Reviewed on 11/10/2008

1 Identification of substance:

Product details:

Product name: 4-Acetamidobutyric acid

L00791

Stock number: A11039

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:

4-Acetamidobutyric acid (CAS# 3025-96-5): 100% Identification number(s): EINECS Number: 221-186-1

Chemical characterization:

Description: (CAS#)

3 Hazards identification Hazard description:

(Hazardous Materials Identification System)

Flammability - I

Xi Irritant

Information pertaining to particular dangers for man and environment

R 36/37/38 Irritating to eyes, respiratory system and skin. Classification system HMIS ratings (scale 0-4)

Reactivity - I REACTIVITY 1

Seek immediate medical advice.

Product name: 4-Acetamidobutyric acid

5 Fire fighting measures

4 First aid measures After inhalation

FIRE

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

Health (acute effects) = 1

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Printing date II/I0/2008

After eye contact

resulting gases:

Material Safety Data Sheet acc. to OSHA and ANSI

Reviewed on II/I0/2008

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

(Contd. of page 1)

(Contd. on page 2)

Page 2/5

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

In case of fire, the following can be released:

After swallowing Seek medical treatment.

Special hazards caused by the material, its products of combustion or

Nitrogen oxides (NOx) Protective equipment: Wear self-contained respirator.

6 Accidental release measures

Person-related safety precautions:

Carbon monoxide and carbon dioxide

Wear fully protective impervious suit.

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

See Section 8 for information on personal protection equipment.

Measures for cleaning/collecting: Pick up mechanically.

7 Handling and storage

Information for safe handling: Keep container tightly sealed.

Keep container tightly sealed.

governmental permits.

Handling

Storage

Additional information:

Store in cool, dry place in tightly closed containers. No special precautions are necessary if used correctly. Information about protection against explosions and fires: Keep ignition sources away.

Requirements to be met by storerooms and receptacles:

See Section 7 for information on safe handling

See Section 13 for disposal information.

No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions:

Store in cool, dry conditions in well sealed containers.

Printing date II/I0/2008

Not required.

Impervious gloves

Material of gloves

Odor:

Change in condition

Explosion limits: Lowers

Upper:

Density:

Vapor pressure:

Product name: 4-Acetamidobutyric acid

Additional information: No data Personal protective equipment

Eye protection: Safety glasses

Melting point/Melting range:

Boiling point/Boiling range:

General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Remove all soiled and contaminated clothing immediately.

(Contd. of page 2)

(Contd. on page 4)

Reviewed on 11/10/2008

(Contd. on page 3)

Page 3/5

Wash hands before breaks and at the end of work. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands:

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

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

The usual precautionary measures for handling chemicals should be

Material Safety Data Sheet acc. to OSHA and ANSI

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:

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

Crystalline

Not determined

Not determined

explosion hazard.

Not determined

Not determined Not determined

Not determined

129-131°C (264-268°F)

Sublimation temperature / start: Not determined Flash point: Not applicable Not determined Ignition temperature: Decomposition temperature: Not determined Danger of explosion: Product does not present an

11 Toxicological information

on the eye: Irritating effect.

Subacute to chronic toxicity: Subscute to chronic toxicity:

substance is not fully known.

12 Ecological information:

governmental permits.

Uncleaned packagings:

Printing date II/I0/2008

DOT regulations:

ADR/RID class: None Maritime transport IMDG:

ICAO/IATA Class: None

Hazard class:

IMDG Class:

15 Regulations

Hazard symbols: Xi Irritant

Safety phrases:

37 Wear suitable gloves.

Product name: 4-Acetamidobutyric acid

None

Land transport ADR/RID (cross-border)

Air transport ICAO-TI and IATA-DGR:

Transport/Additional information:

Product related hazard informations:

General notes:

on the skin: Irritant to skin and mucous membranes.

Other information (about experimental toxicology):

Sensitization: No sensitizing effects known.

following effects in laboratory animals:

Additional toxicological information:

Primary irritant effect:

Acute toxicity:

Page 4/5 Material Safety Data Sheet acc. to OSHA and ANSI Reviewed on II/I0/2008 Printing date II/I0/2008 Product name: 4-Acetamidobutyric acid (Contd. of page 3) 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 Dangerous reactions No dangerous reactions known Dangerous products of decomposition: Carbon monoxide and carbon dioxide Nitrogen oxides

Reproductive effects have been observed on tests with laboratory animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the

Reproductive - Paternal Effects - testes, epididymis, sperm duct.

To the best of our knowledge the acute and chronic toxicity of this

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Do not allow undiluted product or large quantities of it to reach ground

Do not allow material to be released to the environment without proper

Recommendation: Disposal must be made according to official regulations.

Material Safety Data Sheet acc. to OSHA and ANSI

13 Disposal considerations Product: Recommendation Consult state, local or national regulations to ensure proper disposal.

water, water course or sewage system.

14 Transport information Not a hazardous material for transportation.

36/37/38 Irritating to eyes, respiratory system and skin. 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Information about limitation of use: For use only by technically qualified individuals.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or

(Contd. of page 4)

Reviewed on 11/10/2008

Page 5/5

(Contd. on page 5)

National regulations This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

Not dangerous according to the above specifications.

Observe the general safety regulations when handling chemicals

Some or all of the components of this product are not listed on the

Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic

Substances List (NDSL). 16 Other information:

Contact: Paul V. Connolly

process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.