

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 14641

Page: 1

PRODUCT NAME: ~~CARBON MONOXIDE~~

Effective Date: 04/15/87

Date Printed: 09/24/87

MSD: 000429

1. INGREDIENTS:

Carbon monoxide

100%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: -311F, -191.5C
VAP PRESS: Gas
VAP DENSITY: 0.968
SOL. IN WATER: 2.3 ml/100 ml H2O
SP. GRAVITY: Gas
APPEARANCE: Gas, colorless.
ODOR: Odorless.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None - gas
METHOD USED:

FLAMMABLE LIMITS
LFL: 12.5 %
UFL: 74 %

EXTINGUISHING MEDIA: Water fog - stop flow of gas. For small fires, CO2 and dry chemical.

FIRE & EXPLOSION HAZARDS: 'Extremely poisonous gas' Highly flammable. Do not put out fire unless escaping gas can be safely contained or controlled.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Ignition temperature 1128F, 610C.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material.

(continued on Page 2)

() Indicates a trademark of The Dow Chemical Company

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 14641

Page: 3

PRODUCT NAME: CARBON MONOXIDE

Effective Date: 04/15/87

Date Printed: 09/24/87

MSD: 000429

7. FIRST AID: (CONTINUED)

INGESTION: No adverse effects anticipated by this route of exposure.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN:

Consult standard literature. Treat with 100% oxygen.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE: Carbon Monoxide: ACGIH TLV is 50 ppm, STEL is 400 ppm. OSHA PEL is 50 ppm.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Lethal concentrations may exist in areas with poor ventilation.

RESPIRATORY PROTECTION: Use an approved respirator. Selection of air-purifying or supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure, self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved positive-pressure, self-contained breathing apparatus.

SKIN PROTECTION: No precautions necessary from gas.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid inhalation of gas. Store in a well-ventilated and protected area.

MSDS STATUS: New MSDS.

(P) Indicates a trademark of The Dow Chemical Company.
 Information herein is given in good faith, but no warranty, express or implied, is made. Consult The Dow Chemical Company for further information.

DO A 061584
 CONFIDENTIAL

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 14641

Page: 2

PRODUCT NAME: CARBON MONOXIDE

Effective Date: 04/15/87

Date Printed: 09/24/87

MSD: 000429

4. REACTIVITY DATA: (CONTINUED)

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Clear area of all personnel. Wear self-contained breathing apparatus. Avoid sparks and fire which could cause an explosion.

DISPOSAL METHOD: Controlled burning if possible. Otherwise dissipate and dilute with air.

6. HEALTH HAZARD DATA:

EYE: No hazard from gas.

SKIN CONTACT: No hazard from gas.

INGESTION: No hazard from gas.

INHALATION: Excessive vapor concentrations are readily attainable and may cause unconsciousness and death. Excessive exposure may cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. Excessive exposure may cause central nervous system and heart effects. Slight over-exposure may cause headache, dizziness, nausea, visual disturbances and physical or mental incoordination. Gross over-exposure can cause asphyxiation and death.

SYSTEMIC & OTHER EFFECTS: The NOEL (no observable effect level) is about 40 ppm. Repeated exposures to these levels are reported to have produced no significant adverse effects. Higher levels may cause serious adverse effects, even death. Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus. Has been toxic to the fetus in laboratory animal tests.

7. FIRST AID:

EYES: No adverse effects anticipated by this route of exposure.

SKIN: No adverse effects anticipated by this route of exposure.

(Continued on Page 3)

(w) Indicates a trademark of The Dow Chemical Company