

EMS CATALOG NO: 10000-10016
EMS PRODUCT: Acetone
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MATERIAL SAFETY DATA SHEET

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FOR PRODUCT AND SALES INFORMATION

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PRODUCT IDENTIFICATION

COMMON NAME: Acetone
COMMERCIAL NAME(S): Not available.
SYNONYM: 2-propanone; Dimethyl Ketone; Dimethylformaldehyde; Pyroacetic Acid
CHEMICAL NAME: Acetone
CHEMICAL FAMILY: Aliphatic ketone (Solvent)
CHEMICAL FORMULA: C3-H6-O
CAS#: 67-64-1
RTECS: AL3150000
TSCA: TSCA 8(b) inventory: ACETONE
CI#: Not applicable

COMPOSITION AND INFORMATION ON INGREDIENTS

NAME: Acetone

CAS#: 67-64-1

TWA(mg/m³): 500

STEL (mg/m³): 1000

% BY WEIGHT: 100

TOXICOLOGICAL DATA ON INGREDIENTS:

ORAL (LD50): Acute: 5800 mg/kg [Rat]. 3000mg/kg [Mouse]. 5340 mg/kg [Rabbit].

VAPOR (LC50): Acute: 50100 mg/m³ 8 hours [Rat]. 44000 mg/m³ 4 hours [Mouse].

HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS:

Hazardous in case of skin contact (permeator), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer).

POTENTIAL CHRONIC HEALTH EFFECTS:

Hazardous in case of skin contact (permeator), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer).

CARCINOGENIC EFFECTS: Classified A5 (Not suspected for human.) by ACGIHG.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available

DEVELOPMENTAL TOXICITY: Classified Reproductive system/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.

FIRST AID MEASURES

EYE CONTACT: Check for and remove any contact lenses. Immediately flush eyes With running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated Clothing and shoes. Cold water may be used. Wash clothing before Reuse. Thoroughly clean shoes before reuse. Get medical attention.

SERIOUS SKIN CONTACT: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream.
Seek medical attention.

INHALATION: If inhaled, remove to fresh air. If not breathing, give Artificial respiration. If breathing is difficult, give oxygen. Seek medical Attention.

SERIOUS INHALATION:

Evacuate the victim to a safe area as soon as possible.
Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen.
If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

INGESTION:

Do NOT induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

SERIOUS INGESTION: Not available.

FIRE AND EXPLOSION DATA

FLAMMABILITY OF THE PRODUCT: Flammable.

AUTO-IGNITION TEMPERATURE: 465°C (869°F)

FLASH POINTS: Closed Cup: -20°C (-4°F).

Open Cup: -9°C (15.8°F) (Cleveland)

FLAMMABLE LIMITS: Lower: 2.6% Upper: 12.8%

PRODUCTS OF COMBUSTION: The products are carbon oxides (CO, CO₂)

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.
Slightly explosive in presence of open flames and sparks, of oxidizing materials, of Acids.

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.

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.

SPECIAL REMARKS ON FIRE HAZARDS: Vapor may travel considerable distance to Source of ignition and flash back.

SPECIAL REMARKS ON EXPLOSION HAZARDS: Forms explosive mixtures with hydrogen peroxide, acetic acid, nitric acid, nitric acid + sulfuric acid, chromic anhydride, Chromyl chloride, nitrosyl chloride, hexachloromelamine, nitrosyl perchlorate, nitryl Perchlorate,permonosulfuric acid, thiodiglycol +hydrogen peroxide, potassium ter-butoxide, sulfur dichloride, 1-methyl-1,3-butadiene,bromoform,carbon,air,chloroform, Thitriazylperchlorate.

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. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

HANDLING AND STORAGE

PRECAUTIONS:

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:

Store in 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 avoid all possible sources of ignition (spark or flame).

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:

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. Vapor 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)

TWA: 750 STEL: 1000 (ppm) from OSHA (PEL)

TWA: 1800 STEL: 2400 from OSHA (PEL)

Consult local authorities for acceptable exposure limits.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: Liquid

ODOR: Pungent (Strong).

TASTE: Not available.

COLOR: Colorless.

MOLECULAR WEIGHT: 58.08 g/mole

pH (1% SOLN/WATER): Not Available

BOILING POINT: 56.2°C (133.2°F)

MELTING POINT: -95.35°C (-139.2°F)

CRITICAL TEMPERATURE: 235° (455°F)

SPECIFIC GRAVITY: 0.79 (Water =1)

VAPOR PRESSURE: 24 kPa (@ 20°C)

VAPOR DENSITY: 2 (Air = 1)

VOLATILITY: Not available.

ODOR THRESHOLD: 62 ppm

WATER/OIL DIST. COEFF.: The product is more soluble in water; log (oil/water)=0.2

IONICITY (IN WATER): Not available.

DISPERSION PROPERTIES: See solubility in water.

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.

TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: Dermal contact. Eye contact. Inhalation. Ingestion.

TOXICITY TO ANIMALS:

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

Acute oral toxicity (LD50): 3800 mg/kg [Mouse].

Acute toxicity of the vapor (LC50): 44000mg/m³ 4 hour(s) [Mouse].

CHRONIC EFFECTS ON HUMANS:

CARCINOGENIC EFFECTS: Classified A4 (Not suspected for human.) by ACGIH.

TERATOGENIC EFFECTS: Classified None. for human.

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED]

The substance is toxic to blood, kidneys, lungs, the nervous system, liver, mucous membranes. The substance is not toxic to the reproductive system.

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:

May cause skin 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 possible motor incoordination, speech abnormalities, narcotic effects and coma. Inhalation may also affect the gastrointestinal tract (nausea, vomiting). Ingestion: May cause the above and also 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 Inhalation: May cause effects Similar to those of acute inhalation. Ingestion: May cause loss of appetite, heartburn, Gastritis.
No permanent adverse health effects have been found.

ECOLOGICAL INFORMATION

ECOTOXICITY: Ecotoxicity in water (LC50): 5540 mg/l 96 hours [Trout]. 8300 mg/i96 hours [Bluegill]. 7500 mg/l 96 hours [Fatthead Minnow]. 0.1 ppm any hours[Flea}

BOD5 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.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Waste must be disposed of in accordance with federal, state And local environmental control regulations.

TRANSPORT INFORMATION

DOT CLASSIFICATION: Class 3: Flammable liquid.

IDENTIFICATION: Acetone UN1090 PG: II

SPECIAL PROVISIONS FOR TRANSPORT: Not available.

OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS:

PENNSYLVANIA RTK: Acetone

MASSACHUSETTS RTK: Acetone

TSCA 8 (b) INVENTORY: Acetone

CERCLA: Hazardous substances: Acetone: 5000 lbs. (2268 kg)

OTHER REGULATIONS:

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

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).

DSCLA (EEC): R-11: Highly flammable.
R-36: Irritating to eyes.

HMIS (U.S.A.):

HEALTH HAZARD: 2
FIRE HAZARD: 3
REACTIVITY: 0
PERSONAL PROTECTION: H

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT:

Gloves (impervious).

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.