

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/17/2010

Reviewed on 08/16/2010

1 Identification of substance:**Product details:****Product name:** Calcium hydride**Stock number:** 19106**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 Hazards identification**Hazard description:**

F Highly flammable

Information pertaining to particular dangers for man and environment

R 15 Contact with water liberates extremely flammable gases.

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	3
REACTIVITY	3

Health (acute effects) = 1

Flammability = 3

Reactivity = 3

GHS label elements

Danger

2.12/1 - In contact with water releases flammable gases which may ignite spontaneously.

Prevention:

Handle under inert gas. Protect from moisture.

Keep container tightly closed.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:In case of fire: Use for extinction: CO₂, powder or water spray.**Storage:**

Store in a dry place. Store in a closed container.

Disposal:

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

3 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

calcium hydride (CAS# 7789-78-8)

Identification number(s):**EINECS Number:** 232-189-2**Index number:** 001-004-00-5**4 First aid measures****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.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/17/2010

Reviewed on 08/16/2010

Product name: Calcium hydride

(Contd. of page 1)

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**

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never 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:

Calcium oxide

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

Keep away from ignition sources

Measures for environmental protection:

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

Measures for cleaning/collecting:

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Keep away from ignition sources.

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.

Do not store together with acids.

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.

Wash hands before breaks and at the end of work.

Breathing equipment: Use suitable respirator when high concentrations are present.

(Contd. on page 3)

- USA -

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/17/2010

Reviewed on 08/16/2010

Product name: Calcium hydride

(Contd. of page 2)

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

Full face protection

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

Form:	Solid
Color:	Light grey
Odor:	Odorless

Change in condition

Melting point/Melting range:	600°C (1112°F) (dec)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flammability (solid, gaseous) Contact with water liberates extremely flammable gases.**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Explosion limits:**

Lower:	Not determined
Upper:	Not determined

Vapor pressure: Not determined**Density at 20°C (68°F):** 1.9 g/cm³**Solubility in / Miscibility with****Water:** Contact with water releases flammable gases**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

Acids

Dangerous reactions Contact with water releases flammable gases**Dangerous products of decomposition:** Calcium oxide**11 Toxicological information****Acute toxicity:****Primary irritant effect:****on the skin:** May cause irritation**on the eye:** May cause irritation**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

The toxicity of calcium compounds is generally due to the anion.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 4)

- USA -

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/17/2010

Reviewed on 08/16/2010

Product name: Calcium hydride

(Contd. of page 3)

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: 4.3
Identification number: UN1404
Packing group: I
Proper shipping name (technical name): CALCIUM HYDRIDE
Label: 4.3

Land transport ADR/RID (cross-border)



ADR/RID class: 4.3 (W2) Substances which, in contact with water, emit flammable gases
Danger code (Kemler): -
UN-Number: 1404
Packaging group: I
Description of goods: 1404 CALCIUM HYDRIDE

Maritime transport IMDG:



IMDG Class: 4.3
UN Number: 1404
Label: 4.3
Packaging group: I
EMS Number: F-G, S-O
Marine pollutant: No
Proper shipping name: CALCIUM HYDRIDE

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 4.3
UN/ID Number: 1404
Label: 4.3
Packaging group: I
Proper shipping name: CALCIUM HYDRIDE

UN "Model Regulation": UN1404, CALCIUM HYDRIDE, 4.3, I

15 Regulations

Product related hazard informations:

Hazard symbols:

F Highly flammable

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/17/2010

Reviewed on 08/16/2010

Product name: Calcium hydride

(Contd. of page 4)

Risk phrases:

15 Contact with water liberates extremely flammable gases.

Safety phrases:

7/8 Keep container tightly closed and dry.

24/25 Avoid contact with skin and eyes.

43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

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 (DSL).

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 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 user.

Department issuing MSDS: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**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 Transportation

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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

HMIS: Hazardous Materials Identification System (USA)

USA