

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 20.03.2012

Printing date 01.07.2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

Calcium carbide

Stock number:

14308

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
 A Johnson Matthey Company
 Zeppelinstr. 7b
 76185 Karlsruhe / Germany
 Tel: +49 (0) 721 84007 280
 Fax: +49 (0) 721 84007 300
 Email: tech@alfa.com
 www.alfa.com
 Product safety Tel + +049 (0) 7275 988687-0
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
 Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Water-react, 2, H261 In contact with water releases flammable gases.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.



F; Highly flammable

R15: Contact with water liberates extremely flammable gases.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

The product is classified and labelled according to the CLP regulation.

GHS02, GHS05

Danger

Hazard-determining components of labelling:

Hazard statements

Calcium oxide

H261 In contact with water releases flammable gases.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P231+P232

Handle under inert gas. Protect from moisture.

P260

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

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.

P405

Store locked up.

P501

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

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Dangerous components:

CAS: 75-20-7	Calcium carbide	F R15	80,0%
EINECS: 200-848-3		Water-react. 1, H260	
CAS: 1305-78-8	Calcium oxide	C R34	20,0%
EINECS: 215-138-9		Skin Corr. 1B, H314	

Additional information

None known.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly 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 doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

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

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For safety reasons unsuitable extinguishing agents
5.2 Special hazards arising from the substance or mixture

Water.

If this product is involved in a fire, the following can be released:
 Carbon monoxide and carbon dioxide
 Calcium oxide

5.3 Advice for firefighters
Protective equipment:

Wear self-contained breathing apparatus.
 Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation
 Keep away from ignition sources

6.2 Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.
 Do not allow product to reach sewage system or water bodies.
 Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:

Keep away from ignition sources.
 Use neutralizing agent.
 Dispose of contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 Do not flush with water or aqueous cleansing agents
 Keep away from ignition sources.
 See Section 7 for information on safe handling
 See section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

Prevention of secondary hazards:
6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle under dry protective gas.
 Keep containers tightly sealed.
 Store in cool, dry place in tightly closed containers.
 Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

No information known.

7.2 Conditions for safe storage, including any incompatibilities
Storage

Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

No special requirements.

Store away from water.
 Do not store together with acids.
 Store away from oxidizing agents.

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 keep away from water.
 Store in a locked cabinet or with access restricted to technical experts or their assistants.
 No further relevant information available.

7.3 Specific end use(s)

SECTION 8: Exposure controls/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.

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

1305-78-8 Calcium oxide (20,0%)

MAK (Germany)	vgl. Abschn. IIb
MAK (TRGS 900) (Germany)	5 E mg/m ³ DFG, u.D.
PEL (USA)	5 mg/m ³
REL (USA)	2 mg/m ³
TLV (USA)	2 mg/m ³

Additional information:

No data

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.
 Keep away from foodstuffs, beverages and food.
 Instantly remove any soiled and impregnated garments.
 Wash hands during breaks and at the end of the work.
 Avoid contact with the eyes and skin.

Breathing equipment:

Protection of hands:

Maintain an ergonomically appropriate working environment.
 Use breathing protection with high concentrations.
 Check protective gloves prior to each use for their proper condition.
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves

Penetration time of glove material

Impervious gloves
 Not determined

Eye protection:

Tightly sealed safety glasses.

Body protection:

Full face protection
 Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:

Lump

Colour:

Greyish black

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Smell:	Not determined
Odour threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	2300 °C
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Inflammability (solid, gaseous)	Contact with water liberates extremely flammable gases.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Self-inflammability:	Product is not selfigniting.
Critical values for explosion:	
Lower:	Not determined
Upper:	Not determined
Steam pressure:	Not applicable.
Density at 20 °C	2,22 g/cm³
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Contact with water releases flammable gases
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Solvent content:	
Organic solvents:	0,0 %
Solids content:	100,0 %
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity	In contact with water releases flammable gases which may ignite spontaneously.
10.2 Chemical stability	Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions	Reacts with strong oxidizing agents Contact with water releases flammable gases
10.5 Incompatible materials:	Acids Oxidizing agents Water/moisture
10.6 Hazardous decomposition products:	Carbon monoxide and carbon dioxide Calcium oxide Acetylene

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute toxicity:	Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
LD/LC50 values that are relevant for classification:	No data
Skin irritation or corrosion:	Causes severe skin burns.
Eye irritation or corrosion:	Causes serious eye damage.
Sensitization:	No sensitizing effect known.
Germ cell mutagenicity:	No effects known.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:	No effects known.
Specific target organ system toxicity - repeated exposure:	No effects known.
Specific target organ system toxicity - single exposure:	No effects known.
Aspiration hazard:	No effects known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version: Corrosive

SECTION 12: Ecological information

12.1 Toxicity	
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	
General notes:	Do not allow material to be released to the environment without proper governmental permits. Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Recommendation	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

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SECTION 14: Transport information

UN-Number ADR, IMDG, IATA	UN1402
14.2 UN proper shipping name ADR IMDG, IATA	1402 CALCIUM CARBIDE CALCIUM CARBIDE
14.3 Transport hazard class(es) ADR	
	
Class Label IMDG, IATA	4.3 (W2) Substances which, in contact with water, emit flammable gases. 4.3
	
Class Label	4.3 Substances which, in contact with water, emit flammable gases. 4.3
Packing group ADR, IMDG, IATA	II
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user Kemler Number:	Warning: Substances which, in contact with water, emit flammable gases. 423
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR Excepted quantities (EQ): Limited quantities (LQ) Transport category Tunnel restriction code	E2 0 2 D/E
UN "Model Regulation":	UN1402, CALCIUM CARBIDE, 4.3, II

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical Substances**

All ingredients are listed.

Standard for the Uniform Scheduling of Drugs and Poisons

None of the ingredients is listed.

National regulations**Information about limitation of use:** Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.**Classification according to VbF:** Not applicable**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.**Other regulations, limitations and prohibitive regulations****ELINCS (European List of Notified Chemical Substances)**

None of the ingredients is listed.

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients are listed.

REACH - Pre-registered substances

All ingredients are listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**SECTION 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.

Relevant phrasesH260 In contact with water releases flammable gases which may ignite spontaneously.
H314 Causes severe skin burns and eye damage.R15 Contact with water liberates extremely flammable gases.
R34 Causes burns.**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Abbreviations and acronyms:**RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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