



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Methyl Fluoride**

Chemical formula : CH₃F

Synonyms : Fluoromethane; Methane, Fluoro-; Freon 41; Fluoromethane (CH₃F); Halocarbon 41; UN 2454

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
Methyl Fluoride	593-53-3	100%

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following:
Fluorides.

3. Hazards Identification

Emergency Overview

May cause central nervous system depression, difficulty breathing.
Flammable gas. May cause flash fire.

Potential Health Effects

Inhalation : Nausea, vomiting, symptoms of drunkenness, suffocation, convulsions, coma.
Eye contact : Frostbite, blurred vision.
Skin contact : Blisters, frostbite.
Ingestion : Frostbite.
Chronic Health Hazard : None known.

4. First Aid Measures

General advice : None.

Eye contact : Flush eyes with plenty of water.

Skin contact : If frostbite occurs, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

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. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
Note to physicians : For inhalation, consider oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media : Carbon dioxide, regular dry chemical.
Large fires: Flood with fine water spray.
Specific hazards : Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.
Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after the fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking.
Protective Equipment and Precautions for Firefighters : Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

6. Accidental Release Measures

Occupational spill/release : Avoid heat, sparks, flames and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away. Isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.
Additional advice : None.

7. Handling and Storage

Handling

Use only with adequate ventilation.

Storage

Store in a well-ventilated area. Keep away from heat, sparks, and flames. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Grounding and bonding required. Protect from sunlight. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH : 2.5 mg/m³ TWA (as F)
OSHA (final) : 2.5 mg/m³ TWA F
OSHA (vacated) : 2.5 mg/m³ TWA

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of materials are present. Ensure compliance with applicable exposure limits.

Personal protective equipment

- Respiratory protection : Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
Any supplied-air respirator with a full facepiece that is operated in a 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.
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 insulated gloves.
- Eye protection : For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
- Skin and body protection : For the gas: Protective clothing not required. For the liquid: Wear appropriate protective, cold insulating clothing.

9. Physical and Chemical Properties

- Form : Gas.
Color : Colorless.
Odor : Sweet odor.
Molecular weight : 34.03
Vapor pressure : 3810 kPa @ 21.1°C
Vapor density : 1.195 (air = 1)
Boiling point : -78°C
Melting point : -142°C
Water solubility : 166% @ 15°C
Solvent solubility : Soluble: alcohol, ether, benzene, chloroform.

10. Stability and Reactivity

- Stability : Stable under normal conditions.
Conditions to avoid : Avoid heat, flames, sparks or other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.
Materials to avoid : Oxidizing materials.
Hazardous decomposition products : Thermal decomposition products: oxides of carbon, halogenated compounds.

11. Toxicological Information

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Component Carcinogenicity

ACHIG : A4 – Not Classifiable As A Human Carcinogen.

Target Organs

METHYL FLUORIDE : Central nervous system
(593-53-3)

Additional Data

Stimulants such as epinephrine may induce ventricular fibrillation.

12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

13. Disposal Considerations

Waste from residues : Dispose in accordance with all applicable regulations. Subject to disposal
/ unused products regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Contaminated : Return cylinder to supplier.
packaging

14. Transport Information

DOT (US only)

Proper shipping : Methyl Fluoride
name
Class : 2.1
UN/ID No. : UN2454
Labeling : Flammable Gas

15. Regulatory Information

U.S. Federal Regulations

None of this product's components are listed under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

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

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
METHYL FLUORIDE	593-53-3	No	No	Yes	Yes	No	Yes

Not regulated under California Proposition 65

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.