

# Ammeline

sc-210803

Material Safety Data Sheet



The Power is Question

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

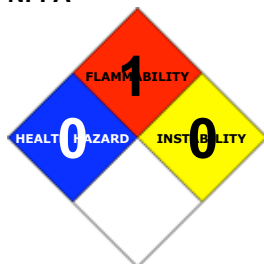
### PRODUCT NAME

Ammeline

### STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

### EMERGENCY

ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS

C3-H5-N5-O, "4, 6-diamino-2-hydroxy-1, 3, 5-triazine", atrazine-desethyl-desisopropyl-2-hydroxy, s-triazin-2-ol, "2, 4-diamino-1, 3, 5-triazin-6-one"

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability:	1		
Toxicity:	2		
Body Contact:	0		Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4
Reactivity:	1		
Chronic:	2		

### CANADIAN WHMIS SYMBOLS



### EMERGENCY OVERVIEW

## RISK

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

##### SWALLOWED

- Accidental ingestion of the material may be damaging to the health of the individual.
  - Aromatase inhibitors (including triazoles and azoles) produce several side effects including mood swing, depression, weight gain, hot flushes, vaginal dryness, bloating, early onset of menopause.
- Long-term use may result in bone weakness, increased risk of blood clots, gastrointestinal disturbance, and sweats.
- Triazine derivatives have been shown to cause structural damage to the liver in animal studies.

##### EYE

- Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn).
- Slight abrasive damage may also result.

##### 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.
  - Open cuts, abraded or irritated skin should not be exposed to this material.
  - Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
- Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

##### INHALED

- The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified using animal models).
- Nevertheless, adverse effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

#### CHRONIC HEALTH EFFECTS

- There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.
- Epidemiological studies have associated long-term exposures to triazine herbicides with increase risk of ovarian cancer in female farm workers in Italy and of breast cancer in the general population of Kentucky in the United States. In experiments with female F344 rats, atrazine induced tumours of the mammary gland and reproductive organs. Atrazine also caused lengthening of the oestrus cycle, a dose-dependent increase in the plasma levels of 17 $\beta$ -oestradiol and early onset of mammary and pituitary tumours in female Prague-Dawley rats.
- Investigations into the mechanism of these apparent oestrogenic effects have not been able to demonstrate any consistent interactions with triazine herbicides with the oestrogen receptor or effects on receptor-mediated responses. Atrazine, simazine and propazine have been shown to induce aromatase activity in a human adrenocortical carcinoma cell line. This response was observed at concentrations in the submicromolar range. Aromatase is a circulating enzyme which converts androstenedione (generated in the adrenals) to oestrone in peripheral tissues such as adipose tissues. Oestrone subsequently undergoes conversion to oestradiol which binds to oestrogen receptors in many tissues with induction of tumours. In addition, many human breast cancers contain aromatase. (Breast cancer therapies, based on aromatase inhibitors, are now available.)
- The effects of triazine herbicides and some of their metabolites on aromatase activity may provide a partial explanation for the observed increase in plasma oestradiol in rats, together with the observed oestrogen-mediated toxicities in vivo. [1]
- [1] Sanderson et al: Environmental Health Perspectives, 109, pp 1027-1031, 2001
- Suggestive evidence between atrazine (or triazines) exposure and an increased risk of prostate cancer, breast cancer, and ovarian cancer have been reported. Although these data provide a suspicion of carcinogenicity, the limited number of investigations and study limitations preclude drawing conclusions regarding these cancer types.
- Extensive structural activity data from the family of triazole pesticides suggests that may induce hepatocellular adenomas in animal models. The significance of this finding in human carcinogenicity is equivocal.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ammeline	645-92-1	>98

### Section 4 - FIRST AID MEASURES

##### SWALLOWED

- If swallowed do NOT induce vomiting. · If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

##### 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.

##### SKIN

- If skin or hair contact occurs: · 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. · Other measures are usually unnecessary.

## NOTES TO PHYSICIAN

- Treat symptomatically.

## Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not Available
Specific Gravity (water=1):	Not Available
Lower Explosive Limit (%):	Not Available

## EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

## FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.

## GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

## FIRE INCOMPATIBILITY

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

## PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

Respirator:

Particulate

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

### MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Responders and tell them location and nature of hazard.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

- Do NOT cut, drill, grind or weld such containers.
- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

### RECOMMENDED STORAGE METHODS

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store at 4° C.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- ammeline: CAS:645-92-1

### PERSONAL PROTECTION



### RESPIRATOR

- particulate.

Consult your EHS staff for recommendations

### EYE

- Safety glasses with side shields
- Chemical goggles.

### HANDS/FEET

■ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

• When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.

• When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

• Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocarbon
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

### OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

### ENGINEERING CONTROLS

• Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

• Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

State	Divided Solid	Molecular Weight	127.11
Melting Range (°F)	Not Applicable	Viscosity	Not Applicable
Boiling Range (°F)	Not Applicable	Solubility in water (g/L)	Partly Miscible
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)	Not Available

Lower Explosive Limit (%)	Not Available	Relative Vapor Density (air=1)	Not Applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not Applicable

## APPEARANCE

White powder; does not mix well with water. Soluble in aqueous alkalis, mineral acids but not acetic acid. pKa=9

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

### STORAGE INCOMPATIBILITY

- Avoid reaction with oxidizing agents.

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

## Section 11 - TOXICOLOGICAL INFORMATION

ammeline

### TOXICITY AND IRRITATION

#### AMMELINE:

- No significant acute toxicological data identified in literature search.

## Section 12 - ECOLOGICAL INFORMATION

No data

### Ecotoxicity

Ingredient ammeline	Persistence: Water/Soil HIGH	Persistence: Air No Data Available	Bioaccumulation LOW	Mobility HIGH
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## Section 13 - DISPOSAL CONSIDERATIONS

### Disposal Instructions

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

! Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

## Section 14 - TRANSPORTATION INFORMATION

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

## Section 15 - REGULATORY INFORMATION

**ammeline (CAS: 645-92-1) is found on the following regulatory lists;**

"Canada Non-Domestic Substances List (NDSL)", "US Toxic Substances Control Act (TSCA) - Inventory"

## 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 preparation 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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