

| | |
|--------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 3 |
| REACTIVITY | 0 |

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name **Valeraldehyde (Pentanal), Natural**
 Product Number **0309800**
 CAS-No. **110-62-3**

1.2 Product Recommended Use

Flavorings

1.3 Preparation Information

Company Aurochemicals
 7 Nicoll Street
 Washingtonville, NY 10992 – USA

Telephone 845-496-6065

Fax 845-496-6248

1.4 Emergency Telephone Number

1-800-535-5053

International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29
 CFR 1910 (OSHA HCS)

Flammable Liquids (Category 2)
 Serious eye damage (Category 1)
 Skin irritation (Category 2A)
 Acute aquatic toxicity (Category 3)
 Chronic aquatic toxicity (Category 3)

2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement

Danger

Hazard Statement(s)

H225 Highly flammable liquid and vapor
 H313 May be harmful in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage
 H402 Harmful to aquatic life.
 H412 harmful to aquatic life with long lasting effects

Precautionary Statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces – No Smoking
 P233 Keep container tightly closed
 P240 Ground/bond container and receiving equipment
 P241 Use explosion proof electrical. Ventilating/lighting/equipment
 P242 Use only non sparking tools

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| P243 | Take precautionary measures against static discharge |
| P264 | Wash skin thoroughly after handling |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P332+P313 | If skin irritation occurs: Get medical advice/ attention |
| P337+P313 | If eye irritation occurs: Get medical advice/attention |
| P370+P378 | In case of fire: use dry sand, dry chemical or alcohol resistant foam for extinction. |
| P403+P25 | Store in a well ventilated place. Keep cool |
| P501 | Dispose of contents/ container to an approved waste disposal plant |

2.3 HNOC (Hazards not otherwise classified or not covered by GHS) None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

| | |
|---------------------------|----------------------------------|
| Chemical characterization | Natural Product |
| Synonyms | Pentanal |
| Formula | C ₅ H ₁₀ O |
| Molecular Weight | 86.13 g/mol |
| CAS-No | 110-62-3 |
| EC-No. | 203-784-4 |

Hazardous Components

| Component | Classification | Concentration |
|---------------|--|---------------|
| Valeraldehyde | Flammable Liquids (2) H225 Eye irritant (2A), H318 Acute Aquatic Toxicity (2) 402 Chronic Aquatic Toxicity (2)412 | <=100% |

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

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|-------------------------|---|
| General Advice | Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. |
| Inhalation | Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a physician |
| Contact with skin: | Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician |
| Contact with eyes: | Rinse thoroughly with plenty of water for at least 15 as a precaution. Consult a physician. |
| Ingestion | DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. |
| Clothing contamination: | Remove contaminated clothing and wash before reuse. |

4.2 Most important symptoms and effects both acute and delayed See section 2.2 and or section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

Section 5: FIREFIGHTING MEASURES

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| 5.1 | Extinguishing Media Suitable Extinguishing Media | Use water spray, alcohol resistant foam, dry chemical or carbon dioxide |
| 5.2 | Special hazards arising from the substance or mixture | Carbon oxides |
| 5.3 | Advice for fire fighters | Wear self contained breathing apparatus for firefighting if necessary. Emits toxic fumes under fire conditions |
| 5.4 | Further information | Use water spray to cool unopened containers. |

Section 6: ACCIDENTAL RELEASE MEASURES

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| 6.1 | Personal precautions, protective equipment and emergency procedures | Use personal protective equipment. Avoid breathing vapors. Mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Evacuate personnel to safe areas. |
| 6.2 | Environment precautions | Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system. |
| 6.3 | Methods and materials for containment and clean up | Soak up with absorbent material. Sweep up with broom and shovel. Place in a suitable, closed container for disposal. |
| 6.4 | Specific end use(s) | Apart from the uses mentioned in section 1.2, no other specific uses are stipulated. |

Section 7: HANDLING AND STORAGE

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|-----|--------------------------------------|---|
| 7.1 | Precautions for safe handling | Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition-No Smoking. Use explosion proof equipment. Take measures to prevent the buildup of electrostatic charge. |
| 7.2 | Conditions for Safe storage | Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and Store under inert gas Air and light sensitive |
| 7.3 | Specific End use(s) | Flavorings |

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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| 8.1 | Control parameters Components with workplace control parameters: Contains no substances with workplace control parameters. | |
| 8.2 | Exposure Controls Appropriate Engineering Controls | Handle in accordance with good industrial hygiene and safety practices. Mechanical exhaust required, Safety Shower and Eye Bath |
| | Personal protective equipment | These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. They should not be construed as offering an approval for any specific use scenario. |
| | Eye/face protection | Wear appropriate tightly fitting safety goggles. NIOSH tested and approved. |

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| Skin protection | Wear chemically resistant, Butyl rubber gloves. Use proper glove removal techniques (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands. |
| Body protection | Impervious clothing protecting against chemicals, made of flame retardant antistatic material should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. |
| Respiratory protection | Where risk assessment shows air-purifying respirators are appropriate use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a back up to engineering controls. If the respirator is the sole means of protection, use a full face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CN (EU). |
| Control of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains |

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

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| a Appearance | Liquid, Clear Color: colorless to pale yellow |
| b Odor | Unpleasant |
| c Odor Threshold | No data available |
| d pH | No data available |
| e Melting Point /Freezing Point | Melting Point: -92°C |
| f Boiling Point | 103°C - lit |
| g Flash Point | 13°C closed cup |
| h Evaporation Rate | No data available |
| i Flammability (Solid, Gas) | No data available |
| j Upper/lower Flammability or explosive Limit | UEL: 6.8 Vol% LEL: 1.7 Vol% |
| k Vapor pressure | 40 hPa at 20°C |
| l Vapor density | 2.97 (Air = 1.0) |
| m Relative density at 25°C | 0.806 |
| n Solubility | Slightly soluble in water |
| o Partition coefficient: n-octanol/water | No data available |
| p Auto-ignition Temp. | 205 °C |
| q Decomposition Temp. | No data available |
| r Viscosity | No data available |
| s Explosive properties | No data available |
| t Oxidizing properties | No data available |

9.2 Other Safety Information No data available

Section 10: STABILITY AND REACTIVITY

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|---|--|
| 10.1 Reactivity | No data available |
| 10.2 Chemical Stability | Stable under recommended storage conditions |
| 10.3 Possibility of Hazardous reactions | Vapours may form explosive mixture with air. |
| 10.4 Conditions to avoid | Heat, Flames and sparks. Extremes of temperature and direct sunlight |
| 10.5 Incompatible materials | Oxidizing agents, Strong bases, Strong reducing agents |

| | |
|---------------------------------------|-------------------|
| 10.6 Hazardous decomposition products | No data available |
| 10.7 Further Information | No data available |

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50-Oral-Rat

6,400 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity)

LC50-Inhalation-Rat

42,700 mg/m³ 4h

Remarks: Behavioral: Altered sleep time (including change in righting reflex).
Gastrointestinal: Changes in structure or function of salivary glands.

LD50-Dermal-Rabbit

4,050 mg/kg

Remarks: Liver: other changes, prolonged skin contact may cause skin irritation and/or dermatitis.

Skin corrosion/irritation

Rabbit – Mild skin irritation – 24 h

Serious eye damage/eye irritation

Rabbit- Moderate eye irritation – 24 h

Respiratory or skin sensitization

No data available

Germ Cell mutagenicity

No data available

Carcinogenicity

IARC

No component of this product, present levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP

No component of this product, present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA

No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity-single exposure (GHS)

No data available

Specific target organ toxicity-repeated exposures (GHS)

No data available

Aspiration Hazards

No data available

Signs and Symptoms of Exposure

Headache, Nausea

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

Synergistic effect

No data available

RTECS:

ES3450000

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

To Fish:

LC50 – Pimephales promelas (fathead minnow) – 12.4 mg/l 96 h

12.2 Persistence and degradability

No data available

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| 12.3 Bioaccumulative potential | Does not bioaccumulate |
| 12.4 Mobility in soil | No data available |
| 12.5 Results of PBT and vPvB assessment | PBT/vPvB assessment not available as chemical safety assessment not required / not conducted |
| 12.6 Other adverse effects | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life |

Section 13: DISPOSAL CONSIDERATIONS

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|------------------------------|--------------------------------|
| 13.1 Disposal methods | |
| Product: | According to local regulations |
| Packaging | According to local regulations |

Section 14: TRANSPORT INFORMATION

| | |
|---------------------------|---|
| DOT (US) | UN-Number: 2058 Class: 3 Packing Group: II |
| Proper shipping name: | Aldehydes n.o.s. |
| Marine Pollutant: | No |
| Poison Inhalation Hazard: | No |
| IMDG | UN-Number: 2058 Class: 3 Packing Group: II EMS-No. F-E, S-D |
| Proper shipping name: | ALDEHYDES N.O.S. (Isovaleraldehyde) |
| Marine Pollutant: | No |
| IATA | UN-Number: 2058 Class: 3 Packing Group: II |
| Proper shipping name: | Aldehydes n.o.s. (Isovaleraldehyde) |

Section 15: REGULATORY INFORMATION

| | | | |
|--|---|---------------|----------------------|
| Reach No. | A registration number is not available for this substance as its uses are exempted from registration, the annual tonnage not require a registration or the registration is envisaged for a later registration deadline. | | |
| SARA 302 Components | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302 | | |
| SARA 313 Components | This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. | | |
| SARA 311/312 Hazards | Acute health hazard | | |
| Massachusetts Right to Know components | Valeraldehyde | CAS# 110-62-3 | Rev. Date: 4/01/1994 |
| Pennsylvania Right to Know components | Valeraldehyde | CAS# 110-62-3 | Rev. Date: 4/01/1994 |
| New Jersey Right to Know components | Valeraldehyde | CAS# 110-62-3 | Rev. Date: 4/01/1994 |
| California Prop. 65 components | This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. | | |

Section 16: OTHER INFORMATION**HMIS Rating**

Health hazard 2
 Chronic Health Hazard
 Flammability 4
 Reactive Hazard 0

Further Information

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

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