Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/14/2004 Reviewed on 05/20/2004

1 Identification of substance:

- Product details:

- Product name: **Valeric acid**

- Stock number: A16238

- Manufacturer/Supplier:
  
  Alfa Aesar, A Johnson Matthey Company  
  Johnson Matthey Catalog Company, Inc.  
  30 Bond Street  
  Ward Hill, MA 01835-8099  
  Emergency Phone: (978) 521-6300  
  CHEMTREC: (800) 424-9300  
  Web Site: www.alfa.com

- Information Department: Health, Safety and Environmental Department

- Emergency information:

  During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

- Chemical characterization:

  Description: (CAS#)

  Butanecarboxylic acid (CAS# 109-52-4): 100%

- Identification number(s):

  - EINECS Number: 203-677-2

  - EU Number: 607-143-00-3
3 Hazards identification

- Hazard description: C Corrosive

- Information pertaining to particular dangers for man and environment

  R 34 Causes burns.
  R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

- Classification system

- HMIS ratings (scale 0-4)

  (Hazardous Materials Identification System)
  Health (acute effects) = 2
  Flammability = 2
  Reactivity = 1

4 First aid measures

- General information

  Immediately remove any clothing soiled by the product.

- After inhalation

  Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

- After skin contact

  Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

- After eye contact

  Rinse opened eye for several minutes under running water. Then consult a doctor.

- After swallowing Seek immediate medical advice.

5 Fire fighting measures

- Suitable extinguishing agents

  Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

- Special hazards caused by the material, its products of combustion or resulting gases:

  In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

- **Protective equipment:**
  
  Wear self-contained respirator.
  Wear fully protective impervious suit.

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### 6 Accidental release measures

- **Person-related safety precautions:**

  Wear protective equipment. Keep unprotected persons away.
  Ensure adequate ventilation

- **Measures for environmental protection:**

  Do not allow material to be released to the environment without proper governmental permits.

- **Measures for cleaning/collecting:**

  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use neutralizing agent.
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.

- **Additional information:**

  See Section 7 for information on safe handling
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

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### 7 Handling and storage

- **Handling**

- **Information for safe handling:**

  Keep container tightly sealed.
  Store in cool, dry place in tightly closed containers.
  Ensure good ventilation at the workplace.

- **Information about protection against explosions and fires:**

  Keep ignition sources away.

- **Storage**

- **Requirements to be met by storerooms and receptacles:**

  No special requirements.

- **Information about storage in one common storage facility:**

  Store away from oxidizing agents.
  Store away from strong bases
• Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store under lock and key and with access restricted to technical experts or their assistants only.

• Exposure controls and personal protection

• Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:
Not required.

• Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

• Breathing equipment:

Use suitable respirator when high concentrations are present.

• Protection of hands:

Impervious gloves
Check protective gloves prior to each use for their proper condition.

• Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

• Eye protection:

Safety glasses
Tightly sealed goggles
Full face protection

• Body protection: Protective work clothing.
9 Physical and chemical properties:

- General Information

- Form: Liquid
- Color: Colorless
- Odor: Not determined

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<tr>
<th>Value/Range</th>
<th>Unit</th>
<th>Method</th>
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- Change in condition
  - Melting point/Melting range: Not determined
  - Boiling point/Boiling range: 185-187 °C
  - Sublimation temperature / start: Not determined

- Flash point: 89 °C
- Ignition temperature: Not determined
- Decomposition temperature: Not determined

- Danger of explosion:
  Product does not present an explosion hazard.

- Explosion limits:
  - Lower: Not determined
  - Upper: Not determined

- Vapor pressure: Not determined
- Density: at 20 °C 0.939 g/cm³

- Solubility in / Miscibility with
  - Water: Fully miscible
10 **Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**
  Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:**
  - Oxidizing agents
  - Bases
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** Carbon monoxide and carbon dioxide

11 **Toxicological information**

- **Acute toxicity:**

  **LD/LC50 values that are relevant for classification:**

  Oral: LD50: 600 mg/kg (mus)
  Inhalative: LC50/2H: 4100 mg/m3/2H (mus)

- **Primary irritant effect:**

  - **on the skin:**
    Corrosive effect on skin and mucous membranes.
    Irritant to skin and mucous membranes.
  - **on the eye:**
    Strong corrosive effect.
    Irritating effect.
  - **Sensitization:** No sensitizing effects known.

- **Other information (about experimental toxicology):**

  Reproductive effects have been observed on tests with laboratory animals.

- **Subacute to chronic toxicity:**

- **Subacute to chronic toxicity:**
  The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:
  Behavioral - altered sleep time (including change in righting reflex).
  Behavioral - convulsions or effect on seizure threshold.
  Lungs, Thorax, or Respiration - respiratory depression
  Reproductive - Maternal Effects - other effects.
  Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue).
Reproductive - Specific Developmental Abnormalities - musculoskeletal system.

- **Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

- **Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

- **12 Ecological information:**

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **General notes:**

  Do not allow material to be released to the environment without proper governmental permits. Harmful to aquatic organisms

- **13 Disposal considerations**

- **Product:**

- **Recommendation**

  Consult state, local or national regulations to ensure proper disposal.

- **Uncleaned packagings:**

- **Recommendation:**

  Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.