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

1.1 Product identifiers

Product name: Coumarin

CAS-No.: 91-64-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company: Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA

Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 Emergency telephone number

Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 3), H301

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word: Danger
Hazard statement(s)
H301 Toxic if swallowed.
Precautionary statement(s)
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
Supplemental Hazard Statements
none
2.3 **Other hazards** - none

**SECTION 3: Composition/information on ingredients**

3.1 **Substances**

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>1,2-Benzopyrone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-Benzopyran-2-one</td>
</tr>
<tr>
<td></td>
<td>2H-Chromen-2-one</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula</th>
<th>C_9H_6O_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>146.15 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>91-64-5</td>
</tr>
<tr>
<td>EC-No.</td>
<td>202-086-7</td>
</tr>
</tbody>
</table>

**Hazardous ingredients according to Regulation (EC) No 1272/2008**

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coumarin</td>
<td>Acute Tox. 3; H301</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>91-64-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC-No.</td>
<td>202-086-7</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

4.1 **Description of first aid measures**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 **Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures**

5.1 **Extinguishing media**

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 **Special hazards arising from the substance or mixture**

Carbon oxides

5.3 **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 **Further information**

No data available
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510): Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
   a) Appearance
      Form: flakes
      Colour: colourless
   b) Odour
      No data available
   c) Odour Threshold
      No data available
   d) pH
      No data available
   e) Melting point/freezing point
      Melting point/range: 68 - 73 °C - lit.
   f) Initial boiling point and boiling range
      298 °C - lit.
   g) Flash point
      No data available
   h) Evaporation rate
      No data available
   i) Flammability (solid, gas)
      No data available
   j) Upper/lower flammability or explosive limits
      No data available
   k) Vapour pressure
      No data available
   l) Vapour density
      No data available
   m) Relative density
      No data available
   n) Water solubility
      No data available
   o) Partition coefficient: n-octanol/water
      No data available
   p) Auto-ignition temperature
      No data available
   q) Decomposition temperature
      No data available
   r) Viscosity
      No data available
   s) Explosive properties
      No data available
   t) Oxidizing properties
      No data available

9.2 Other safety information
   No data available

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
   No data available

10.5 Incompatible materials
   Strong oxidizing agents, Strong acids, Strong bases

10.6 Hazardous decomposition products
   Hazardous decomposition products formed under fire conditions. - Carbon oxides
   Other decomposition products - No data available
   In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 293 mg/kg (Coumarin)

Skin corrosion/irritation
No data available (Coumarin)

Serious eye damage/eye irritation
No data available (Coumarin)

Respiratory or skin sensitisation
No data available (Coumarin)

Germ cell mutagenicity
No data available (Coumarin)

Carcinogenicity
This product is or contains a component that is not classifiable as to its classification. (Coumarin)

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Coumarin)

Reproductive toxicity
No data available (Coumarin)

Specific target organ toxicity - single exposure
No data available (Coumarin)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Coumarin)

Additional Information
RTECS: GN4200000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Coumarin)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
LC50 - Poecilia reticulata (guppy) - 56 mg/l - 96 h (Coumarin)

Toxicity to daphnia and other aquatic invertebrates
LC50 - Daphnia magna (Water flea) - 13.5 mg/l - 48 h (Coumarin)

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Bioaccumulation
Leuciscus idus melanotus - 3 d - 46 µg/l (Coumarin)

Bioconcentration factor (BCF): < 10

12.4 Mobility in soil
No data available (Coumarin)

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Other adverse effects
Harmful to aquatic life.
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2811
IMDG: 2811
IATA: 2811

14.2 UN proper shipping name
ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (Coumarin)
IMDG: TOXIC SOLID, ORGANIC, N.O.S. (Coumarin)
IATA: Toxic solid, organic, n.o.s. (Coumarin)

14.3 Transport hazard class(es)
ADR/RID: 6.1
IMDG: 6.1
IATA: 6.1

14.4 Packaging group
ADR/RID: III
IMDG: III
IATA: III

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301 Toxic if swallowed.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.