

ACETONE

SECTION 1: PRODUCT IDENTIFICATION

Product Name: ACETONE

Product Code: 5001

CAS#: 67-64-1

Synonym: 2-propanone; Dimethyl Ketone; Dimethylformaldehyde; Pyroacetic Acid

Chemical Name: Acetone

Chemical Formula: (CH₃)₂CO

Formula Weight: 58.58

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Composition:

Name: ACETONE

Toxicological Data on Ingredients:

Classification according to Regulation (EC) No 1272/2008:

H225 - Flammable liquids (Category 2)

H319 - Eye irritation (Category 2)

H336 - Specific target organ toxicity - single exposure (Category 3), Central nervous system

SECTION 3: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator)

Carcinogenic Effects: A4 (Not classifiable for human or animal.) by ACGIH

Mutagenic Effects: Not Available

Teratogenic Effects: Not Available

Developmental Toxicity: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED]. The substance is toxic to central nervous system (CNS). The substance may be toxic to kidneys, the reproductive system, liver, skin. Repeated or prolonged exposure to the substance can produce target organs damage.

SECTION 4: FIRST AID MEASURES

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. WARM water MUST be used. Get medical attention if irritation occurs

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention

Serious Inhalation: Not Available

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available

SECTION 5: FIRE FIGHTING MEASURES



Flammability of the Product: Flammable

Auto-Ignition Temperature: 465°C

Flash Points: Closed Cup: -20°C

Flammable Limits: LOWER: 2.6% UPPER: 12.8%

Products of Combustion: Carbon oxides

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials

Fire Fighting Media and Instructions: Flammable liquid, soluble or dispersed in water

SMALL FIRE: Use DRY chemical powder

LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Reacts with metals to produces flammable hydrogen gas. It will ignite on contact with potassium-tert-butoxide. A mixture of ammonium nitrate and acetic acid ignites when warmed, especially if warmed.

Special Remarks on Explosion Hazards: Acetic acid vapors may form explosive mixtures with air. Reactions between acetic acid and the following materials are potentially explosive: 5-azidotetrazole, bromine pentafluoride, chromium trioxide, hydrogen peroxide, potassium permanganate, sodium peroxide, and phosphorus trichloride. Dilute acetic acid and dilute hydrogen can undergo an exothermic reaction if heated, forming peracetic acid which is explosive at 110 degrees C. Reaction between chlorine trifluoride and acetic acid is very violent, sometimes explosive

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container

Large Spill: Flammable liquid Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities

SECTION 7: HANDLING AND STORAGE

Precautions: Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis

Storage conditions: Store in a segregated and approved area (flammables area) . Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Keep away from direct sunlight and heat and avoid all possible sources of ignition (spark or flame).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Safety Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: TWA: 500 STEL: 750 (ppm) from ACGIH (TLV) [United States] TWA: 750 STEL: 1000 (ppm) from OSHA



(PEL) [United States] TWA: 500 STEL: 1000 [Australia] TWA: 1185 STEL: 2375 (mg/m³) [Australia] TWA: 750 STEL: 1500 (ppm)[United Kingdom (UK)] TWA: 1810 STEL: 3620 (mg/m³) [United Kingdom (UK)] TWA: 1800 STEL: 2400 from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	:	Liquid
Odor	:	Fruity, Mint-like. Fragrant Ethereal
Taste	:	Pungent, Sweetish
Color	:	Transparent
Molecular Weight	:	58.08
PH	:	Not available
Boiling Point	:	56.2°C
Melting Point	:	-95.35
Critical Temperature	:	235°C
Specific Gravity	:	Not available
Vapor Pressure	:	24 kPa
Vapor Density	:	2 (Air = 1)
Volatility	:	Not available
Odor Threshold	:	62 ppm
Water/Oil Dist. Coeff.	:	Not available
Ionicity (in Water)	:	Not available
Dispersion Properties	:	Not available
Solubility	:	Easily miscible in cold water, hot water

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: The product is stable.

Instability Temperature: Not available

Conditions of Instability: Excess heat, ignition sources, exposure to moisture, air, or water, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, acids, alkalis

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin, Dermal contact, Eye contact, Inhalation

Toxicity to Animals:

LD₅₀: Oral - Rat - 5,800 mg/kg(Acetone)

Dermal - Guinea pig - 7,426 mg/kg(Acetone)

LC₅₀: Inhalation - Rat - 8 h - 50,100 mg/m³(Acetone)

THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male

[SUSPECTED]. Causes damage to the following organs: central nervous system (CNS). May cause damage to the following organs: kidneys, the reproductive system, liver, skin

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator)

Special Remarks on Toxicity to Animals: Not available



Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenicity) based on studies with yeast (*S. cerevisiae*), bacteria, and hamster fibroblast cells. May cause reproductive effects (fertility) based upon animal studies. May contain trace amounts of benzene and formaldehyde which may cause cancer and birth defects. Human: passes the placental barrier.

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: May cause skin irritation. May be harmful if absorbed through the skin. Eyes: Causes eye irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Inhalation: Inhalation at high concentrations affects the sense organs, brain and causes respiratory tract irritation. It also may affect the Central Nervous System (behavior) characterized by dizziness, drowsiness, confusion, headache, muscle weakness, and possibly motor incoordination, speech abnormalities, narcotic effects and coma. Inhalation may also affect the gastrointestinal tract (nausea, vomiting). Ingestion: May cause irritation of the digestive (gastrointestinal) tract (nausea, vomiting). It may also p. 5 affect the Central Nervous System (behavior), characterized by depression, fatigue, excitement, stupor, coma, headache, altered sleep time, ataxia, tremors as well as the blood, liver, and urinary system (kidney, bladder, ureter) and endocrine system. May also have musculoskeletal effects. Chronic Potential Health Effects: Skin: May cause dermatitis. Eyes: Eye irritation

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity in water:

LC₅₀: 5540 mg/l 96 hours [Trout]
8300 mg/l 96 hours [Bluegill]
7500 mg/l 96 hours [Fathead Minnow]
0.1 ppm any hours [Water flea]

BOD and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: CLASS 3: Flammable liquid

Identification: Acetone UNNA: 1090 PG: II

Special Provisions for Transport: Not available

SECTION 15: REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: ACETONE

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R11- Highly flammable. R36- Irritating to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0



Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard: Not Available.

Protective Equipment: Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles

SECTION 16: OTHER INFORMATION

References: Full text of H AND R-Statements

H225 - Flammable liquids (Category 2) - Highly flammable liquid and vapour

H319 - Eye irritation (Category 2) - Causes serious eye irritation

H336 - Specific target organ toxicity - single exposure (Category 3), Central nervous system - May cause drowsiness or dizziness

Other Special Considerations: Not available

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