



<b>POTASSIUM HYDROXIDE CPECTROSOL® IN ETHANOL 0.5M (0.5N) STANDARDIZED SOLUTION IN ACCORDANCE WITH NIST</b>	<b>MATERIAL SAFETY DATA SHEET SDS/MSDS</b>
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Potassium Hydroxide CPECTROSOL® in Ethanol 0.5M (0.5N)  
Standardized Solution In Accordance With NIST  
Product Code : 877846

### 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  
Ansari Road Daryaganj  
New Delhi -110002  
INDIA

Telephone : +91 11 49404040  
Email : [care@cdhfinechemical.com](mailto: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

Flammable liquid (Category 2), H225  
Corrosive to metals (Category 1), H290  
Skin irritation (Category 1B), H314

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)

H225  
H290  
H314

Highly flammable liquid and vapour.  
May be corrosive to metals.  
Causes severe skin burns and eye damage.

Precautionary statement(s) P210	Keep away from heat, hot surfaces, sparks, open flames and ignition sources. No smoking.
P240	Ground/bond container and receiving equipment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310	IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.
Supplemental Hazard Statements	none

### 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

Formula : KOH  
Molecular weight : 56.11 g/mol

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

Component	Classification	Concentration
<b>Potassium hydroxide</b>		
CAS-No.	1310-58-3	Met. Corr. 1; Acute Tox. 4; >= 2 - < 5 %
EC-No.	215-181-3	Skin Corr. 1A; H290, H302, H314
Index-No.	019-002-00-8	H314
Registration number	01-2119487136-33-XXXX	Concentration limits: >= 5 %: Skin Corr. 1A, H314; 2 - < 5 %: Skin Corr. 1B, H314; 0.5 - < 2 %: Skin Irrit. 2, H315; 0.5 - < 2 %: Eye Irrit. 2, H319;
<b>Ethanol</b>		
CAS-No.	64-17-5	Flam. Liquid 2; Eye irritation 2; >= 50 - < 100 % H225, H319;

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 immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

Immediately make victim drink water (two glasses at most). Consult a physician.

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

Risk of blindness!

Irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting, Cough, Shortness of breath

#### 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

Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

##### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

#### 5.3 Advice for firefighters

##### Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Advice for non-emergency personnel:** Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures. Consult an expert.

##### **Advice for emergency responders:**

Protective equipment see section 8.

#### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

#### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

#### 6.4 Reference to other sections

For disposal see section 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

**Advice on safe handling:** Observe label precautions.

##### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

##### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### 7.2 Conditions for safe storage, including any incompatibilities

##### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

#### 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

#### Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>

### 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

Safety glasses with side-shields conforming to EN166 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

Impervious clothing, 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<br>Colour: light yellow |
| b) Odour                                        | ethanol                              |
| c) Odour Threshold                              | No data available                    |
| d) pH                                           | 13.8 – 14.4 at 20°C                  |
| e) Melting point/freezing point                 | -114.5°C (ethanol)                   |
| 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                               | 1.6 (ethanol)                        |

m) Relative density	0.85 g/cm <sup>3</sup> 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

Vapours may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

#### Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide, silver with nitric acid, silver compounds with Ammonia potassium permanganate with conc. Sulphuric acid.

#### Risk of ignition or formation of inflammable gases or vapours with:

halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum, Nitric acid with potassium permanganate.

### 10.4 Conditions to avoid

Warming. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Animal/vegetable tissues, glass, various plastics, various metals, various alloys

### 10.6 Hazardous decomposition products

No data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute oral toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute toxicity estimate: > 2,000 mg/kg

#### Acute inhalation toxicity

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

#### Acute dermal toxicity

No data available

#### Skin corrosion/irritation

Mixture causes skin irritation.

#### Serious eye damage/eye irritation

Mixture causes serious eye damage. Risk of blindness!

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**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

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**

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

**12.6 Other adverse effects****Additional ecological information**

No interference with wastewater treatment plants are to be expected when used properly. Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 2924

IMDG: 2924

IATA: 2924

**14.2 UN proper shipping name**

ADR/RID: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (CONT. ETHANOL, POTASSIUM HYDROXIDE)

IMDG: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (CONT. ETHANOL, POTASSIUM HYDROXIDE)

IATA: flammable liquid, corrosive, N.O.S. (CONT. ETHANOL, POTASSIUM HYDROXIDE)

<b>14.3 Transport hazard class(es)</b> ADR/RID: 3 (8)	IMDG: 3 (8)	IATA: 3 (8)
<b>14.4 Packaging group</b> ADR/RID: II	IMDG: II	IATA: II
<b>14.5 Environmental hazards</b> ADR/RID: no	IMDG Marine pollutant: no	IATA: no
<b>14.6 Special precautions for user</b> 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

A Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

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

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye 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](http://www.cdhfinechemical.com) for additional terms and conditions of sale.