1 Identification

- **Product identifier**
  - **Trade name:** Retinoic Acid
  - **Article number:** SM-0007-0500
  - **CAS Number:** 302-79-4
  - **EC number:** 206-129-0

- **Application of the substance / the mixture** Research use

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Biological Industries Israel Beit Haemek Ltd.
    BEIT HAEMEK 25115
    ISRAEL
    michalb@bioind.com
  - **Information department:** Product safety department.
  - **Emergency telephone number:** During normal opening times: +972/4/9962467

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS08 Health hazard
    - Repr. 1A  H360  May damage fertility or the unborn child.
  - GHS07
    - Acute Tox. 4 H302  Harmful if swallowed.
    - Skin Irrit. 2  H315  Causes skin irritation.

- **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-determining components of labeling:**
  - tretinoin
  - **Hazard statements**
    - Harmful if swallowed.
    - Causes skin irritation.
    - May damage fertility or the unborn child.

- **Precautionary statements**
  - Obtain special instructions before use.

(Contd. on page 2)
Trade name: Retinoic Acid

Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Store locked up. 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 tretinoin
  - 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.
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: Immediately call a doctor.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed No further relevant information available.
5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Open and handle receptacle with care. Avoid inhalation, contact with eyes and skin. Avoid dust and aerosol formation. Use only in areas with appropriate exhaust ventilation.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  - Dispose contaminated material as waste according to item 13.
- 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.

7 Handling and storage

- Handling:
  - Precautions for safe handling
  - Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: 2-8 °C
    - Information about storage in one common storage facility: Protect from light
    - Further information about storage conditions: Shipping at room temperature if less than 2 weeks.
    - 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
  - Ensure adequate ventilation. Provide accessible safety shower and eye wash station.
- 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.
49.0.14

Exposure controls

Personal protective equipment:

General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. 
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
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.

Eye protection: Safety goggles with side-shields.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Solid
Color: Light yellow to yellow
Odor: No data available
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.

Decomposition temperature: Not determined.

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.
Safety Data Sheet
acc. to OSHA HCS

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Reviewed on 07/03/2019

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- 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: Insoluble.

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

- Viscosity:
  Dynamic: Not applicable.
  Kinematic: Not applicable.
  VOC content: 0.00 %

  Solids content: 100.0 %

- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: Poisonous gases/vapors

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

  - LD/LC50 values that are relevant for classification:
    302-79-4 tretinoin
    Oral LD50 1,960 mg/kg (rat)

    - Primary irritant effect:
      - on the skin: Irritant to skin and mucous membranes.
      - on the eye: No irritating effect.
      - Sensitization: No sensitizing effects known.
    - Additional toxicological information:
      - Carcinogenic categories
      - IARC (International Agency for Research on Cancer)
        Substance is not listed.

(Contd. on page 6)
12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    - Water hazard class 1 (Self-assessment): slightly hazardous for water
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- 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:
    - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, IMDG, IATA: not regulated
- UN proper shipping name
  - DOT, IMDG, IATA: not regulated
- Transport hazard class(es)
  - DOT, ADN, IMDG, IATA: not regulated
- Class
  - DOT, IMDG, IATA: not regulated
- Packing group
  - DOT, IMDG, IATA: not regulated
- Environmental hazards:
  - Not applicable.
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):
    ACTIVE
  - Hazardous Air Pollutants
    Substance is not listed.
  - 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.

- Carcinogenic 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
    GH507  GH508
Trade name: Retinoic Acid

Signal word Danger

Hazard-determining components of labeling:
tretinoin

Hazard statements
Harmful if swallowed.
Causes skin irritation.
May damage fertility or the unborn child.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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: Product safety department.
Contact: Ms. BADICHI GITLIN
Date of preparation / last revision 07/03/2019

Abbreviations and acronyms:
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)
VOC: Volatile Organic Compounds (USA, EU)
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