

Common Name: **TETRAETHYLENEPENTAMINE**

Synonyms: TEP; Tetraethylpentylamine

CAS No: 112-57-2

Molecular Formula: $C_8H_{23}N_5$

RTK Substance No: 1816

Description: Thick, yellow liquid with an *Ammonia*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 1 - Fire 0 - Reactivity DOT#: UN 2320 ERG Guide #: 153 Hazard Class: 8 (Corrosive)	Tetraethylenepentamine may burn, but does not readily ignite. Use dry chemical, CO ₂ , water spray or alcohol-resistant foam as extinguishing agents. Water or foam may cause frothing and solid streams of water may be ineffective in fighting fire. POISONOUS GASES ARE PRODUCED IN FIRE , including <i>Ammonia</i> , <i>Amines</i> , and <i>Nitrogen Oxides</i> . Use water spray to keep fire-exposed containers cool.	Tetraethylenepentamine reacts with WATER to release heat and may result in the violent formation of steam. Tetraethylenepentamine reacts with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); NITROGEN COMPOUNDS; CHLORINATED HYDROCARBONS (such as METHYLENE CHLORIDE); ACRYLATES; ALDEHYDES; ALCOHOLS, and KETONES.

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (½ mile)

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

DO NOT wash into sewer.

Tetraethylenepentamine is toxic to aquatic organisms and may cause long-term damage to the aquatic environment.

PHYSICAL PROPERTIES

Odor Threshold:	0.1 ppm
Flash Point:	325°F (163°C)
LEL:	0.8%
UEL:	4.6%
Auto Ignition Temp:	610°F (321°C)
Vapor Density:	6.53 (air = 1)
Vapor Pressure:	<0.01 mm Hg at 68°F (20°C)
Specific Gravity:	0.99 (water = 1)
Water Solubility:	Soluble
Boiling Point:	631° to 644°F (333° to 340°C)
Freezing Point:	-40°F (-40°C)
Molecular Weight:	189.3

EXPOSURE LIMITS

No occupational exposure limits have been established for **Tetraethylenepentamine**.

The Protective Action Criteria values are:

PAC-1 = 6.5 ppm (50 mg/m³)

PAC-2 = 45 ppm (350 mg/m³)

PAC-3 = 65 ppm (500 mg/m³)

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Neoprene and Viton (>8-hr breakthrough)
Coveralls:	Tychem® BR, CSM and TK (>8-hr breakthrough for <i>Ethylene Diamine</i>)
Respirator:	SCBA

HEALTH EFFECTS

Eyes:	Irritation and burns
Skin:	Irritation and burns (skin absorbable)
Inhalation:	Nose, throat and lung irritation with coughing, wheezing and shortness of breath Headache, nausea and vomiting

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.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of water. Seek medical attention.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.