



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. CC 45
Effective Date December 3, 1998

SECTION V HEALTH HAZARD DATA

Threshold Limited Value None established for Calcium carbide. 5 mg/m³ as Calcium oxide (OSHA); 2 mg/m³ as Calcium oxide (ACGIH).

Effects of Overexposure Dust is an eye and respiratory irritant and can cause skin burns. The effects of calcium carbide are limited to local action at the site of contact with a moist surface. The residual lime acts as an irritant and first aid is directed toward removal of the irritant. Dry powder reacts with body moisture to form alkali which irritates the skin, eyes and respiratory passages.

Emergency and First Aid Procedures

SKIN: Flush thoroughly with water, then wash with mild soap and water. Treat irritation as you would a burn. **EYES:** Flush with water for 15 minutes, lifting upper and lower eyelids occasionally. Get prompt medical attention. **INGESTION:** If swallowed, if conscious, give water to drink and call a physician immediately. Never give anything by mouth to an unconscious person. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability

Unstable		Conditions to Avoid	Moisture, water, sparks and flame.
Stable	X		

Incompatibility (Materials to Avoid) Moisture from any source, water, unalloyed copper, silver, mercury.

Hazardous Decomposition Products Produces acetylene, a highly flammable and explosive gas, on contact with water and calcium hydroxide which is corrosive. Hydrated lime, acetylene and heat are generated during the reaction with water.

Hazardous Polymerization

Conditions to Avoid	
May Occur	Will Not Occur
	X
Not applicable.	

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Eliminate all heat and ignition sources. Cover with an inert non-combustible material such as dry sand. Sweep up, keep dry and place in a suitable container for proper disposal.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Handle as you would a spill or leak. Calcium carbide is an EPA Hazardous Waste. Dispose of in an approved incinerator or contract with a licensed chemical waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) Work in a fume hood or good ventilation should be sufficient. If needed, wear a NIOSH/MSHA-approved respirator.

Ventilation

Local Exhaust	Recommended.	Special	No.
Mechanical (General)	Explosion proof.	Other	No.

Protective Gloves Rubber. **Eye Protection** Chemical safety goggles.

Other Protective Equipment Goggles, lab coat, ventilation hood, proper gloves and a fire extinguisher.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Protect against physical damage. Store in a dry, non-combustible, well-ventilated place without sprinkler protection. Exclude possible sources of ignition of acetylene gas. Isolate from other materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.

Grounding of Calcium carbide containers to prevent static electricity discharge is recommended. Copper ground straps or cables should not be use. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 6 **Date** 12/3/98 **Approved** Michael Raszeja **Chemical Safety Coordinator** MR

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	CALCIUM CARBIDE
Chemical Synonyms	Acetylenogen, Carbide
Formula	CaC ₂
Unit Size	up to 2.5 Kg.
C.A.S. No.	75-20-7

CHEMTREC
800-424-9300
Day 716-226-6177

NFPA
HAZARD RATING
LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

HMIS *
3 4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Calcium Carbide, Lump: (75-20-7)	65-85%	None established.
Calcium Oxide: (CAS No. 1305-78-8)	10-30%	TWA 2 mg/m ³

WARNING! FLAMMABLE SOLID! DANGEROUS WHEN WET. KEEP DRY. FLAMMABLE GAS

FORMS IF CONTENTS BECOME WET. HARMFUL IF SWALLOWED. IRRITANT.

SECTION III PHYSICAL DATA

Melting Point (°F)	1700-2300°C (4172°F)	Specific Gravity (H ₂ O = 1)	2.20 at 20°C
Boiling Point (°F)	Not determined	Percent Volatile by Volume (%)	Not determined see *
Vapor Pressure (mm Hg)	Not determined see *	Evaporation Rate (=1)	Non-volatile (NA)
Vapor Density (Air=1)	Not determined see **		
Solubility in Water	Decomposes in water.		
Appearance & Odor	Gray to bluish black, lumps, powder; odor of acetylene (garlic-like) always present.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Not applicable ***	Flammable Limits in Air % by Volume	Lower	Upper
		ethylene gas	2.7%	36.0%

Extinguisher Media Dry chemical (ABC); or cover with dry sand or lime.

SPECIAL FIREFIGHTING PROCEDURES

Do not use water, vaporizing liquid or foam. Carbon dioxide is ineffective. **NOTE:** Calcium Carbide, only upon exposure to water does it form acetylene. * Decomposition to acetylene gas is constantly occurring due to moisture in the air. ** Vapor density of ethylene (air=1) is 1.0 *** Ignition temperature of acetylene 305°C (581°F). Not flammable in dry state.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 138)

UNUSUAL FIRE AND EXPLOSION HAZARDS

DANGEROUS WHEN WET. Not flammable in dry state but produces acetylene gas on contact with water or moisture. Will generate sufficient heat on contact with small amounts of water to ignite the acetylene gas formed. An acetylene fire from wet carbide should not be extinguished, since the contained generation of unburned acetylene may pocket or become confined in "dead space" and explode if ignited. Acetylene is lighter than air with a wide explosive range (2.5 to 82% by volume in air) and with a comparatively low ignition temperature.

D.O.T. Calcium carbide, 4.3, UN 1402, PG II

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20