FOLIN & CIOCALTEU'S PHENOL REAGENT  MATERIAL SAFETY DATA SHEET
SDS/MSDS

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

1.1 Product identifiers
Product name : Folin & Ciocalteu's Phenol Reagent
Product Code : 835030

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 -110002
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
Corrosive to metals (Category 1), H290
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319

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 Warning
Hazard statement(s)
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
Precautionary statement(s)
P280 Wear eye protection/ face protection.
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Mixtures
Synonyms: protein assay

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>Lithium sulphate</td>
<td>Acute Tox. 4; Eye Irrit. 2;</td>
<td>&gt;= 10 - &lt; 20 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>10377-48-7</td>
<td>H302, H319</td>
</tr>
<tr>
<td>EC-No.</td>
<td>233-820-4</td>
<td></td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>Met. Corr. 1; Skin Corr. 1B;</td>
<td>&gt;= 5 - &lt; 10 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7647-01-0</td>
<td>H335</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-595-7</td>
<td>STOT SE 3; H290, H314,</td>
</tr>
<tr>
<td>Index-No.</td>
<td>017-002-01-X</td>
<td></td>
</tr>
<tr>
<td>Registration number</td>
<td>01-2119484862-27-XXXX</td>
<td>Concentration limits:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;= 25 %: Skin Corr. 1B,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H314; 10 - &lt; 25 %: Skin Irrit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2, H315; 10 - &lt; 25 %: Eye Irrit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2, H319; &gt;= 10 %: STOT SE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3, H335; &gt;= 0.1 %: Met. Corr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1, H290;</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>Met. Corr. 1; Skin Corr. 1B;</td>
<td>&gt;= 5 - &lt; 10 %</td>
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<tr>
<td>CAS-No.</td>
<td>7664-38-2</td>
<td>H290, H314</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-633-2</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>015-011-00-6</td>
<td>Concentration limits:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;= 25 %: Skin Corr. 1B,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H314; 10 - &lt; 25 %: Skin Irrit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2, H315; 10 - &lt; 25 %: Eye Irrit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2, H319;</td>
</tr>
<tr>
<td>Disodium wolframate dihydrate</td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 1 - &lt; 10 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>10213-10-2</td>
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<tr>
<td>EC-No.</td>
<td>236-743-4</td>
<td></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
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. 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
Sulphur oxides, Oxides of phosphorus, Hydrogen chloride gas, Sodium oxides, Lithium oxides, Tungsten oxide, Molybdenum 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 breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. 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 inhalation of vapour or mist. 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Non-combustible, corrosive hazardous materials

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**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**
Tightly fitting safety goggles. Faceshield (8-inch minimum). 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 (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a 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**
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| a) Appearance | Form: liquid |
| b) Odour | pungent |
| c) Odour Threshold | No data available |
| d) pH | < 0.5 at 20 °C |
| e) Melting point/freezing point | No data available |
| f) Initial boiling point and boiling range | No data available |
| 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 | 1.20 g/cm3 at 20 °C |
| n) Water solubility | soluble |
| 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, Metals

10.6 Hazardous decomposition products
    Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Oxides of phosphorus, Hydrogen chloride gas, Sodium oxides, Lithium oxides, Tungsten oxide, Molybdenum 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
   No data available
   Skin corrosion/irritation
   No data available
   Serious eye damage/eye irritation
   No data available
   Respiratory or skin sensitisation
   No data available
   Germ cell mutagenicity
   No data available
   Carcinogenicity
   IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

   Reproductive toxicity
   No data available
   Specific target organ toxicity - single exposure
   No data available
   Specific target organ toxicity - repeated exposure
   No data available
   Aspiration hazard
   No data available
Additional Information
RTECS: Not available

Large doses of lithium ion have caused dizziness and prostration, and can Dehydration, weight loss, dermatological effects, and thyroid disturbance include slurred speech, blurred vision, sensory loss, ataxia, and convuls effects such as tremor, clonus, and hyperactive reflexes may occur as a r, Lithium and its compounds are possible teratogens by analogy to lithium ca positive animal teratogenic data. Exposure to high concentrations can cause: burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information
14.1 UN number
ADR/RID: 3264  IMDG: 3264  IATA: 3264
14.2 UN proper shipping name
ADR/RID:  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Phosphoric acid)
IMDG:  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Phosphoric acid)
IATA:  Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, Phosphoric acid)
14.3 Transport hazard class(es)
ADR/RID: 8  IMDG: 8  IATA: 8
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.

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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.