Calcium Carbide
MSDS# 03870

Section 1 - Chemical Product and Company Identification

MSDS Name: Calcium Carbide
Catalog Numbers: C/1000/53, C/1000/60
Synonyms: Acetylenogen; calcium acetylide; calcium dicarbide
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#: 75-20-7
Chemical Name: Calcium Carbide
%: >90
EINECS#: 200-848-3

Hazard Symbols:
F
Risk Phrases: 15

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Contact with water liberates extremely flammable gases. Corrosive. Water-reactive.
Potential Health Effects
Eye: Causes severe eye burns. May cause blindness. May cause opacity and scarring.
Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist.
Ingestion: Causes gastrointestinal tract burns.
Inhalation: May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation. Can produce delayed pulmonary edema.
Chronic: Repeated inhalation may cause chronic bronchitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4
cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:**
Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:**

**Section 5 - Fire Fighting Measures**

**General Information:**
Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials. Contact with moisture to form flammable acetylene gas. Contact with acid or acid fumes evolves heat and flammable vapors.

**Extinguishing Media:**
Do NOT use carbon dioxide. Do NOT use halogenated agents. Use approved class D extinguishing agents or smother with dry sand, clay, or sodium bicarbonate. DO NOT USE WATER! Use dry chemical.

**Section 6 - Accidental Release Measures**

**General Information:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Do not expose spill to water.

**Section 7 - Handling and Storage**

**Handling:**
Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale.

**Storage:**
Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep containers tightly closed. Store in metal containers.

**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:**
Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Exposure Limits**

**CAS# 75-20-7:**

**Personal Protective Equipment**

**Eyes:**
Wear appropriate protective eyeglasses or chemical
safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Color: black-gray
Odor: garlic-like odor
pH: Not available
Vapor Pressure: Not applicable.
Viscosity: Not available
Boiling Point: Not applicable.
Freezing/Melting Point: 4172 deg F (2,300.00°C)
Autoignition Temperature: Not applicable
Flash Point: Not applicable.
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Reacts with water.
Specific Gravity/Density: 2.22
Molecular Formula: CaC2
Molecular Weight: 64.08

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures. Reacts vigorously with water to form highly flammable acetylene gas, which may ignite spontaneously. Lime may also be formed raising the pH of the solution and causing a white precipitate.

Conditions to Avoid:
Contact with water.

Incompatibilities with Other Materials
Water, strong oxidizing agents, acids, brass, copper, magnesium, sodium peroxide, sulfur, silver nitrate, methanol, hydrochloric acid, stannous chloride, tin chloride, selenium, iron chlorides.

Hazardous Decomposition Products
Carbon monoxide, carbon dioxide, calcium oxide.

Hazardous Polymerization
Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 75-20-7 unlisted.
LD50/LC50:
Not available
Carcinogenicity:
Calcium Carbide -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:
The toxicological properties have not been fully investigated.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location.
Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information
IATA
Shipping Name: CALCIUM CARBIDE
Hazard Class: 4.3
UN Number: 1402
Packing Group: II

IMO
Shipping Name: CALCIUM CARBIDE
Hazard Class: 4.3
UN Number: 1402
Packing Group: II

RID/ADR
Shipping Name: CALCIUM CARBIDE
Hazard Class: 4.3
UN Number: 1402
Packing Group: II

USA RQ: CAS# 75-20-7: 10 lb final RQ; 4.54 kg final RQ

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: F
Risk Phrases:
R 15 Contact with water liberates extremely flammable gases.

Safety Phrases:
S 8 Keep container dry.
S 43A In case of fire, use dry chemical (never use water).

WGK (Water Danger/Protection)
CAS# 75-20-7: 1

Canada
CAS# 75-20-7 is listed on Canada's DSL List

US Federal
TSCA
CAS# 75-20-7 is listed on the TSCA Inventory.

Section 15 - Regulatory Information

Section 16 - Other Information
MSDS Creation Date:
12/12/1997
Revision #4 Date
10/03/2005

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