

Common Name: **CYCLOHEXANONE**

Synonyms: Cyclohexyl Ketone; Pimelic Ketone

CAS No: 108-94-1

Molecular Formula: C₆H₁₀O

RTK Substance No: 0570

Description: Clear, colorless to pale yellow liquid with a mint or *Acetone*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
1 - Health 2 - Fire 0 - Reactivity DOT#: UN 1915 ERG Guide #: 127 Hazard Class: 3 (Flammable)	Cyclohexanone is a COMBUSTIBLE LIQUID. Use dry chemical, CO ₂ , water spray or alcohol-resistant foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE. CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Vapors may travel to a source of ignition and flash back. Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source. Cyclohexanone may form an ignitable vapor/air mixture in closed tanks or containers.	Cyclohexanone forms an explosive <i>Peroxide</i> with HYDROGEN PEROXIDE and NITRIC ACID. Cyclohexanone reacts with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) and REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES).

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

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

Metal containers involving the transfer of **Cyclohexanone** should be grounded and bonded.

Use only non-sparking tools and equipment, especially when opening and closing containers of **Cyclohexanone**.

PHYSICAL PROPERTIES

Odor Threshold:	0.12 to 100 ppm
Flash Point:	111°F (44°C)
LEL:	1.1%
UEL:	9.4%
Auto Ignition Temp:	788°F (420°C)
Vapor Density:	3.4 (air = 1)
Vapor Pressure:	5.2 mm Hg at 77°F (25°C)
Specific Gravity:	0.95 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	313°F (156°C)
Freezing Point:	3°F (-16°C)
Ionization Potential:	9.14 eV
Molecular Weight:	98.2

EXPOSURE LIMITS

OSHA: 50 ppm, 8-hr TWA

NIOSH: 25 ppm, 10-hr TWA

ACGIH: 20 ppm, 8-hr TWA; 50 ppm STEL

IDLH: 700 ppm

The Protective Action Criteria values are:

PAC-1 = 50 ppm PAC-2 = 50 ppm PAC-3 = 700 ppm

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Polyvinyl Alcohol, SilverShield®/4H® and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® BR, Responder® and TK (>8-hr breakthrough)
Respirator:	>20 ppm - full facepiece APR with <i>Organic vapor filters</i> >200 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation
Inhalation:	Nose and throat irritation with coughing and wheezing Headache, dizziness, lightheadedness, and passing out

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 promptly to a medical facility.