

Common Name: **1,2-DIMETHYLHYDRAZINE**

Synonyms: N,N'-Dimethylhydrazine; SDMH

CAS No: 540-73-8

Molecular Formula: C<sub>2</sub>H<sub>8</sub>N<sub>2</sub>

RTK Substance No: 1008

Description: Clear, colorless liquid, with a strong, *Ammonia*-like odor, that turns yellow and fumes in air

### HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>3 - Fire</b> <b>1 - Reactivity</b> DOT#: UN 2382 ERG Guide #: 131 Hazard Class: 6.1 (Poison)	<b>FLAMMABLE AND CORROSIVE</b> Use dry chemical, CO <sub>2</sub> , water in flooding quantities or alcohol-resistant foam as extinguishing agents. <b>1,2-Dimethylhydrazine</b> may re-ignite if not diluted with water. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Nitrogen Oxides</i> . Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source and flashback. Flow or agitation may generate electrostatic charges.	Contact with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); and METALLIC OXIDES (such as COPPER OXIDES, LEAD OXIDES and IRON OXIDES) may result in fires and explosions. <b>1,2-Dimethylhydrazine</b> is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE). Protect from AIR and LIGHT.

### SPILL/LEAKS

**Isolation Distance:**

Small Spill: 30 meters (100 feet)

Large Spill: 100 meters (300 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in dry sand, earth, or a noncombustible material and place into sealed containers for disposal.

Use only non-sparking tools and equipment.

Metal containers involving the transfer of

**1,2-Dimethylhydrazine** should be grounded and bonded.

Keep **1,2-Dimethylhydrazine** out of confined spaces, such as sewers, because of the possibility of an explosion.

### PHYSICAL PROPERTIES

<b>Flash Point:</b>	5 °F (-15 °C)
<b>LEL:</b>	2% (for <i>1,1-Dimethylhydrazine</i> )
<b>UEL:</b>	95% (for <i>1,1-Dimethylhydrazine</i> )
<b>Vapor Density:</b>	0.76 (air = 1)
<b>Specific Gravity:</b>	0.83 (water = 1)
<b>Water Solubility:</b>	Soluble
<b>Boiling Point:</b>	178 °F (81 °C)
<b>Melting Point:</b>	160 °F (-9 °C)
<b>Molecular Weight:</b>	60.12

### EXPOSURE LIMITS

**ACGIH:** 0.01 ppm, 8-hr TWA  
 (as *1,1-Dimethylhydrazine*)

The Protective Action Criteria values are:

PAC-1 = 1.5 ppm    PAC-2 = 3 ppm    PAC-3 = 11 ppm

### PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Butyl (>8-hr breakthrough for <i>Dimethylhydrazine</i> )
<b>Coveralls:</b>	Tychem® BR, CSM and TK; Trelchem® HPS and VPS (>8-hr breakthrough for <i>Dimethylhydrazine</i> )
<b>Respirator:</b>	SCBA

### HEALTH EFFECTS

<b>Eyes:</b>	Irritation, burns and possible eye damage
<b>Skin:</b>	Severe irritation and burns
<b>Inhalation:</b>	Nose, throat and lung irritation with coughing, and severe shortness of breath (pulmonary edema)  Headache, dizziness, lightheadedness, and passing out
<b>Chronic:</b>	Cancer (blood vessels, intestines, liver) in animals

### FIRST AID AND DECONTAMINATION

**Remove** the person from exposure.  
**Flush** eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.  
**Quickly** remove contaminated clothing and wash contaminated skin with large amounts of soap and water. Seek medical attention.  
**Begin** artificial respiration if breathing has stopped and CPR if necessary.  
**Transfer** promptly to a medical facility.  
**Medical** observation is recommended as symptoms may be delayed.