Material Safety Data Sheet

1. Product and Company Identification

Product name : **Dichloromethane**

Chemical formula : C-H2-CL2

Synonyms : Methane, Dichloro-; Methylene Chloride; Methylene Dichloride; Methane Dichloride; Methylene Bichloride; DMC; MC; Aerothene MM; Narkotil; Solaesthin; Solmethine; UN 1593

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Dichloromethane	75-09-2	100%

3. Hazards Identification

Emergency Overview

May cause respiratory tract irritation, skin irritation, eye irritation, blood damage, central nervous system depression, cancer hazard (in humans).

Potential Health Effects

Inhalation : Irritation, nausea, irregular heartbeat, headache, symptoms of drunkenness, suffocation, lung congestion, blood disorders. May cause chest pain, reproductive effects, effects on the brain, cancer in long term exposure.

Eye contact : Irritation.

Skin contact : Same as reported in other routes of exposure, irritation, tingling sensation.

Ingestion : Symptoms of drunkenness, tingling sensation, suffocation, blood disorders, kidney damage, liver damage, convulsions.

Chronic Health Hazard : Not applicable.

4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Ingestion : If a large amount is swallowed, get medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial

respiration if not breathing. Get immediate medical attention.

Note to physicians	:	For inhalation, consider oxygen. For ingestion, consider gastric lavage. Consider oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media	:	Carbon dioxide, regular dry chemical. Large fires: Use regular foam or flood with fine water spray.
Specific hazards	:	Slight fire hazard.
Fire fighting	:	Cool containers with water spray until well after fire is out. Stay away from the ends of tanks. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile).

6. Accidental Release Measures

Air release	:	Reduce vapors with water spray.
Soil release	:	Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.
Water release	:	Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Remove trapped material with suction hoses.
Occupational spill/release	:	Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Small liquid spills: Absorb with sand or other non-combustible material. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
Additional advice	:	None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Store in a tightly closed container. Store under an inert atmosphere. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH	:	50 ppm TWA
OSHA (final)	:	125 ppm STEL (see 29 CFR 1910.1052) 25 ppm TWA
OSHA (vacated)	:	2000 ppm STEL 5 minute in any 3 hrs 500 ppm TWA 1000 ppm Ceiling

IDLH

2300 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal protective equipment

Respiratory protection	:	The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. OSHA Standard – Respiratory selection should comply with 29 CFR 1910.134, 29 CFR 1910.1052, and the final rule published in the Federal Register on August 24, 2006. NIOSH Recommendations – At any detectable concentration – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern. Any appropriate escape-type, self-contained breathing apparatus. For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Hand protection	:	Wear appropriate chemical resistant gloves. OSHA REGULATED SUBSTANCES: U.S. OSHA 29 CFR 1910.1052.
Eye protection	:	Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Form	:	Liquid.
Color	:	Colorless.
Odor	:	Sweet odor.
Molecular weight	:	84.93
Vapor pressure	:	350 mmHg @ 20°C
Vapor density	:	2.9 (air = 1)
Specific gravity	:	1.3266 (water = 1)
Boiling point	:	104°F (40°C)
Melting point	:	-139°F (-95°C)
Water solubility	:	1.32% @ 20°C
Solvent solubility	:	Soluble: alcohol, ether, dimethylformamide, phenols, aldehydes, ketones, acetic acid, triethyl phosphate, acetoacetic acid, cyclohexylamine, chlorinated solvents

10. Stability and Reactivity

Stability	:	Stable at normal temperatures and pressure.
Conditions to avoid	:	Avoid heat, flames, sparks and other sources of ignition. Containers may

rupture or explode if exposed to heat.

Materials to avoid	:	Metals, bases, oxidizing materials, combustible materials.
Hazardous decomposition products	:	Thermal decomposition products: Halogenated compounds, oxides of carbon, phosgene.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following selected endpoints are published:

DICHLOROMETHANE (75-09-2) : Oral LD50 Rat: >2000 mg/kg; Inhalation LC50 Rat: 76000 mg/m3/4H

Acute Toxicity Level

DICHLOROMETHANE (75-09-2) : Moderately toxic: ingestion
Slightly toxic: inhalation

Component Carcinogenicity

ACGIH	:	A3 – Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC	:	Monograph 71 [1999]; Supplement 7 [1987] (Group 2B (possibly carcinogenic to humans))
DFG	:	Category 3A (could be carcinogenic for man)
		Present
		Reasonably Anticipated To Be a Human Carcinogen

Local Effects

DICHLOROMETHANE (75-09-2) : Irritant: inhalation, skin, eye

Target Organs

DICHLOROMETHANE (75-09-2) : Blood, central nervous system

Medical conditions aggravated by exposure

Blood system disorders, heart or cardiovascular disorders, kidney disorders, liver disorders, skin disorders and allergies.

Additional Data

Alcohol may enhance the toxic effects.

12. Ecological Information

Aquatic Toxicity

DICHLOROMETHANE (75-09-2) : Fish: 96 Hr LC50 Pimephales promelas: 140.8 – 277.8 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 262 – 855 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 193 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 193 mg/L [flow-through]
Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: >500 mg/L; 72 Hr EC50 Pseudokirchneriella subcapitata: >500 mg/L
Invertebrate: 48 Hr EC50 Daphnia magna: 1532 – 1847 mg/L [static]; 48 Hr EC50 Daphnia magna: 190 mg/L

13. Disposal Considerations

Waste from residues / unused products : Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U080.

Contaminated packaging	:	Return cylinder to supplier.
Component Waste Numbers	:	RCRA: waste_number U080

14. Transport Information

DOT (US only)

Proper shipping name	:	Dichloromethane
Class	:	6.1, Packing Group III
UN/ID No.	:	UN1593
Labeling	:	6.1

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

DICHLOROMETHANE (75-09-2)	:	1000 lb final RQ; 454 kg final RQ SARA 313: 0.1% de minimis concentration CERCLA: 1000 lb final RQ; 454 kg final RQ TSCA 12b: Section 4, 0.1%

SARA 311/312

Acute: Yes
Chronic: Yes
Fire: No
Reactive: No
Pressure: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
DICHLOROMETHANE	75-09-2	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.