Material Safety Data Sheet acc. to OSHA and ANSI

Printing date 08/02/2010

Reviewed on 07/29/2010

1 Identification of substance:

Product details:

Product name: 4-Acetamidobenzenesulfonyl chloride

Stock number: A11511, L00866

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company Johnson Matthey Catalog Company, Inc

30 Bond Street

Ward Hill, MA 01835-8099 Emergency Phone: 1978; 521-6300 CHEMTREC: 1806; 424-9306

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 Hazards identification

Hazard description:



C Corrosive

Information pertaining to particular dangers for man and environment

R 34 Causes burns

Classification system

HMIS ratings (scale 0-4)

Hazardous Materials Identification System)



Health acute effects) = 3 Flammability = 1Reactivity = 2

GHS label elements



Danger

3 2/1B - Causes severe skin burns and eye damage

Prevention:

Do not breathe dust/fume/gas/mist/vapours/spray

Response

IF SWALLOWED. rinse mouth Do NOT induce vomiting

IF ON SKIN or hair): Remove/Take off immediately all contaminated clothing Rinse skin with water/shower

IF IN EYES. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do Continue rinsing

Storage:

Store locked up

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations

3 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

4-Acetamidobenzenesulfonyl chloride CAS# 121-60-8)

Identification number(s): EINECS Number: 204-485-1

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

Contd on page 2)

Contd of page 1)

Material Safety Data Sheet acc. to OSHA and ANSI

Printing date 08/02/2010

Reviewed on 07/29/2010

Product name: 4-Acetamidobenzenesulfonyl chloride

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 CO2, sand, extinguishing powder Do not use water

For safety reasons unsuitable extinguishing agents Water

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

Nitrogen oxides NOx)

Sulfur oxides SOx)

Hydrogen chloride (HCl)
Possibly Hydrogen cyanide HCN)

Protective equipment:

Wear self-contained respirator

Wear fully protective impervious suit

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:

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

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas

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 water/moisture

Store away from oxidizing agents

Store away from strong bases

Further information about storage conditions:

Store under dry inert gas

This product is moisture sensitive

Keep container tightly sealed

Store in cool, dry conditions in well sealed containers

Protect from humidity and water

8 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

Contd on page 3)

Contd of page 2)

Material Safety Data Sheet acc. to OSHA and ANSI

Printing date 08/02/2010

Reviewed on 07/29/2010

Product name: 4-Acetamidobenzenesulfonyl chloride

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:

Form:	Powder
Color:	Off-white
Odor:	Not determined
hange in condition	
Melting point/Melting range:	146°C (295°F) (approx/dec)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
gnition 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
apor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with	
Water:	Insoluble

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:

Water/moisture

Oxidizing agents

Bases

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Nitrogen oxides

Sulfur oxides | SOx)

Hydrogen chloride (HCl)

Possibly Hydrogen cyanide HCN)

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral LD50 1600 mg/kg (mouse)

>3200 mg/kg | rat)

Primary irritant effect:

on the skin: Corrosive effect on skin and mucous membranes

on the eye: Strong corrosive effect

Sensitization: No sensitizing effects known

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

Contd on page 4)

Material Safety Data Sheet acc. to OSHA and ANSI

Printing date 08/02/2010 Reviewed on 07/29/2010

Product name: 4-Acetamidobenzenesulfonyl chloride

Contd of page 3)

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:

Additional ecological information:

General notes:

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

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

14 Transport information

DOT regulations:



Hazard class: 8
Identification number: UN3261
Packing group: II

Proper shipping name | technical name): CORROSIVE SOLID, ACIDIC, ORGANIC, N O S | N-

Acetylsulfanilyl chloride)

abel

Land transport ADR/RID (cross-border)



ADR/RID class: 8 C4) Corrosive substances

Danger code (Kemler): 80
UN-Number: 3261
Packaging group: II

Description of goods: 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N O S N-

Acetylsulfanilyl chloride)

Maritime transport IMDG:



IMDG Class: 8
UN Number: 3261
Label 8
Packaging group: II
Marine pollutant: No
Segregation groups Acids

Contd. on page 5)

Material Safety Data Sheet acc. to OSHA and ANSI

Printing date 08/02/2010

Reviewed on 07/29/2010

Product name: 4-Acetamidobenzenesulfonyl chloride

Contd of page 4)

Proper shipping name:

CORROSIVE SOLID, ACIDIC, ORGANIC, N O S N-

Acetylsulfanilyl chloride)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 8 3261 UN/ID Number: Label 8 Packaging group: II

Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N O S N-

Acetylsulfanilyl chloride)

UN 'Model Regulation': UN3261, CORROSIVE SOLID, ACIDIC, ORGANIC, N O S , 8, 11

15 Regulations

Product related hazard informations:

Hazard symbols:

C Corrosive

Risk phrases:

34 Causes burns

Safety phrases:

In case of contact with eyes, rinse immediately with plenty of water and seek

medical advice

36/37/39 Wear suitable protective clothing, gloves and eye/face protection
45 In case of accident or if you feel unwell, seek medical advice immediately

National regulations

All components of this product are listed in the U S Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory

All components of this product are listed on the Canadian Domestic Substances List $\mid DSL \rangle$

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

16 Other information:

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 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 process, is the responsibility of the

Department issuing MSDS: Health, Safety and Environmental Department

Contact: Zachariah Holt

Abbreviations and acronyms:

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route | European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer | Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transport Association

IATA: International Air Transport Association

IATA: International Air Transport Association

IATA: DGR: Dangerous Goods Regulations by the 'International Air Transport Association' | IATA)

ICAO: International Civil Aviation organization

ICAO-TI: Technical Instructions by the 'International Civil Aviation Organization' | ICAO|

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINBECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service | division of the American Chemical Society)

HMIS: Hazardous Materials Identification System | USA)

LC56: Lethal concentration, 50 percent

LC56: Lethal concentration, 50 percent LD56: Lethal dose, 50 percent