

Common Name: **HYDRAZINE**

Synonyms: Diamine; Nitrogen Hydride

CAS No: 302-01-2

 Molecular Formula: N₂H₄

RTK Substance No: 1006

 Description: Colorless, fuming, oily liquid with an *Ammonia*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health 4 - Fire 3 - Reactivity DOT#: UN 2029 ERG Guide #: 132 Hazard Class: 8 (Corrosive)	Hydrazine is a FLAMMABLE LIQUID that may self-ignite at low temperatures. Use dry chemical, CO ₂ , water spray or alcohol-resistant foam as extinguishing agents. Use water spray to disperse vapors. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Ammonia</i> and <i>Nitrogen Oxides</i> . CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Hydrazine may form an ignitable vapor/air mixture in closed tanks or containers. Vapors may travel to a source of ignition and flash back.	Hydrazine is extremely reactive and/or explosive in the presence of OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); NITRIC ACID; NITROUS OXIDES; and CHEMICALLY ACTIVE METALS (such as POTASSIUM, SODIUM, MAGNESIUM and ZINC). Hydrazine reacts violently with METALS (such as SILVER, MERCURY, NICKEL, TITANIUM and ZINC); METAL OXIDES; and STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC). Hydrazine can spontaneously ignite at low temperatures or on contact with POROUS MATERIALS (such as EARTH, WOOD and CLOTH).

SPILL/LEAKS
Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in dry sand or an inert absorbent and place into sealed containers for disposal.

DO NOT use earth or combustible absorbents as fires/explosions may occur.

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

DO NOT wash into sewer.

Hydrazine is very toxic to aquatic organisms.

PHYSICAL PROPERTIES

Odor Threshold:	3.7 ppm
Flash Point:	100°F (38°C)
LEL:	2.9%
UEL:	98%
Auto Ignition Temp:	Varies from 74°F (23°C) to 518°F (270°C)
Vapor Density:	1.1 (air = 1)
Vapor Pressure:	10 mm Hg at 68°F (20°C)
Specific Gravity:	1.01 (water = 1)
Water Solubility:	Soluble
Boiling Point:	236°F (113°C)
Freezing Point:	36°F (2.2°C)
Ionization Potential:	8.93 eV
Molecular Weight:	32.05

EXPOSURE LIMITS
OSHA: 1 ppm, 8-hr TWA

NIOSH: 0.03 ppm, 2-hr Ceiling

ACGIH: 0.01 ppm, 8-hr TWA

IDLH: 50 ppm

The Protective Action Criteria values are:

PAC-1 = 0.1 ppm PAC-2 = 13 ppm PAC-3 = 35 ppm

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Nitrile, Neoprene and Polyvinyl Chloride (>8-hr breakthrough)
Coveralls:	Tychem® BR, Responder® and TK; and Trelchem® HPS and VPS (>8-hr breakthrough) >10% LEL use turn out gear or flash protection
Respirator:	SCBA

HEALTH EFFECTS

Eyes:	Severe irritation, burns and possible eye damage
Skin:	Severe irritation and burns
Inhalation:	Nose, throat and lung irritation with coughing, wheezing and severe shortness of breath (pulmonary edema) Headache, dizziness, seizures and convulsions
Chronic:	Cancer (liver, lung, nasal cavity) 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. Immediately wash contaminated skin with large amounts of water. Seek medical attention immediately.
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.