

Material Safety Data Sheet

Formaldehyde solution MSDS

Section 1: Chemical Product and Company Identification

Product Name: Formaldehyde solution
Catalog Codes: 11001, 12002, 14004
CAS#: 67-64-1
TSCA: TSCA 8(b) inventory: Acetone
CI#: Not applicable.
Synonym: 2-propanone; Dimethyl Ketone; Dimethylformaldehyde; Pyroacetic Acid
Chemical Name: Acetone
Chemical Formula: C3-H6-O
Contact Information: Runa Chemicals Pvt. Ltd.
W-11 & W-23, M.I.D.C., Phase 2
Dombivli – 421204. Maharashtra. (India)
International Sales: +91 (0) 251 2871 106 / 2870473
Fax: +91 (0) 251 2871 757
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Emergency Telephone: +91 (0) 251 2871 106

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Acetone	67-64-1	100

Toxicological Data on Ingredients: Acetone: ORAL (LD50): Acute: 5800 mg/kg [Rat]. 3000 mg/kg [Mouse]. 5340 mg/kg [Rabbit]. VAPOR (LC50): Acute: 50100 mg/m 8 hours [Rat]. 44000 mg/m 4 hours [Mouse].

Section 3: Hazards Identification

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).

Potential Chronic Health Effects:

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. 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. Get medical attention if symptoms appear.

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 medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

EXTINGUISHING MEDIA: Alcohol resistant foam, carbon dioxide, regular dry chemical or water.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Water may be ineffective.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Hazardous polymerization will not occur. Fire hazard. Vapor/air mixtures are heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

FLASH POINT: 6°C

LOWER FLAMMABLE LIMIT: 3%

UPPER FLAMMABLE LIMIT: 16%

AUTOIGNITION: 524°C

FLAMMABILITY CLASS (OSHA): IB

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, and alkalis.

Storage:

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:

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) [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

Molecular Weight: 58.08 g/mole

Color: Colorless. Clear

pH (1% soln/water): Not available.

Boiling Point: 56.2°C (133.2°F)

Melting Point: -95.35 (-139.6°F)

Critical Temperature: 235°C (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.
Solubility: Easily soluble 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:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 3000 mg/kg [Mouse].
Acute toxicity of the vapor (LC50): 44000 mg/m³ 4 hours [Mouse].
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 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].

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.

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: Other Regulatory Information

TSCA INVENTORY STATUS: Yes.

TSCA 12 (b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): Yes.

ACETONITRILE: 5000 lbs RQ.

SARA SECTION 302 (40CFR355.30): No.

SARA SECTION 304 (40CFR355.40): No.

SARA SECTION 313 (40CFR372.65): Yes.

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Yes.

CHRONIC: No.

FIRE: Yes.

REACTIVE: No.

SUDDEN RELEASE: No.

OSHA PROCESS SAFETY (29CFR1910.119): No.
STATE REGULATIONS:
CALIFORNIA PROPOSITION 65: No.
EUROPEAN REGULATIONS:
EC NUMBER (EINECS): 200-835-2.
EC RISK AND SAFETY PHRASES:
R 11 Highly Flammable.
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
S 1/2 Keep locked-up and out of reach of children.
S 16 Keep away from sources of ignition –no smoking.
S 27 Take off immediately all contaminated clothing.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
CONCENTRATION LIMITS:
C_>=20% T R 23//24/25
3%_>=C<20% Xn R 20/21/22
GERMAN REGULATIONS:
Water Hazard Class (WGK): 2

Section 16: Other Information

References:

- Material safety data sheet issued by: la Commission de la Santé et de la Sécurité du Travail du Québec.
- The Sigma-Aldrich Library of Chemical Safety Data, Edition II.
- Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.
- LOLI, RTECS, HSDB databases.
- Other MSDSs

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