

# 5,6-dehydro Arachidonic Acid

sc-205145

## Material Safety Data Sheet



The Power to Question

Hazard Alert Code  
Key:

EXTREME

HIGH

MODERATE

LOW

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

5,6-dehydro Arachidonic Acid

### STATEMENT OF HAZARDOUS NATURE

Not considered a hazardous substance according to OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

Company: Santa Cruz Biotechnology, Inc.

Address:

2145 Delaware Ave

Santa Cruz, CA 95060

Telephone: 800.457.3801 or 831.457.3800

Emergency Tel: CHEMWATCH: From within the US and

Canada: 877-715-9305

Emergency Tel: From outside the US and Canada: +800 2436

2255 (1-800-CHEMCALL) or call +613 9573 3112

### PRODUCT USE

Dehydro- derivative of arachidonic acid, an essential unsaturated fatty acid and precursor in the biosynthesis of prostaglandins, thromboxanes and leukotrienes (the so-called eicosanoids comprising the "arachidonic cascade"). Arachidonic acid occurs in liver, brain, glandular organs, in the depot fats of animals and humans, and is a component of animal phosphatides. Mixtures containing arachidonic acid, linoleic acid and linolenic acid are known as Vitamin F and are often given as dietary supplements. Unsaturated fatty acids and oils containing them are often given to lower blood cholesterol and lipid concentrations in patients with hypercholesterolaemia.

### SYNONYMS

C20-H30-O2, "8, 11, 14-eicosatrien-5-ynoic acid, (Z, Z, Z)-", "8, 11, 14-eicosatrien-5-ynoic acid, (Z, Z, Z)-", "arachidonic acid, 5, 6-dehydro-", "arachidonic acid, 5, 6-dehydro-"

## Section 2 - HAZARDS IDENTIFICATION

### CANADIAN WHMIS SYMBOLS

None

### EMERGENCY OVERVIEW RISK

### POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

### SWALLOWED

■ Although ingestion is not thought to produce harmful effects, the material may still be damaging to the health of the individual following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

■ Considered an unlikely route of entry in commercial/industrial environments.

## EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

## SKIN

■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

## INHALED

■ The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

■ Not normally a hazard due to non-volatile nature of product.

■ Inhalation hazard is increased at higher temperatures.

## CHRONIC HEALTH EFFECTS

■ Principal routes of exposure are usually by skin contact and inhalation of vapor from heated material.

As with any chemical product, contact with unprotected bare skin; inhalation of vapor, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

### HAZARD RATINGS

|               | Min | Max                                                                               |
|---------------|-----|-----------------------------------------------------------------------------------|
| Flammability: | 1   |  |
| Toxicity:     | 0   |  |
| Body Contact: | 0   |  |
| Reactivity:   | 0   |  |
| Chronic:      | 0   |  |

Min/Nil=0  
Low=1  
Moderate=2  
High=3  
Extreme=4

| NAME                        | CAS RN     | %   |
|-----------------------------|------------|-----|
| 5,6-dehydroarachidonic acid | 58688-54-3 | >98 |

## Section 4 - FIRST AID MEASURES

### SWALLOWED

■ If poisoning occurs, contact a doctor or Poisons Information Center.

### EYE

■ If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

■ If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

### INHALED

■

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

### NOTES TO PHYSICIAN

■ Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

|                                 |               |
|---------------------------------|---------------|
| Upper Explosive Limit (%):      | Not available |
| Specific Gravity (water=1):     | <1            |
| Lower Explosive Limit (%):      | Not available |
| Relative Vapor Density (air=1): | >1            |

### EXTINGUISHING MEDIA

- 
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

## **FIRE FIGHTING**

- 
- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

## **GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS**

- 
- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acrid smoke.
- Mists containing combustible materials may be explosive.

Decomposes on heating and produces toxic fumes of: carbon dioxide (CO<sub>2</sub>) and minor amounts of acrolein.

## **FIRE INCOMPATIBILITY**

- Avoid mixing with strong oxidizers as ignition may result.

## **PERSONAL PROTECTION**

Glasses:

Chemical goggles.

Gloves:

Respirator:

# **Section 6 - ACCIDENTAL RELEASE MEASURES**

## **MINOR SPILLS**

- Slippery when spilt.
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapors and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labeled container for waste disposal.

## **MAJOR SPILLS**

- Slippery when spilt.
- Minor hazard.
- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

## **ACUTE EXPOSURE GUIDELINE LEVELS (AEGl) (in ppm)**

AEGl 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGl 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

AEGl 3: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

# **Section 7 - HANDLING AND STORAGE**

## PROCEDURE FOR HANDLING



- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

## RECOMMENDED STORAGE METHODS



- Glass container.
- Plastic container.
- Metal can or drum
- Packing as recommended by manufacturer.
- Check all containers are clearly labeled and free from leaks.

## STORAGE REQUIREMENTS



- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

## SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



*X: Must not be stored together*

*O: May be stored together with specific preventions*

*+: May be stored together*

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- 5,6-dehydroarachidonic acid: CAS:58688-54-3

### MATERIAL DATA

5,6-DEHYDROARACHIDONIC ACID:

■ vegetable oil mists (except castor, cashew nut and similar irritant oils) TLV TWA: 10 mg/m<sup>3</sup> ES TWA: 10 mg/m<sup>3</sup> OSHA PEL TWA: 15 mg/m<sup>3</sup>, total particulate; 5 mg/m<sup>3</sup>, respirable particulate The common vegetable oil mists are considered "nuisance" particulates which have little adverse effect on the lung. They do not produce toxic effects or significant organic disease when exposures are kept under reasonable control. Direct instillation of vegetable oils into rabbit lungs produces acute bronchitis whilst high oral doses are laxatives.

### PERSONAL PROTECTION



Consult your EHS staff for recommendations

### EYE



- Safety glasses with side shields
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

## HANDS/FEET



- Nitrile gloves

or

- Neoprene gloves

or

- Polyethylene gloves

Wear chemical protective gloves, eg. PVC.

Wear safety footwear.

## OTHER



- Overalls.
- Barrier cream.
- Eyewash unit.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

Use appropriate NIOSH-certified respirator based on informed professional judgement. In conditions where no reasonable estimate of exposure can be made, assume the exposure is in a concentration IDLH and use NIOSH-certified full face pressure demand SCBA with a minimum service life of 30 minutes, or a combination full facepiece pressure demand SAR with auxiliary self-contained air supply. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

## ENGINEERING CONTROLS

- General exhaust is adequate under normal operating conditions.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Floats on water.

|                                |                |                           |               |
|--------------------------------|----------------|---------------------------|---------------|
| State                          | Liquid         | Molecular Weight          | 302.46        |
| Melting Range (°F)             | Not available  | Boiling Range (°F)        | Not available |
| Solubility in water (g/L)      | Immiscible     | Flash Point (°F)          | Not available |
| pH (1% solution)               | Not applicable | Decomposition Temp (°F)   | Not available |
| pH (as supplied)               | Not applicable | Autoignition Temp (°F)    | Not available |
| Vapour Pressure (mmHG)         | Negligible     | Upper Explosive Limit (%) | Not available |
| Specific Gravity (water=1)     | <1             | Lower Explosive Limit (%) | Not available |
| Relative Vapor Density (air=1) | >1             | Volatile Component (%vol) | Negligible    |
| Evaporation Rate               | Not available  |                           |               |

### APPEARANCE

Colourless to pale yellow liquid; floats on water. May decompose in contact with air, light, water.

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY



- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerization will not occur.

### STORAGE INCOMPATIBILITY

- Avoid reaction with oxidizing agents, bases and strong reducing agents.  
DO NOT use aluminum or galvanized containers.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

5,6-dehydroarachidonic acid

### TOXICITY AND IRRITATION

- No significant acute toxicological data identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

5,6-DEHYDROARACHIDONIC ACID:

### Ecotoxicity

Persistence:

Ingredient  
5,6-dehydroarachidonic acid

Persistence:  
Water/Soil  
LOW

Persistence: Air

Bioaccumulation  
LOW

Mobility  
LOW

## Section 13 - DISPOSAL CONSIDERATIONS

### Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

1

- Consult manufacturer for recycling options and recycle where possible .
- Consult Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers where possible, or dispose of in an authorized landfill.

## Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

## Section 15 - REGULATORY INFORMATION

**5,6-dehydroarachidonic acid (CAS: 58688-54-3) is found on the following regulatory lists;**

"GESAMP/EHS Composite List - GESAMP Hazard Profiles", "US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes"

## Section 16 - OTHER INFORMATION

*Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.*

■ Classification of the mixture and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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