### Section 1 - Product and Company Information

**Product Name**: Amaranth

**Product Number**: A1016

**Brand**: Sigma Chemical

**Company**: Sigma-Aldrich

**Address**: 3030 Spruce Street

**City, State, Zip, Country**: SAINT LOUIS, MO 63103 US

**Technical Phone**: 660-325-5625

**Fax**: 660-325-5652

**Emergency Phone**: 314-775-6555

### Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS#</th>
<th>SARA 313</th>
<th>EC no.</th>
<th>Annex 1 Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMARANTH</td>
<td>915-67-3</td>
<td>No</td>
<td>213-022</td>
<td></td>
</tr>
</tbody>
</table>

### Section 3 - Hazards Identification

**Emergency Overview**

Irritant.

Irritating to eyes, respiratory system and skin.

### Section 4 - First Aid Measures

**Oral Exposure**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Inhalation Exposure**

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**Dermal Exposure**

In case of contact, immediately wash skin with soap and copious amounts of water.

**Eye Exposure**

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

### Section 5 - Fire Fighting Measures

**Autoignition Temp.** N/A

**Extinguishing Media**

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

**Firefighting**

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

**Specific Hazards**

Emits toxic fumes under fire conditions.

### Section 6 - Accidental Release Measures

**Procedure(s) of Personal Protection(s)**

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

**Methods for Cleaning Up**

Sweep up, place in a bag and hold for waste disposal. Avoid raising dusk. Ventilate area and wash spill site after material pickup is complete.

### Section 7 - Handling and Storage

**Handling**

**User Exposure**

Do not breathe contents. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**Storage**

Place material in an approved manner.
Section 8 - Exposure Controls / PPE

Engineering Controls
Use only in a chemical fume hood. Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight
694.47 AMU

pH
NA
BP/EP Range
NA
MR/MP Range
NA
Freezing Point
NA
Vapor Pressure
NA
Vapor Density
NA
Saturated Vapor Conc.
NA
SG/Density
NA
Bulk Density
NA
Odor Threshold
NA
Volatile
NA
VOC Content
NA
Water Content
NA
Solvent Content
NA
Evaporation Rate
NA
Viscosity
NA
Partition Coefficient
NA
Decomposition Temp.
NA
Flash Point °F
NA
Flash Point °C
NA
Explosion Limits
NA
Flammability
NA
Autoignition Temp
NA

Solubility
N/A
N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable

Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
Causes skin irritation.

Skin Absorption
May be harmful if absorbed through the skin.

Eye Contact
Causes eye irritation.

Inhalation
Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: QJ855000

Toxicity Data
Intrapertoneal - Rat: 1 GM/KG (LD50)
Intravenous - Rat: 1 GM/KG (LD50)
Intraperitoneal - Mouse: 1 GM/KG (LD50)
Remark: Behavioral/Somatolene (general depressed activity).

Chronic Exposure - Carcinogen
Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Rat - Oral: 660 GM/KG 14W I

Rat - Oral: 1200 GM/KG 78W C

Rat - Oral: 1640 GM/KG 78W C
Result: Tumorigenic-Equivalent tumorigenic agent by RTECS criteria. Gastrointestinal: Tumors.
Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.
IATA
Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification:
Symbol of Danger: X1 Indication of Danger
Inhalation
Risk Statements R: 36/37/38 Irritating to eyes, respiratory system and skin. Wear suitable protective clothing, gloves, and eye/face protection.

US Classification and Label Text
Indication of Danger
Inhalation
Risk Statements Irritating to eyes, respiratory system and skin. Wear suitable protective clothing, gloves, and eye/face protection.

Sigma Chemical - A1016
Page 5
Sigma-Aldrich Corporation www.sigma-aldrich.com

Mouse 4900 U/L/KG Oral (4W MALE/4W PRE-3W POST)
Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).
Mouse 12 ML/KG Oral (4W MALE/4W PRE-
Result: Effects on Newborn: Behavioral.
Mouse 12 ML/KG Oral (4W MALE/4W PRE-
Result: Effects on Newborn: Behavioral.
Mouse 1500 U/L/KG Oral Intraperitoneal (10D MALE)
Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females). Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).
Mouse 1500 U/L/KG Oral Intraperitoneal (10D MALE)
Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females). Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).
Rabbit 16500 U/L/KG Oral (6-14D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Rabbit 16500 U/L/KG Oral (6-14D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Sigma Chemical - A1016
Page 6
Sigma-Aldrich Corporation www.sigma-aldrich.com
United States Regulatory Information
SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DBL: Yes
NDIS: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.