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

Catalogue Number	CS-ZG-89508
Product Name	4-Chloro-2-methylaniline hydrochloride
CAS No.	3165-93-3
Category	Fine Chemicals
Synonyms	-
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:

Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H301	Not available
H311	Not available
H331	Not available
H341	Not available

H350	Not available
H400	Not available
H410	Not available
H302	Harmful if swallowed.
H335	Not available
H336	Not available
H370	Not available
H371	Not available
H372	Not available
H373	Not available
H313	Not available

Precautionary Statement(s)

Code	Statement
P203	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Not available
P264	Wash hands thoroughly after handling.
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P273	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P316	Not available
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.
P316	Not available
P318	Not available
P321	Specific treatment (see … on this label).
P330	Not available
P361+P364	Not available

P391	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P260	Not available
P301+P317	Not available
P308+P316	Not available
P319	Get medical help if you feel unwell.
P302+P317	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : 4-Chloro-2-methylaniline hydrochloride
CAS Number : 3165-93-3
Molecular Formula : C7H9Cl2N
Molecular Weight : 178.06 g/mol
Parent Chemical : Not available
Synonyms : -
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
General advice:
- Seek medical attention if symptoms occur or persist.
- Show this Safety Data Sheet to the physician in attendance.

Inhalation:
- Move person to fresh air.
- If breathing is difficult, seek medical attention.

Skin contact:
- Remove contaminated clothing and shoes.
- Wash skin with plenty of water and soap.
- Seek medical attention if irritation develops.

Eye contact:
- Rinse cautiously with water for several minutes.
- Remove contact lenses if present and easy to do; continue rinsing.
- Seek medical attention.

Ingestion:
- Rinse mouth with water.
- Do NOT induce vomiting unless directed by medical personnel.
- Seek medical attention.

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

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

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Unsuitable extinguishing media:
- Not available.

5.2 Special hazards arising from the substance or mixture
- May emit hazardous fumes on heating/combustion.
- Thermal decomposition products may include hydrogen chloride and nitrogen oxides; other decomposition products: Not available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Use water spray to cool unopened containers.
- 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 dust/fume.
- Avoid contact with skin and eyes.
- Provide adequate ventilation.
- Wear appropriate personal protective equipment (see Section 8).

6.2 Environmental precautions
- Avoid release to the environment.
- Prevent entry into drains, sewers, and waterways.

6.3 Methods and material for containment and cleaning up
- Avoid generating dust.
- Collect spilled material using suitable means (e.g., sweep carefully or use HEPA-filtered vacuum).
- Place in a suitable, labeled container for disposal.
- Clean spill area with water and detergent where appropriate.

6.4 Reference to other sections
- See Section 8 for exposure controls/personal protection.
- See 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 formation of dust.
- Avoid breathing dust/fume.
- Avoid contact with skin, eyes, and clothing.
- Use only with adequate ventilation.
- Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a tightly closed container.
- Store in a cool, dry, well-ventilated place.
- Protect from moisture.
- Keep away from incompatible materials.

Incompatible materials:
- Not available.

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

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational exposure limits:
- No data available.

Biological limit values:
- No data available.

8.2 Exposure controls
Engineering controls:
- Provide local exhaust ventilation or other engineering controls to keep airborne levels low.

Personal protective equipment (PPE):
Eye/face protection:
- Safety glasses with side shields or chemical splash goggles.

Skin protection:
- Wear protective gloves. Suitable glove material: Not available.
- Wear protective clothing as appropriate.

Respiratory protection:
- If ventilation is inadequate or dust is generated, use a suitable particulate respirator.

- Specific respirator type: Not available.

Hygiene measures:
- Do not eat, drink, or smoke when using this product.
- 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	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

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
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

Property	Value
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, moisture, and incompatible materials. Additional conditions: Not available.

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Hydrogen chloride; nitrogen oxides. Other decomposition products: Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: For more Non-Human Toxicity Excerpts (Complete) data for 4-CHLORO-O-TOLUIDINE HYDROCHLORIDE (7 total), please visit the HSDB record page.
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: The Human Health Assessment Group in EPA's Office of Health and Environmental Assessment has evaluated 4-chloro-o-toluidine hydrochloride for carcinogenicity. According to their analysis, the weight-of-evidence for 4-chloro-o-toluidine hydrochloride is group B2, which is based on no evidence in humans and sufficient evidence in animals. As a group B2 chemical, 4-chloro-o-toluidine hydrochloride is considered to be probably carcinogenic to humans. Evaluation: There is sufficient evidence for the carcinogenicity of para-chloro-ortho-toluidine hydrochloride in experimental animals. There is limited evidence for the carcinogenicity of para-chloro-ortho-toluidine in humans. In formulating the overall evaluation, the Working Group took note of the fact that any salt of para-chloro-orthotoluidine with a strong acid can be expected to behave chemically in a manner similar to the hydrochloride salt in solution and in vivo. Overall evaluation: para-Chloro-ortho-toluidine and its strong acid salts are probably carcinogenic to humans (Group 2A).
- Reproductive toxicity: No data available.
- STOT-single exposure: No data available.

- STOT-repeated exposure: No data available.
- Aspiration hazard: No data available.

Likely routes of exposure
- Toxic by ingestion, inhalation & skin absorption.

Symptoms related to the physical, chemical and toxicological characteristics
- The effects of 4-chloro-o-toluidine, on hepatic cytochrome p450 monooxygenase activities and related enzymes were studied in rats. Male Sprague-Dawley rats were injected intraperitoneally with 10 or 100 mg/kg 4-chloro-o-toluidine, daily for 7 days. They were killed 24 hours after the last dose, the livers were removed, and assayed for microsomal cytochrome p450, ethoxyresorufin-O-deethylase, ethoxycoumarin-o-deethylase, aldrin-expoxidase, aniline-hydroxylase, aminopyrine-N-demethylase, epoxide-hydrolase, and cytosolic glutathione-S-transferace. The effects on androstenedione hydrolase were determined. Microsomes from treated rats underwent polyacrylamide gel electrophoresis and the appearance of the cytochrome p450 region was examined. 4-Chloro-o-toluidine increased microsomal cytochrome p450 content and induced ethoxyresorufin-O-deethylase and ethoxycoumarin-O-deethylase activity, induction of ethoxyresorufin-O-deethylase occurring to a larger extent. 4-Chloro-o-toluidine did not affect the activity of aniline hydroxylase and aminopyrine-N-demetrylase. 4-chloro-o-toluidine increased the 7alpha, 16beta, and 16alpha hydroxylase pathways of androstenedione hydrolases as well as inducing cytosolic glutathione-S-transferase and epoxide hydrolase activity. Microsomes from rats given 4-chloro-o-toluidine showed an increase in an electrophoretic band centered near 54 kilodaltons. It was concluded that 4-chloro-o-toluidine induces changes in the hepatic xenobiotic metabolizing system, specifically the enzyme associated with cytochrome p450c or cytochrome p450d. /4-Chloro-o-toluidine/

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- No data available.

12.2 Persistence and degradability
- No data available.

12.3 Bioaccumulative potential
- No data available.

12.4 Mobility in soil
- No data available.

12.5 Results of PBT and vPvB assessment
- No data available.

12.6 Endocrine disrupting properties
- No data available.

12.7 Other adverse effects
- No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product:
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains.

Contaminated packaging:
- Dispose of as unused product.

Waste codes:
- Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number
- Not available.

14.2 UN proper shipping name
- Not available.

14.3 Transport hazard class(es)
- Not available.

14.4 Packing group
- Not available.

14.5 Environmental hazards
- Not available.

14.6 Special precautions for user
- Not available.

14.7 Maritime 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
- No data available.

SECTION 16: Other information

SECTION 16: Other information

Product identification:
- Product name: 4-Chloro-2-methylaniline hydrochloride

- CAS No.: 3165-93-3
- Catalog No.: CS-ZG-89508
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information:
- Not available.

Disclaimer:
- The information provided is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The supplier shall not be held liable for any damage resulting from handling or from contact with the product.

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