SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-T-00319
Product Name	Acetophenone
CAS No.	98-86-2
Category	Fine Chemicals
Synonyms	Benzoylmethide
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 2)
Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H302	Harmful if swallowed.
H319	Causes serious eye irritation.

H360	Not available
H227	Not available
H315	Causes skin irritation.
H335	Not available
H336	Not available
H361	Not available
H316	Not available
H318	Causes serious eye damage.

Precautionary Statement(s)

Code	Statement
P264	Wash hands thoroughly after handling.
P264+P265	Not available
P270	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P317	Not available
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P330	Not available
P337+P317	If eye irritation persists: Get medical help.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P203	Not available
P318	Not available
P405	Store locked up.
P210	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319	Get medical help if you feel unwell.
P321	Specific treatment (see … on this label).

P332+P317	If skin irritation occurs: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Not available
P403	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P305+P354+P338	Not available
P317	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Acetophenone
CAS Number : 98-86-2
Molecular Formula : C■H■O
Molecular Weight : 120.15
Parent Chemical : Acetophenone
Synonyms : Benzoylmethide
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms persist or are severe.
- Inhalation: Move person to fresh air. If breathing is difficult, seek medical attention.
- Skin contact: Wash with plenty of soap and water. Seek medical attention if irritation develops or persists.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

4.2 Most important symptoms/effects, acute and delayed
- Not available.

4.3 Indication of immediate medical attention and special treatment needed
- Treat symptomatically. No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

- Use extinguishing media appropriate for surrounding fire (e.g., water spray, alcohol-resistant foam, dry chemical, carbon dioxide).

5.2 Special hazards arising from the substance or mixture
- Hazardous combustion products: Not available.
- Vapors may form explosive mixtures with air: No data available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Cool containers with water spray if exposed to fire.
- Prevent fire-fighting water from entering drains or waterways.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Avoid breathing vapors/mist.
- Avoid contact with skin and eyes.
- Use appropriate personal protective equipment (see Section 8).
- Ensure adequate ventilation.

6.2 Environmental precautions
- Prevent further leakage or spillage if safe to do so.
- Avoid release to the environment. Prevent entry into drains, surface waters, or soil.

6.3 Methods and material for containment and cleaning up
- Contain spill. Absorb with inert material (e.g., sand, earth, vermiculite).
- Collect into suitable, labeled containers for disposal.
- Clean contaminated area with suitable cleaning methods. Dispose of waste in accordance with local regulations.

6.4 Reference to other sections
- See Section 8 for exposure controls/personal protection and Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Handle in accordance with good industrial hygiene and safety practice.
- Avoid breathing vapors/mist.
- Avoid contact with skin and eyes.
- Use only with adequate ventilation.
- Keep away from sources of ignition. No smoking.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a cool, dry, well-ventilated place.
- Keep container tightly closed.
- Store away from incompatible materials: Not available.

7.3 Specific end use(s)
- Fine chemical / laboratory use. No further information available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- Occupational exposure limits: Not available.
- Biological limit values: Not available.

8.2 Exposure controls
- Engineering controls: Provide adequate ventilation. Use local exhaust where vapors/mist may be generated.
- Personal protective equipment (PPE):
- Eye/face protection: Safety glasses with side shields or chemical splash goggles.
- Skin protection: Protective gloves (material not specified; select based on chemical compatibility). Protective clothing as needed.
- Respiratory protection: If ventilation is inadequate, use appropriate respiratory protection. Specific type: Not available.
- Hygiene measures: Wash hands after handling. Remove contaminated clothing and wash before reuse.
- Environmental exposure controls: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	Colourless liquid
IR spectrum	No data available
pH	No data available
Solubility	In Chloroform

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available

Property	Value
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- No data available.

10.4 Conditions to avoid
- Heat, sparks, open flames, and other ignition sources. Other conditions: Not available.

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug)

produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537. /OTHER TOXICITY INFORMATION/ Effects of long-term or repeated exposure: The liquid defats the skin.
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug) produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537. /HUMAN EXPOSURE STUDIES/ No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans.
- Germ cell mutagenicity: IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug) produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological

examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537.
- Carcinogenicity: Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity CLASSIFICATION: D; not classifiable as to human carcinogenicity. BASIS FOR CLASSIFICATION: Based on no human data and no animal data. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: None.
- Reproductive toxicity: IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug) produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537.
- STOT-single exposure: No data available.
- STOT-repeated exposure: IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug) produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival

was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537. /OTHER TOXICITY INFORMATION/ Effects of long-term or repeated exposure: The liquid defats the skin.
- Aspiration hazard: No data available.

Likely routes of exposure
- Nausea. Further see Inhalation.

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION AND USE: Acetophenone is a liquid, forming crystals at low temperature. It is used in perfumery to impart an orange blossom-like odor, as a catalyst for the polymerization of olefins, and in organic syntheses, especially as photosensitizer. HUMAN STUDIES: No skin sensitization was noted when 2% acetophenone in petrolatum was tested on humans. The substance is irritating to the eyes, and may cause effects on the central nervous system. Exposure at high levels could cause unconsciousness. After long-term or repeated exposure the liquid defats the skin. ANIMAL STUDIES: Application of acetophenone to the eyes of rabbits as two drops of saturated aqueous solution caused discomfort. In another study, 0.005 mL of a 15% solution (750 ug) produced severe corneal necrosis in the rabbit eye. Mice survived 0.7 g/kg of acetophenone injected intraperitoneally, but clear-cut hypnotic effects occurred rapidly at dosage levels of 0.4 to 0.5 g/kg. In a combined subchronic and reproduction/developmental screening study, groups of 10 male and 10 female rats received oral gavage administrations of 0, 75, 225 or 750 mg/kg/day acetophenone for 28 days in the toxicity phase of testing. No deaths were seen; signs of overt toxicity included increased salivation at 225 and 750 mg/kg/day. The neurological examination further indicated decreased motor activity and decreased forelimb grip at 750 mg/kg/day in males only. Other signs of overt toxicity included decreased body weight and food consumption with increased cholesterol levels for the high-dose group. In the developmental portion of the study there were no adverse effects on the mating or fertility indices or on gestation lengths. The live birth index was decreased at 750 mg/kg/day. Similarly, pup survival was decreased during lactation and mean pup weights were decreased at 750 mg/kg. There was no indication of a mutagenic activity with and without metabolic activation with the Salmonella typhimurium strains TA98, TA100 and TA1537.

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- Not available.

12.2 Persistence and degradability
- Not available.

12.3 Bioaccumulative potential
- Not available.

12.4 Mobility in soil
- Not available.

12.5 Results of PBT and vPvB assessment
- Not available.

12.6 Endocrine disrupting properties
- Not available.

12.7 Other adverse effects
- Not available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
- Contaminated packaging: Dispose of as unused product unless cleaned. No further information available.

SECTION 14: Transport information

SECTION 14: Transport information

- UN number: Not available.
- UN proper shipping name: Not available.
- Transport hazard class(es): Not available.
- Packing group: Not available.
- Environmental hazards: Not available.
- Special precautions for user: Not available.
- Transport in bulk according to IMO instruments: Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Not available.

15.2 Chemical safety assessment
- Not available.

SECTION 16: Other information

SECTION 16: Other information

- Product name: Acetophenone
- CAS No.: 98-86-2
- Catalog No.: CS-T-00319
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

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