

Common Name: **NITROMETHANE**

Synonyms: Nitrocarbol

CAS No: 75-52-5

 Molecular Formula: CH₃NO₂

RTK Substance No: 1386

Description: Colorless, oily liquid with a mild disagreeable or fruity odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health 3 - Fire 4 - Reactivity DOT#: UN 1261 ERG Guide #: 129 Hazard Class: 3 (Flammable)	Nitromethane is a FLAMMABLE LIQUID. Use CO ₂ , water spray or alcohol-resistant foam as extinguishing agents. DO NOT use dry chemical extinguishers on a fire. Nitromethane may explosively decompose from SHOCK, FRICTION or CONCUSSION. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Nitrogen Oxides</i> . CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source. Nitromethane may ignite combustibles (wood, paper and oil).	Nitromethane is unstable and SHOCK; FRICTION or ELEVATED TEMPERATURES can cause explosive decomposition, especially when confined. Nitromethane reacts violently with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); ALKYL METAL HALIDES (such as SODIUM CHLORIDE and LITHIUM BROMIDE); DIETHYL ALUMINUM BROMIDE; METHYL ZINC IODIDE; AMMONIA HYDROXIDE; CALCIUM HYPOCHLORITE; FORMALDEHYDE, and many other substances. Nitromethane forms shock-sensitive mixtures with AMINES; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); ACETONE; ALUMINUM POWDER; COPPER; COPPER ALLOYS; and LEAD and LEAD ALLOYS.

SPILL/LEAKS

Isolation Distance:

Small Spills: 60 meters (200 feet)

Large Spills: 300 meters (1,000 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and deposit in sealed containers.

 Keep **Nitromethane** out of confined spaces, such as sewers, because of the possibility of an explosion.

Does not accumulate in aquatic life.

PHYSICAL PROPERTIES

Odor Threshold:	3.5 ppm
Flash Point:	95°F (35°C)
LEL:	7.3%
UEL:	62%
Auto Ignition Temp:	785°F (418°C)
Vapor Density:	2.1 (air = 1)
Vapor Pressure:	27.8 mm Hg at 68°F (20°C)
Specific Gravity:	1.14 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	214°F (101°C)
Ionization Potential:	11.08 eV
Molecular Weight:	61

EXPOSURE LIMITS

OSHA: 100 ppm, 8-hr TWA

ACGIH: 20 ppm, 8-hr TWA

IDLH: 750 ppm

PROTECTIVE EQUIPMENT

Gloves:	Butyl and Silver Shield®/4H® (>8-hr breakthrough)
Coveralls:	DuPont Tychem® BR, LV, CSM, Responder®, and TK; Kappler Zytron® 300; and Saint-Gobain ONESuit®/TEC (>8-hr breakthrough)
Respirator:	>20 ppm - Supplied air

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation with drying, cracking and redness
Inhalation:	Nose, throat and lung irritation with coughing, wheezing and shortness of breath Headache, weakness, dizziness, nausea and vomiting
Chronic:	Cancer (liver, lung, glandular) in animals

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.
Quickly remove contaminated clothing and wash contaminated skin with large amounts of water.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer to a medical facility.