:** In the event of fire: See chapter 5

US

(Contd. on page 6)

Trade name: Retinoic Acid

(Contd. of page 5)

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification:

| · Components | Type | Value | Species |
|--------------|------|---------------------|---------|
| Oral | LD50 | 1,100 mg/kg (mouse) | |
| | | 1,960 mg/kg (rat) | |

- Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- Additional toxicological information:
- Carcinogenic categories
- IARC (International Agency for Research on Cancer) Substance is not listed.
- NTP (National Toxicology Program) Substance is not listed.
- OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information

- Toxicity
- Aquatic toxicity:

| · Type of test | Effective concentration | Method | Assessment |
|----------------|-------------------------|-----------------|------------|
| EC50/48 h | 0.1-0.3 mg/l | (daphnia magna) | |
| LC50/96 h | 0.2 mg/l | (fish) | |

- Persistence and degradability No further relevant information available.
- Other information: The product is easily biodegradable.
- Behavior in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Ecotoxicological effects:
- Remark:
Very toxic for fish
Toxic for fish
- Additional ecological information:
- General notes:
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Toxic for aquatic organisms
Water hazard class 3 (Self-assessment): extremely hazardous for water
Danger to drinking water if even extremely small quantities leak into the ground.
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.


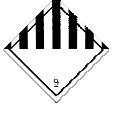



(Contd. on page 7)

Trade name: Retinoic Acid

(Contd. of page 6)

- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

| | |
|---|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | UN3077 |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR · IMDG, IATA | Environmentally hazardous substances, solid, n.o.s. (Retinoic Acid) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Retinoic Acid) |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, IMDG |  |
| <ul style="list-style-type: none"> · Class · Label | 9 Miscellaneous dangerous substances and articles 9 |
| <ul style="list-style-type: none"> · ADR |   |
| <ul style="list-style-type: none"> · Class · Label | 9 (M7) Miscellaneous dangerous substances and articles 9 |
| <ul style="list-style-type: none"> · IATA |   |
| <ul style="list-style-type: none"> · Class · Label | 9 Miscellaneous dangerous substances and articles 9 |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | III |
| <ul style="list-style-type: none"> · Environmental hazards: · Special marking (ADR): · Special marking (IATA): | Symbol (fish and tree) Symbol (fish and tree) |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Stowage Code | Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9. |

(Contd. on page 8)

Trade name: Retinoic Acid

(Contd. of page 7)

- | | |
|--|--|
| • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| • Transport/Additional information: | |
| • ADR | |
| • Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| • IMDG | |
| • Limited quantities (LQ) | 5 kg |
| • Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| • UN "Model Regulation": | UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (RETINOIC ACID), 9, III |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.

• TSCA new (21st Century Act) (Substances not listed)

302-79-4 Retinoic Acid

- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard statements**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H360 May damage fertility or the unborn child.
- **Precautionary statements**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

(Contd. on page 9)

Trade name: Retinoic Acid

(Contd. of page 8)

P330 Rinse mouth.
P302+P352 If on skin: Wash with plenty of water.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning women of child-bearing age must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Date of preparation / last revision** 02/09/2018 / 1
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Repr. 1A: Reproductive toxicity – Category 1A

— US —